CIRCUIT COURT OF THE CITY OF CHESAPEAKE, VIRGINIA

WILLIAM STACEY OVERBY,

Plaintiff,

versus

Docket No.
20555-M

GARLOCK INC.

Defendant.

Deposition of GEORGE ELWOOD HOUGHTON, held at 516 West Main Street, Palmyra, New York on December 4, 1986, commencing at 10:00 a.m.

APPEARANCES:

GLASSER and GLASSER, ESQS.
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125 St. Paul Boulevard
Norfolk, Virginia 23510
Appearing on behalf of the Plaintiff
By: RICHARD S. GLASSER, ESQ., of Counsel

DUANE and SHANNON, ESQS.
The Joynes House
209 West Franklin Street
Richmond, Virginia 23220
Appearing on behalf of the Defendant
By: JAMES C. SHANNON, ESQ., of Counsel

ALSO PRESENT:

BERNARD L. LEVINTHAL, ESQ.
HELEN ZORNOW

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I N D E X T O W I T N E S S E S

GEORGE ELWOOD HOUGHTON

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

MR. SHANNON: There is one stipulation. I'll read it from a letter of September 5 to me from Robert Hatton. Paragraph 4 of that letter states, "The deposition of George Elwood Houghton will proceed at a time and place convenient to Garlock and the witness, within three weeks of this date and, of course, we have by agreement abrogated that particular date requirement. And upon completion of such deposition, it shall be placed under seal and not be used under evidence except in cases in which the law firms of Glasser and Glasser or Patten, Wornom and Watkins are counsel of record. This deposition will be noticed in a case in which Garlock is the only defendant and no defense counsel shall attend the deposition other than Garlock's counsel. However, in the event that such deposition reveals information which would be relevant and material to the liability of other defendants in asbestos products liability litigation, then in that event, Garlock agrees that the deposition may be

renoticed to permit defense counsel an opportunity to participate in the deposition and have it in a form that would be admissible in litigation in which other defendants were involved."

As a follow up to that letter of September 5, I responded to Bobby Hatton on September 18, and the following portion of my letter of September 18 is also pertinant to the taking of this deposition. "Also, I understand that your agreement not to use this deposition other than in a case in which you are counsel of record refers to your involvement as counsel who originated a particular plaintiff's case. We do not understand," we, being Garlock, "that we have agreed that you are eligible to be associated in other plaintiffs' lawyers' cases around the country and use your status as counsel of record to offer this deposition against Garlock therein." So under those terms and conditions we're here today to proceed with Mr. Houghton's deposition.

MR. GLASSER: If I may make a preliminary comment, as Jim Shannon is well aware, I am associated with Bobby Hatton, and I am aware of both Bobby's letter of September 5, 1986 and Jim Shannon's response of September 18, 1986, both of which you have accurately reported to the record. I do want to make sure that my feelings are known that the letter of September 5, 1986 confirmed a settlement that was made in ten cases in which Garlock was a defendant. These ten cases were either handled by my office or by Bobby Hatton's office or by our offices jointly, and they were pending either in the state of Virginia or in the state of Texas. The provision concerning Mr. Houghton's deposition and that it be placed under seal and other provisions calling for basically a temporary moritorium in discovery were requested by Garlock, were a part and parcel of the settlement procedure, and as Jim has consented to so that we could in fact resolve the differences for the ten plaintiffs that we were

representing. They were consented to by the plaintiffs; myself, included. I make this statement because I'm not in favor of sealed depositions. It was not my desire that it be placed under seal, but it was, as Jim reported, a part of the discussions that ended with the resolution of ten cases. With that comment, I'm prepared to proceed and I would ask you please to swear the witness.

MR. SHANNON: We're reserving all objections except as to the form of the question.

MR. GLASSER: That's correct.

G E O R G E E L W O O D H O U G H T O N , called herein as a witness, having first been duly sworn, was examined and testified as follows:

EXAMINATION BY MR. GLASSER:

Q Before I ask you any formal questions, I just wanted to let you hear my voice a little bit as I will be talking to you once the formal questioning starts to make sure that you can hear me and understand me. Do you understand?

A Yes.
Q I notice that you're wearing two --
A I have it in both ears, yes.
Q -- two hearing aides, and you have told me before the deposition started you might need questions repeated, so if at any time you don't understand my question or I'm not clear, please don't hesitate to ask me to repeat or to rephrase.
A I won't.
Q And if at any time you want to take a break or a rest for whatever reason, if you will tell us we will promptly do so.
A Yes.
Q And we have here with us today at everyone's request Helen Zornow who is a nurse and she'll also be looking out for you.
THE WITNESS: You can see my eyes, all right?
MRS. ZORNOW: Yes.
Q You're comfortable and you're ready to begin?
A I'm relaxed.
Q Thank you, sir. Just so the record will be clear, Mr. Houghton, would you state your full name?
A My full is name is George Elwood, E-l-w-o-o-d,

Houghton, H-o-u-g-h-t-o-n. I go by my second name, Elwood.

Q And today is December 4th, 1986?

A Correct.

Q And we are at your home at 516 West Main Street in Palmyra, New York.

A Yes, 14522.

Q Mr. Houghton, have you given any past sworn testimony in any asbestos-related matter?

A Yes, we have had the investigations.

Q And what type of investigations were they?

A I'd say similar to what you're going to carry out.

Q And can you tell me about how many times you have had testimony like this that you have given?

A I'd say similar. I've been asked questions.

Q Have they been with the presence of a court reporter?

A I don't recall any of that being done.

Q Were they involving only attorneys from Garlock or did they also involve attorneys like myself who --

A It would be both.

MR. GLASSER: Off the record.

(Whereupon a dicsussion was held off the record.)

Q Have you ever been called upon to give any statements

to any legislative body or to any trade association concerning asbestos?

A I was the representative from Garlock to Asbestos Textile Institute.

Q I will discuss that with you later on in our discussion. Have you ever written anything concerning asbestos?

A My major writings have been regarding the asbestos spinning operation.

Q And do you have copies of what you wrote concerning the asbestos spinning operation?

A I might possibly have some, but they would be buried in file papers. I'd have to search. I don't know.

Q Can you tell me during what time frame you did writings concerning asbestos spinning?

A Well, that was while I was active with Asbestos Textile Institute. I think it was probably about 1962 to 1970. Any report I might have made would have been probably about 1968, in that neighborhood.

Q I'm going to drop back, Mr. Houghton, and ask you if you will review for me your educational background.

A I graduated from Westown's School in Pennsylvania in 1924. That was a college preparatory school. I

attended Philadelphia Textile -- Philadelphia Textile-- no, it was called -- Yes, Philadelphia Textile School was the name of it. It was located at Broad and Pine in Philadelphia at that time. It has been changed from Philadelphia Textile to Philadelphia College of Textiles and Science now.

Q How long did you attend there?

A That was a three-year course.

Q Did you learn anything during that schooling period about the use of asbestos as a textile?

A No.

Q Did you graduate from the Philadelphia Textile School approximately 1927?

A 1927.

Q And following your graduation, what was the first type of employment that you had?

A I moved from school right to Johns-Manville Corporation in Manville, New Jersey.

Q What was the nature of your employment at Johns-Manville or field?

A I was in the asbestos textile manufacturing which involved fiber preparation, spinning and twisting and weaving asbestos cloths and yarns.

Q That was your specific responsibility?
A Yes, I was there for 12 years, and so I moved from learning the trade and then up to you might say an engineer of various operations. I had exposure to all of the operations from the fiber preparation where fibers were sold as such and spinning into asbestos yarn, carding and twisting, weaving. I became acquainted with braiding, which was in the neighboring department, so I had a pretty broad education; also in safety clothing manufacturing.
Q Primarily, if I understand you correctly, your experience at Johns-Manville was with the manufacturing of asbestos cloth and asbestos yarns?
A That's right.
Q How much occasion did you have to see and be around the machines where the fibers were prepared, spun and twisted in the manufacturing process?
A I'd say complete knowledge of the mechanical processes. I was sent to set up textile and instruct people on the handling of the equipment.
Q And did your job responsibility relate to the equipment itself and how it should be set up from an engineering standpoint?

A Yes.
Q Did you also have a role concerning how the dust would be ventilated or controlled? I'm speaking of asbestos dust that was generated during the various processes of the manufacturing that you've described.
A Yes.
Q What was available in the 1927-1939 time frame to enable you to help control asbestos dust?
A More or less your own ingenuity. I don't think we had much in actual magnifications or dust-studying equipment.
Q Did they have exhaust fans and ventilation?
A Yes.
Q Did they have hoods that could fit over dusty areas to gather and remove the dust?
A That was particularly true in fiber preparation and carding. Some hooding was applied to looms.
Q Did they also understand that you could separate or isolate a dusty process so that the dust that was being created would not go all over the work environment?
MR. SHANNON: I object to the leading of that question.
A The hooding was designed for that, yes.

Q You were aware that in the 1927 to 1939 time frame there were also respirators that were available?

MR. SHANNON: I object to the leading.

A We used respirators for the men that worked in the dustier areas like fiber preparation and carding, handling of stock, and so forth.

Q How were respirators used by the men who handled the stock and were in the various manufacturing processes?

MR. SHANNON: I object to that. It mischaracterizes his former testimony.

A It would be used because it was recognized as a dusty area. There were limits set by the federal government at that time where dust should be not exceeding 5 microns per cubic foot, in the type of studies that were done at that time. We had samples sent away, we had some outside insurance companies come in and make analyses, and our efforts were to try and live under the federal requirements.

Q You mentioned 5 microns per cubic foot. Could that have been 5 million particles per cubic foot?

A A micron, I think, is a ten thousandth of a millimeter. I think. I'm not positive on that, but a micron was a microscopic measurement.

Q I understand what a micron is. My question, Mr. Houghton, is that the standard that you described? Think back and say would you agree that that standard was 5 million particles of total dust in a cubic foot?
A No, it would be 5 microns in an examination microscopic examination area. I think the sampling was taken against a glass plate, and that area was magnified, and the particles are counted in a certain area on that magnified sample.
Q Let me try to clarify. There was a standard that you tried to stay within, and in determining size, there were microscopes available in order to allow the dust that had been gathered in testing to be counted.
MR. SHANNON: I object as the leading. He hasn't testified to that.
A This measurement device I'm mentioning was not available to me until I was at Garlock.
Q I understand, but at Johns-Manville, they were able to take dust counts.
A The insurance company did that.
Q And when they took dust counts, they will then count it under a microscope, is that correct?
A That's the way I understand they did it.

Q And they had a standard that they tried to stay within when they were dealing with asbestos dust?
A Yes.
Q Why was there a standard for asbestos dust in the 1927 to 1939 time frame?
A That was in the hands of the insurance company and it was not discussed with us.
Q Do you know whether the insurance company that handled and studied Johns-Manville was the Metropolitan Life Insurance Company?
A I can't answer that accurately. It may have been, but it was not my knowledge.
Q Did you ever have occasion to meet Dr. Anthony Lanza?
A I don't remember that name.
Q You do recall, however, that the insurance companies came into Manville and made studies and dust counts concerning the asbestos textile operation?
A I think my answer would be I know they have come in.
Q Do you know, Mr. Houghton, whether the results of those studies were ever published and made available in the literature?
A Not that I could -- not that I was exposed to, no. Folks up the ladder may have heard it, but I was down

low.

Q Your work was primarily at the level where the manufacturing machines were being designed, developed and used?

A I was associated with the machines producing the material, but I was not connected with the designing of cards or fiber preparation. I did do some design work on looms.

Q Did your design work on the looms take into consideration how to control the dust that could be cut out by the asbestos fibers that were being spun in looms?

A Any equipment designed would be to act like a vacuum cleaner but not get in the way of the manufacturing operation of the equipment.

Q And by vacuum cleaner, they had vacuum cleaners in the 1927-1939 period, is that correct?

A Yes, they had fans and hoods connected with the vacuum, yes.

Q And the vacuum cleaner effect was to remove the excess dust without interfering with the manufacturing process?

A Yes. We realized that to pick up dust, you had to

approach as closely as possible to the movements that were taking place to be effective.

Q And you wanted to remove the asbestos dust from the work environment to avoid any hazards associated with breathing too much asbestos dust?

MR. SHANNON: I object to the leading questions, Richard. He hasn't said anything about asbestos dust. He's talked about dust. If you're going to ask why, ask him. Don't tell him.

MR. GLASSER: I want to make it very clear that I have a right to lead this witness, and that I don't think an objection as to leading is appropriate, and I feel that my questions are proper as structured. I understand your objection, and you may object as to form if you feel it's appropriate, and obvioulsy, I would want to have an chance to rephrase it, but I do feel that leading is permissible here.

MR. SHANNON: I understand that under the conditions we're working under today. I feel you might be advised to be very circumspect in your

leading questions considering Mr. Houghton's age and considering his hearing difficulties.

MR. GLASSER: I'm trying but I feel my questions are proper in terms that he is a long-term Garlock employee.

Q Don't you concern yourself with the lawyers talking. We're talking to the judge who didn't want to come up and brave the snow with us.

(Whereupon the reporter read back the pending question.)

Q Do you remember my question that I asked before I talked with Jim Shannon?

A I didn't have a machine like that, I know.

Q Let me repeat my question as best I can. We were talking about the vacuum effect that was used on the machines. The looms and the spinners were making asbestos cloth, am I correct?

A The looms were making asbestos cloth.

Q And asbestos cloth was generally about 75 percent or more asbestos fiber by weight, am I correct?

A Yes, that's correct.

Q And even higher running to 80 percent or 90 percent asbestos percentage by weight.

A Sometimes 95 percent.
Q And the concern about the vacuum effect was to remove as much of the asbestos dust as could be done so as to reduce any hazard to the workers who would be breathing the dust?
A Yes.
Q And that's because it was known that the breathing of asbestos dust could be harmful to those who breathed it?
MR. SHANNON: I object to that. I think it was known that the breathing of any dust could be harmful to those breathing it, as we know that people who worked in cotton mills today have brown lung and other diseases. I object to your question as it implies special knowledge that this man has about the hazard of asbestos dust, and no such knowledge has been established.
Q Mr. Houghton, wasn't it known by you in the 1930's that it was important to limit the amount of asbestos dust that a person breathed?
A You're looking at history where people have been learning. We look back and we can see some things we

have been learning over the years; in other words, we've made some sort of progress. We have not been aware all that time of everything that we now know.

Q I understand, but they knew in the 1930's when you were at Johns-Manville that it was important to try to control and limit the amount of asbestos dust that the manufacturing process was generating?

A Yes.

Q And part of your job as an engineer working in the asbestos textile manufacturing was to help with the design to limit the dust.

MR. LEVINTHAL: I object to that. It mischaracterizes his prior testimony as to what involvement he had with it.

MR. GLASSER: Jim and I are nodding at each other. If we can have one, it will make the sides fair and conform to our court rules.

MR. SHANNON: That's right. I will have to make the objections. I will make that my objection and we'll proceed.

(Whereupon the reporter read back the pending question.)

Q Is that correct?

A That's one of the duties, yes.
Q What progress can you describe to me that was made in limiting dust while you were at Johns-Manville? Did you play any role in helping to reduce the dust of the workers?
A I get confused with knowing that I did more actively work here, but at Johns-Manville, my job was not designing particularly for dust control.
Q And you say when you became more active "here," you mean once you became an employee at Garlock?
A I was a superintendent here.
Q And "here" is the Garlock plant at Palmyra, New York?
A Yes.
Q While you were at Manville, was there any discussion that you can recall concerning the hazard that could occur to a person who breathed too much asbestos?
A To my position there, I think I did not get in on those engineering discussions.
Q Can you tell me how you learned that there was a standard that you should strive to stay within when dealing with the quality of asbestos dust?
A I can't give you a good answer when I learned that it would be best to keep it at a certain level. I think

probably casual discussions would be the best I could say.

Q While you were at Manville?

A Johns-Manville.

Q While you were at Manville, did you have any occasion to attend any meetings or educational seminars concerning your engineering expertise relative to asbestos textile manufacturing?

A No seminars. Practical experience on the job was probably the major -- where I picked up information.

Q Who were, in your opinion, the most knowledgeable people at Manville concerning the need to control dust while you were there?

A I think Mr. Cannon, Phil Cannon was probably the closest. I don't think you'd have much information from him now.

Q He's deceased?

A Yes.

Q Did you know Clifford Sheckler?

A I think I know the name, but I don't think I associated with him any.

Q Did they have a medical department at the Manville plant?

A Later they worked into a need for a nurse, but when I was there, they had a doctor, but most of the medical treatments were made in the office of the factory; very limited medical service at the beginning.

Q Were you aware as to whether there had been any Workmen's Compensation suits filed against Manville in the 1930's for asbestos disease?

A I was not aware of suits at that time.

Q You're aware now that they had suits in the 1930's?

A Yes.

Q Did you have occasion while you were working at Manville to travel around to any other Manville plant other than the textile manufacturing facility at Manville, New Jersey?

A I only picked up equipment at the Waukegan factory when -- This is 1933. I was asked to move equipment from both Manville and Waukegan to the asbestos factory at Asbestos, Quebec. Factory at Asbestos, Quebec was a plant with a number of departments making similar products to those at Manville.

Q They also had some mining facilities that Manville owned in Asbestos?

A That was the major. What was going on there was there

mining, but they had set up a production plant there, too, for Canadian product and I was sent up there when they wanted to set up a textile plant, and so I went up there with equipment from Manville and Waukegan, but I saw very little of Waukegan's production. I was just taking some machinery away.

Q Did you help in setting up the layout for the asbestos textile manufacturing facility that was being set up in Asbestos, Quebec?

A Yes.

Q And you were aware at that time it was important how to lay it out and also to lay it out so that you could control the dust that would be generated?

A Yes. We -- the cards already had hooding on them.

Q The carding machines?

A Yes, the carding machines had hooding, so I had them lay out a dust recovery department with fans exhausting the hoods of the cards and blowing into a recovery system so that you weren't blowing the dust over the countryside.

Q And in that fashion, you were able to remove much of the asbestos dust from the work environment and then capture it so it would not, like you say, be blown

outside the plant to the neighborhood?

A Yes, it was filtered.

Q How advanced was the thinking at Manville concerning the need to control asbestos dust in the 1930's?

A They had made good advances. The old system was fans on top of the building, not down where the dust are generated. The dust was in the room. Then when I got there, they had just installed 48 sets of cards with dust recovery systems blowing into a filter house on the roof.

Q And the dust recovery system on the cards was close to the source where the dust was being generated?

A Yes, completely covering the hooding and the machine; also drawing out from underneath the card, too.

Q Now, while you were at Manville, did you have occasion to see any of their asbestos product manufacturing facilities other than textiles, like the pipe covering?

A Yes.

Q And they also had a pipe covering facility right at Manville?

A Yes.

Q And were they also using engineering devices for dust control in the other operations, other than textile

manufacturing?

A There was some hooding where dry asbestos was handled to feed into mixers. There was hoods over that area. Mostly, though, the recovery systems were connected with the cards and the looms.

Q Did you have occasion during your time at Manville ever to see the manufacturing processes at another manufacturer's plant?

A Yes.

Q Can you tell me whose plants you had occasion to visit?

A Keasbey & Mattison. That was I think at north -- or it was in Pennsylvania, yes.

Q Was that Ambler, Pennsylvania?

A Yes. And it became -- They were purchased by American Asbestos, so Keasbey & Mattison disappeared and American Asbestos took it over.

Q Do you know whether Nicolet also purchased some of Keasbey & Mattison?

A I never went to any Nicolet plant in Pennsylvania. I went by the Nicolet mines in Canada, but I didn't visit it.

Q You did not go into the Nicolet mines?

A No.

Q When you went to the Keasbey & Mattison textile plant, how up to date as compared to Manville --
A The date?
Q No, how up to date, how advanced were they as compared to Manville in their efforts to control asbestos dust?
A Keasbey & Mattison were not as advanced as Johns-Manville.
Q What was the purpose of your going to Keasbey & Mattison?
A They wanted me to take a job there as supervisor. I didn't go.
Q Did you have occasion to go to any other asbestos companies other than Keasbey & Mattison while you were at Manville?
A There's one other I visited, may have been a Raybestos division. I think it's a Raybestos factory but it was owned -- it was a different name. It was in about central Pennsylvania.
Q It was an asbestos textile facility?
A Yes.
Q How advanced, from what you could observe, was the Raybestos-Manhattan facility?
A I think they were somewhat similar to Johns-Manville.

Q By similar, you mean that they had made some of the same advances to control dust?
A Hooding and so forth, yes.
Q Did you ever have contact while you were at Manville with anyone from Raybestos concerning asbestos or engineering dust control measures?
A No. It was more observation of the unit. That's all. Not dust control or problems.
Q Why did you go to the Raybestos-Manhattan facility? Was that in the 1930's?
A It was in the 30's. I'm hazy on that. I was sent there by Johns-Manville for some purpose. It may have been for picking up cylinders or equipment. They may have had something for sale, and so other than that, I can't give you an answer.
Q Other than Keasbey & Mattison and Raybestos, do you recall seeing any other asbestos manufacturer's operation?
A I've seen several after being here, not at Manville.
Q Still at Johns-Manville, another question, did you ever have a chance to see the gasket manufacturing operation at the Manville facility?
A Yes.

Q Can you tell us what you observed concerning the gasket manufacturing operation at Manville?

A Cloth from asbestos textile was shipped to them. There were more than one operation. One was dipping, passing the cloth through a gasoline rubber shamoy and then passing it up through a drying towel to remove the gasoline fumes, so fully impregnated asbestos cloth was made as one of the products that's particularly used in frictioning where two pieces of cloth are pressed together in making a gasket. Then the other method was frictioning and skimming by colander, and a large percentage of the cloth was used that way making slabs. These slabs were used in cutting packing rings for gaskets. They were a punch press type of operation. More cloth was used in either impregnating or in frictioning than used as dry cloth. Dry cloth was used in their clothing manufacturing for safety clothing. They had a plant at Johns-Manville for making gloves and coats and pants for firefighting, working in steel mills, where you were exposed to high temperatures, that they made them.

(Whereupon a brief recess was taken.)

BY MR. GLASSER: (Continued)

Q Do you recall the names of any of the people you met at the Raybestos facility?

A No. I might remember it if the names were recited to me, but no, I wasn't particularly familiar with those folks.

Q Do you remember any names from Keasbey & Mattison?

A That was 30 years ago. I'm poor on remembering names.

Q I'm going to shift over now, Mr. Houghton, to Garlock, and I want to ask you first how did you come to be employed by Garlock?

A In 1938, the superintendent of the textile plant was Harry Elder and he died. I'm not sure why he died but he died in '38, and they were in need of someone to operate the department. They had at least a couple of years of doing the best they could with what they had or Owen Burns was one of the workers and he was in charge when I came here, but Mr. Hubbard, Cecil Hubbard was factory manager. He was later promoted to vice president. George Abbott was president of the company, and I came up here in March of that year and they told me to -- I came in February and they told me to come up in March, so I've been in here, made a good impression

on.

Q That was February, 1938 or 1939?

A It was '39 when I was called in February to examine the place and I came to work in March the 13th.

Q How did you know about Garlock or how did Garlock know about you?

A There was a fairly good relationship between Garlock and Johns-Manville. There was an interchange. There was some people that went from here to work at Johns-Manville and some folks from Johns-Manville had come here, so the companies knew each other. This was in '39, tail end of the depression, and when I told my superintendent, Mr. Cannon, that I had accepted a position here as superintendent, Phil Cannon said to me if there was anyplace other than Garlock, I'd advise you not to go. This was a backside way of a compliment of Garlock, so he didn't stand in my way, but I had already told him I had accepted because I had had a couple of other opportunities to leave and they told me they were glad I stayed at Johns-Manville, so I didn't like -- Usually, when something like that happens, you got a little increase in pay, so I didn't like to keep edging myself up by the saying I got another chance,

but anyway, he said if there was anyplace besides Garlock, that I'd advise you not to go.

Q You mentioned that some of the people from Manville had come to Garlock and some from Garlock to Manville. Can you help me with any names of people who transferred from one to the other?

A I know that there was a Bavis whose brother works here, had gone from here to John Manville. He worked in the packing department, then there was another mechanic that moved down there. His name was -- Oh, nuts. He was a very good mechanic. When I'm not thinking, I'll remember it for you.

Q If you remember it, you just advise us of the name but we'll keep going in the meantime. Had you ever visited any facility owned by Garlock while you were at Manville?

A No, I didn't know of Garlock until I heard that there was an opportunity here. I may have heard the word but I didn't really know much about it, but I never saw Garlock until I came here to visit.

Q You started with Garlock in March 1939?

A Yes.

Q And that was in Palmyra, New York, where your home is?

A That's right.
Q What type of facility did Garlock have in existence in 1939? What did they produce in Palmyra?
A Well, they have about a dozen departments. They make gaskets, folded gaskets, make gasket rings, had pan-holed gaskets for boilers and then they made varieties of packings, rings and compressed asbestos sheet gaskets. They sell sheeting, but they also punch out millions of disk rings for valve stems or they make felt packings for ball bearings. They make large variety of molded parts in high temperature molding for vulcanizing rubber. They make rubber sheets for sale. They furnish cloth to others to make safety clothing. They now make Teflon products.
Q If we can, going back to the 1939 time frame when you came, were the gasket materials that you described asbestos-containing gasket materials?
A Some.
Q The folded gaskets, did they contain asbestos?
A The folded gaskets were rubberized asbestos and then folded together to make multiple-plied products, but most of them were rubberized either by dipping or frictioning, and then they might be made into

laminations.

Q And the compressed asbestos sheets, are they the sheets from which gaskets can be cut to a specific size?

A Yes, most of them in single sheet from a 64 on up to maybe as far as an 8, and then they laminate if they want to go thicker than 8.

Q And the folded gaskets and the compressed asbestos sheets and the packings, did those contain or do you know the percentage of asbestos by weight in those products, the general range?

A Well, most of time used the commercial blend, which is the 75 percent, and then there would be a good 50 or 60 percent rubber on top of that, so we're down now to maybe 30 percent asbestos in some of these rubberized products.

Q And the ones that did not have the rubber, then, would more or less be like the commercial grade of asbestos cloth, roughly about 75 percent asbestos by weight?

MR. SHANNON: I object. I don't think that he said there were any that didn't have the rubber that were used for gaskets.

A Well, others dipped in maybe Teflon. Again, they're coated. A small percentage might be used in a dry

cloth, but mostly they're coated or impregnated.
Q Am I correct that Garlock Packing Company had been in business for a good while before you came here in 1939?
A Yes, I guess Garlock was probably about 1880 or somewhere around there.
Q 1887 sound about right?
A That's somewhere around when it started. I think it started with rubberized fabric using somebody's rubber boots for strings for making packing power plant. The fella was using anything he could get. Finally he used this and it worked, so he moved from the power plant over to making rubber slabs like rubber boots, and from there he progressed into using other materials.
Q When you came to Palmyra, Mr. Houghton, can you tell me overall about how many people were employed?
A Oh, I don't know, maybe less than 200. Maybe around 200.
Q Approximately how many of those 200 would have been involved in manufacturing items that contained asbestos?
A That's kind of a broad figure you're asking. I could say maybe 35 to 38 making the asbestos parts, then the other parts like high-pressure manufacturing and the

mill and colander, they all handled the products, maybe another hundred there. You're now reaching out into a range of products, so to give you an exact figure, I couldn't do it.

Q The type of asbestos that was used was primarily the chrysotile or the white asbestos?

A Mostly, yes.

Q And you also had some of the blue asbestos or the crocidolite?

A A certain percentage of the crocidolite was used. We didn't do any weaving or spinning of crocidolite. That was purchased maybe from Germany.

Q Or Rhodesia?

A The Rhodesian would be the source but the spinning was done maybe in Germany.

Q The crocidolite, was that used in products other than gaskets or was it strictly used in gaskets?

A I think it was used where chemical resistance was a major factor because crocidolite is better against acids than the chrysotile.

Q Less corrosive when it comes in contact with --

A Yes, it would resist corrosion or resist decomposition better than the crocidolite.

Q Than the chrysotile?
A Chrysoite. That would be damaged. The blue, which is harsher and not as easy to handle, does resist chemical action better than the --
Q From the engineering standpoint, what efforts did you observe that Garlock was taking to control dust when you first came aboard in 1939?
A Quite a lot of work had been done by Harry Elder in improving the dust control over the carding machines. He had done a major job of constructing hooding, but then by the time I came here, Whiten Machine Works had fabricated hoods, wooden hoods that fitted tightly against the cards so the Whiten Machine Works had done a lot of work in improving dust control for cards. In removing dust, you take a lot of vacuum and that actually removes a fairly high percentage of your product, so in manufacturing, you do have to remove quite a percentage. I believe 20, 25 percent has to go up to the filterhouse just as a means of keeping it clean.
Q And then you can recapture what you've got in the filterhouse?
A The filter bags are shaken every day so that material

falls and is removed once a week.

Q And the hoods and the vacuum ventilation system that you've described was basically to remove the asbestos dust that was being generated in the manufacturing process?

A That's right.

Q And you used the same type of engineering both for the chrysotile and for the crocidolite?

A We did not process any crocidolite.

Q Through carding and through the looms.

A That's right. We didn't make any fabrics. We bought some yarns for braiding, but those were dipped in oils or greases and then braided.

Q What was your specific job responsibility as superintendent when you started with Garlock in 1939?

A Run the plant, which included fiber preparation, carding, spinning, twisting, weaving and upkeep of the equipment, purchasing equipment to make repairs when all of these machines subject to wear or breakdown, lubrications, and so forth; you worked up schedules for maintenance.

Q When you came to Garlock in 1939, was Garlock also aware of the need to keep asbestos dust to a certain

level?

A I think the federal requirement was in existence at that time.

Q Were there any laws that you were aware of from the State of New York that related to the work site and dust?

A I don't recall any New York State law.

Q How would you compare the knowledge concerning the importance of controlling asbestos dust at Garlock to what you had observed at Manville?

A I think we were better here than Manville. I think the dust recovery system was functioning more efficiently.

Q Did your responsibilities as plant manager, superintendent, include keeping an eye over how well the dust control system was operating?

A I was probably the only one that was closely related to these jobs. I would call the maintenance department for cleaning up once a week or coming in to do any of those operations to keep place working right. It was my job.

Q Did Garlock have any respirators available for the men who were working with and around the asbestos?

A Yes. Those people that worked for the maintenance

department had to wear the improved mine respirators when they were cleaning up at the end of the week, when they were removing dust from the filterhouses or from cleaning up around the machinery. We used respirators for those men that carried stock. We'd have those box trucks and they would bring the material that had been blended. Rayon and asbestos was loaded into these trucks and brought up the elevator and then brought to feed into the cards, so those men were required to wear respirators during handling of stock by hand.

Q How much textiles were produced, asbestos textiles were produced at the Palmyra plant of Garlock?

A Oh, I guess it was probably about two million pounds a year.

Q And that was sold commercially?

A The highest percentage was used within the factory, either in the dipping machines or in the high- pressure manufacturing where they coated it with rubber.

Q So some of it --

A Most of it was that way. Then we shipped some rolls, but the most of it was internally used.

Q And was any of the textiles that you have described also used to make further products like the Garlock

gaskets?

A Yes. That was after the coating process. There is very little requirement for asbestos just as a dry cloth.

Q Once you had made a compressed asbestos sheet out of which gaskets could be cut, you were able to print on that compressed asbestos sheet, am I correct?

A They would put a label on it, yes.

Q And you could put Garlock's name on it?

A It might be a label, the brand, and a style number might be on there, so it could be identified as a Garlock product.

Q And that would be right on the product itself?

A That would be printed right on the sheet.

Q And Garlock made gaskets in various light and dark colors?

MR. SHANNON: You're talking about compressed-asbestos sheet gaskets?

Q Compressed-asbestos sheet gaskets, what colors did they come in?

A Color?

Q Yes, sir.

A Oh, might be in a black, one a dark gray. They had

some in the white.

Q Would that be a white or a light gray?

A It would be off color white. Once you start using white rubber on white asbestos, you come up with a dirty gray, and they might have a - I think they may have used some blue and some red.

Q Now, the style number, does the number 7005 ring a bell for you from the gasket materials?

A I was not majorly connected with that, so -- 700's, I heard those numbers, but I didn't handle them enough to be a good answer for you.

Q Am I correct that many of the gaskets produced by Garlock, but not all, had the name of Garlock on the material itself?

MR. SHANNON: Again, compressed-asbestos sheet gaskets.

A Well, many of the products might have a number and then be boxed in a Garlock-labeled box. I don't think the word "Garlock" would show on everything that they made.

Q I understand, but the name was put on some of the compressed-asbestos sheet gasket material?

A Oh, I guess the word "Garlock" showed on some of the sheet, yes.

Q In the mid to late 40's, would it be fair to state that Garlock's employees that were exposed to dust, asbestos dust, were aware that asbestos could possibly be harmful to them if they breathed it without necessary protection?

A Most people do not live in a state of awareness of danger hanging over their head all the time. We had probably more long-term workers in textile than in most of the other plants. There was no sense of fear in the plant.

Q Was there awareness that it was important to keep the ventilation and exhaust equipment working and to use respirators when you were around asbestos dust?

A When you were working in a dusty area, yes. Generally, we had a pretty clean department, so the respirators were not worn by everybody. It was only where you were handling dusty material like feeding a card or laying a batch.

Q Were there any programs that you recall, Mr. Houghton, at Palmyra to advise the employees of the importance of keeping the ventilation and vacuum equipment working so that the asbestos dust level in the air could be kept low?

A That was responsibility of the supervision.
Q And what did the supervision do to make sure that the men were aware of the importance of keeping the asbestos content low?
A I don't think that generally people are aware of details like that. They depend on their supervision to keep things up to date and keep adjustments right. Now, you make improvements, then it's up to us to see that the improvements are kept in the proper shape, and that was the foreman's job. The superintendent might be checking by casual moving through the department to see that it was being done, but you had foremen that were also responsible.
Q How many buildings were there at Palmyra?
A Oh, the numbers were something like up to 25. Numbers of buildings is kind of a hard thing to do because here's a shed and it's given a number, so roughly, there were around 25 different types of manufacturing going on.
Q Who was Mr. Bristol?
A Bristol?
Q Yes, sir.
A He was in charge of the machine shop, and I guess he

had yard gang for maintenance of the whole factory outside as well as the tinsmith and the electrical department were all under Bristol.

Q In some of the buildings, for example, Building 15, are you able to identify what Building 15 was or what service was performed there, do you recall, in the 1942 time frame?

A 15? I was in Building 7. 15 I don't think is clear enough in my mind just which it was.

Q In Building 8 or Building 15, in June of 1942, I have a paper which I will share with you, but I want to ask a clarification first. A comment was made of the need to remove fumes and impurities on the second floor that were created, generated or released by filling bins with powdered materials. Would the powdered materials being referred to be asbestos?

MR. SHANNON: Why don't you let him see the document? It might help. Are you talking about Building 8 or 15? You said both at the beginning of the question.

MR. GLASSER: There's a reference, Jim, and I think I'll need his help to clarify it, but I have extra copies of the same document.

Q This is the document, Mr. Houghton, I'm showing to you. At the same time I've got another copy here for your counsel. Let me turn to the first page. I'm going to move back just for a second and it is marked June 5, 1942. Do you see that, 6-5-42?

A Yes.

Q And it has "Mr. Bristol" then the word "important" and it has some initials. Do you know whose initials those are?

A I can see a C there, but that number 8 doesn't tell me much. Let's see, I don't know whether that might be C. R. Hubbard. C. R. Hubbard was the vice president in charge of the factory, the molding department.

Q If you will turn to the next page --

A It likes like Frisbee Walborth.

Q That looks like who?

A This looks like Walborth.

Q This might be a signature from the industrial commissioner. What I was questioning, if you look at the paragraph numbered 1, it talks about the need to "Provide an exhaust system to remove fumes or other impurities from your factory on second floor, created, generated or released by filling bins with powdered

materials." Do you see where I read that?

A Yes.

Q Is the powdered material that they're referring to there asbestos?

A It sounds like it may be where they were making up compounds, second floor.

MR. GLASSER: Jim, to answer your question, it says Building 8 and 15.

A Manufacturing didn't do much blending on the second floor. That was blending in the basement.

Q Now, with regard to that on the basement, look with me at paragraph marked number 2. Here the direction is to "Construct and locate hood so that dust from grinding gaskets will fall or be drawn into the hood," and then it has a parenthesis, "(gasket grinding machine - basement - building 8 and 15.)"

A They had a mill in the basement for re-- well, they would chop up gasket trimmings to be reprocessed in the mixing, gasket grinding. There might be some type of a gasket tolerance that required a certain thickness, and then they would put it through a grinder which would have a surface grinding operation. That could make a rubber dust and be a nuisance and it could be a fire

hazard if you didn't keep your machinery clean.

Q Do you have any recollection of a document such as this being delivered to the Garlock Packing Company by the Department of Labor?

A No. I being not connected with maintenance, I would not see any report like this.

Q Can you identify the writing that appears on the left-hand margin of page 2 of this exhibit?

A No.

Q If any direction or order were given to the plant to collect certain fumes or grindings that were escaping into the work environment, would those have generally been brought to your attention?

A No.

Q Are you aware that in the 1942 time frame, there were documents such as this received by the Garlock Packing Company at its Palmyra plant?

A They wouldn't have come to me. I was not in the health department. The problems of textiles would come to me. In fact, only to me because it was -- if I needed any help, I'd go to maybe Bristol for electrical or other upkeep business, but for the maintenance of dust control was mine, designing was mine.

Q Thank you, Mr. Houghton. I'm going to give this to the court reporter and ask her to identify that please as Houghton Number 1 so they can see what you and I were sharing and talking about.

(WHEREUPON HOUGHTON EXHIBIT 1 - Four-page document; first page reading "Mr. Bristol" and "Important" - WAS MARKED FOR IDENTIFICATION.)

Q When problems were brought to your attention that needed correcting as it related to the vacuum system or the need to keep asbestos dust low? What sources of information did you have to turn to in addition to your own past experience?

A We had a very good man, a John Kattenack, who was a big help in designing dust recovery systems like a cyclone, and he was the one I would go to, and he was very helpful.

Q Is he available today?

A No, he's also in the ground.

Q Was there anyone at or available to you at Garlock who kept up with industrial hygiene or medicine as it related to the asbestos hazard?

A I think not.

Q My question is had you any time, say, in the 1930's, while you were at Manville or in the early part of your career at Garlock heard of Dr. Merewether over in England and the studies that he had done on asbestos textile plants over there?

A I think my answer is no.

Q I'm going to show you, and it's a thick document consisting of 34 pages, but I'm showing it to you just to see whether or not that in any way refreshes your recollection. This is only a photocopy of what the document was.

MR. SHANNON: Can we identified it for the record?

MR. GLASSER: For the record, I'm showing him the "Report on the Effect of Asbestos Dust on the Lungs and Dust Suppression in the Asbestos Industry." It is a two-part paper by E.R.A. Merewether and W.C. Price. It is dated 1930.

A One shilling, three pence. No, I did not know of him, and the report that this covers did not come to me.

Q I thank you, and I will show you another report and ask you whether you have seen or heard of this.

MR. GLASSER: For the record, this is an United States Treasury Department Public Health