NO. 09-CI-01313 JEFFERSON CIRCUIT COURT
DIVISION EIGHT (8)
JUDGE McKAY CHAUVIN

EDDIE McCAULEY and AMANDA McCAULEY
and BRANDON McCAULEY by and through
their Parent and Next Friend,
EDDIE McCAULEY PLAINTIFFS

V. VIDEOTAPED DEPOSITION FOR THE PLAINTIFFS

LOUISVILLE GAS AND ELECTRIC
COMPANY, ET AL. DEFENDANTS

* * *

DEPONENT: JOHN KELSE

DATE: JANUARY 19, 2010

* * *

ELLEN L. COULTER, R.P.R.
COULTER REPORTING, LLC
101 East Kentucky Street
Suite 200
Louisville, Kentucky 40203
(502) 582-1627
FAX: (502) 587-6299

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FOR THE PLAINTIFFS:

JOSEPH D. SATTERLEY
Sales, Tillman, Wallbaum,
Catlett & Satterley
1900 Waterfront Plaza
325 West Main Street
Louisville, Kentucky 40202

FOR THE DEFENDANT, CARDINAL INDUSTRIAL INSULATION COMPANY:

THOMAS RUMP - Via Speakerphone
Lynch, Cox, Gilman & Goodman, PSC
500 West Jefferson Street, Suite 2100
Louisville, Kentucky 40202

FOR THE DEFENDANTS, FLUOR ENTERPRISES, INC., FLUOR DANIEL ILLINOIS, INC., AND GEORGIA-PACIFIC:

REBECCA SCHUPBACH - Via Speakerphone
KRISTIE A. DAUGHERTY - Via Speakerphone
Wyatt, Tarrant & Combs
500 West Jefferson Street, Suite 2600
Louisville, Kentucky 40202

FOR THE DEFENDANT, KAISER GYPSUM COMPANY, INC.:

BEN T. WHITE, II - Via Speakerphone
Phillips Parker Orberson & Moore, PLC
716 West Main Street, Suite 300
Louisville, Kentucky 40202

FOR THE DEFENDANT, R. T. VANDERBILT COMPANY:

R. THOMAS RADCLIFFE, JR.
Dehay & Elliston, LLP
36 South Charles Street, Suite 1300
Baltimore, Maryland 21201

MATTHEW W. BREETZ
Stites & Harbison, PLLC
400 West Market Street, Suite 1800

ALSO PRESENT:

JAMES C. LONG, JR.
Weitz & Luxenberg
700 Broadway
New York, New York 10003

VIDEOGRAPHER:

DMITRY ZVONKOV

The videotaped deposition of JOHN KELSE, taken at the Stamford Marriott Hotel & Spa, Skyline Boardroom, Two Stamford Forum, 243 Tresser Boulevard, Stamford, Connecticut, on Tuesday, the 19th day of January, 2010, at approximately 9:15 a.m.; said deposition being taken pursuant to Notice for use in accordance with the Kentucky Rules of Civil Procedure.

* * *

THE VIDEOGRAPHER: This is tape No. 1. We're on the record at 9:16.

MR. SATTERLEY: We're here today in the matter of Eddie McCauley, Amanda McCauley and Brandon McCauley, by and through their parent and next friend, Eddie McCauley, in a matter pending in Jefferson Circuit Court, civil action 09-CI-01313.

If you could swear in the witness.

NOTARY PUBLIC: State your name.

THE WITNESS: John Kelse.

(WITNESS PLACED UNDER OATH)

EXAMINATION

BY MR. SATTERLEY:

Q. Please state your full name, sir.

A. John W. Kelse.

Q. Mr. Kelse, my name is Joe Satterley, and I think we met about two and a half years ago. Do you recall that?

A. I do.

Q. We're going to spend some time with you today talking about some of the similar type issues, but this case is a little bit different so I'll be going in different directions.

But I want to first ask you about R. T. Vanderbilt and -- and the Gouverneur Talc Company. Does -- does it still mine talc type products?

A. No, it does not.

Q. And when did it last mine the talc type products?

A. It phased it out over two -- in the year 2008.

Q. And so when you say "phased it out," if you can just give me a little bit more information. When was the -- I guess the final time

that R. T. Vanderbilt and Gouverneur Talc mined talc products?

MR. RADCLIFFE: Object to the form.

A. In terms of actually mining it, I believe -- I believe it was early 2008.

Q. And "early," do you mean January, February?

A. In that timeframe. February, March, maybe.

Q. And then in -- later in 2008, did they continue to mill it and bag it and sell it, and then there -- did there come a point in time where they eventually just no longer did anything?

A. That -- that's correct. There was some stockpile left. They continued to do a little bit and it dwindled off, tapered off through the end of 2008.

Q. And -- and -- and that was going to be my next question. Was -- did it go all the way till -- towards the end of 2008, like November, December of 2008? Is that the last time any product was sold out to the public?

MR. RADCLIFFE: Object to the form.

A. That's my recollection.

Q. Okay. And is it your testimony now

that R. T. Vanderbilt has gotten completely out of the talc business?

A. That's my understanding, yes.

Q. And who was it with the company that made the decision to no longer -- no longer mine, mill, process and sell talc products?

A. Well, I -- I believe it needed to be voted on by the board of directors.

Q. Okay. And -- and who -- who is on the board of directors?

A. I don't have the -- the list. I know several people, but I can't give you a complete list. Probably better to ask Paul Vanderbilt that question.

Q. I will ask Paul, but what's -- what's your understanding of -- who do you know that's on the board?

A. Well, Hugh Vanderbilt's the --

Q. The president.

A. Yes.

Q. CEO.

A. CEO.

Q. Okay.

A. Paul Vanderbilt.

Q. He's the vice president.

A. Correct.

Q. Okay.
A. The CFO, chief financial officer, Joe Denaro.
Q. Okay.
A. Dennis Race, attorney.
Q. He's a lawyer, isn't he?
A. Correct.
Q. Okay.
A. I'm not sure whether Hugh Vanderbilt's sisters remain on the board or not. Again, that's -- they used to be.
Q. Did -- were you present when the board voted on this issue?
A. No, I was not.
Q. Do you know what the vote was?
A. I have no idea.
Q. Did you -- did any of the board of directors, Paul Vanderbilt, Hugh Vanderbilt, or anybody else for that matter, tell you anything about the discussions about the decision to no longer mine, mill, process and sell talc products?
A. Discussions at the board meeting?
Q. Sure.
A. No, they didn't.
Q. So you have no personal knowledge

yourself as to why the company made decisions to no longer mine, mill and sell talc products.

A. As discussed at the board meeting?

Q. Sure.

A. No.

Q. Okay. Have you come to learn through some other source the reason why the board made that decision?

A. Well, the company produced a -- a press release on -- on the Web site, and that's my understanding.

Q. And -- and your understanding of the press release is that -- that they -- they say that -- in the press release that the -- the reason why they no longer wanted to sell this product is because it caused people to get sick and die?

A. No. The reason was that the tonnage is reduced over a period of about a decade, was only a fraction, really, of what it used to be. So it was a sales decision more than anything else.

Q. Because the money wasn't coming in?

A. Well, just -- yeah. We weren't -- mainly -- the main market for the talc was in the ceramics industry, and a good portion of the ceramics industry moved offshore over the last couple of

decades, and that -- that was a significant impact on the sales of talc.

Q. Who's Roger Price?

A. He's executive vice -- executive vice president.

Q. Is he the one that issued that press release?

A. I believe it was signed by Hugh Vanderbilt.

Q. The CEO.

A. I believe it was.

Q. Now, take a step back and I'll probably come back to this in a little bit, but are you still in risk management, corporate risk manager for the company?

A. Well, I'm the corporate industrial hygienist and -- and the director of occupational health.

Q. And -- but weren't you two years ago or two and a half years ago the corporate risk manager?

A. Yes. I oversaw the risk management department that I built.

Q. Have you taken a new position within the company since you and I last spent time talking

together?

A. To -- to some degree.

Q. Okay.

A. We -- we broke the risk management department into some segments. I had a product risk department where I had a toxicologist who ran that portion of it, and then the responsibilities and demands of that activity have increased. Those are product registration, product testing, that sort of thing, and so we split that off into a separate department.

Q. And so who is the toxicologist that you supervise?

MR. RADCLIFFE: Object to the form.

A. Well, I don't supervise that any longer.

Q. Okay. Who was the toxicologist?

A. Well, Dave -- Dave Lebedin is the current manager of that department.

Q. Is he a toxicologist?

A. No, he's not, actually.

Q. I apologize. I maybe misunderstood you. You said there was a toxicologist that worked --

A. Yeah. I had -- there were three or

four people who had that position, and two of them were toxicologists, but Dave Lebedin is not a ...

Q. Who were the toxicologists?

A. There was a Dave Bower, Dr. Bower.

Q. Is he still with the company?

A. Oh, no. No.

Q. Okay. How long ago did he leave?

A. Oh, gee. Had to be a good 12, 15 years ago.

Q. And do you know where he is now?

A. No. I think he's worked for a company in New Jersey, but I don't know what company.

Q. And how do you spell his last name?

A. B-O-W-E-R.

Q. Okay. And who is the other toxicologist that you --

A. Well, she was an Indian woman, a Ph.D. Valthia, V-A-L-T-H-I-A, Amenida I think is -- I think that's how she pronounce -- A-M-E-N-I-D-A.

Q. Is she still with the company?

A. No.

Q. And how long ago did she leave?

A. About five years ago.

Q. And do you know where she is?

A. She lives in the Hartford area. I

don't know if she's --

Q. Connecticut? Hartford, Connecticut?

A. Yeah.

Q. Okay. The -- back to the issue of R. T. Vanderbilt issuing a press release to discontinue the talc products, did they discontinue the -- all talc products?

A. From the Gouverneur mining operation, yes.

Q. Okay. Did they continue to mine talc products in other regions?

A. No.

Q. And the discontinuing of the talc products would include the Nytal product?

A. That's correct.

Q. The Ceramitalc product?

A. Yes.

Q. And -- and all -- all talc from the Gouverneur Talc region?

A. The properties that they mine from, yes.

Q. Now, in 2007, I talked with you a little bit about workers' compensation claims and things of that nature. Do you remember that?

A. Yes.

Q. And have you, since 2007, continued to be involved in learning when people allege to have disease from talc or asbestosis?

A. I'm notified of any workmen's comp claim that involves any occupational disease.

Q. And since 2007 -- that's -- I know it's been three years -- I think I took your deposition in January and maybe even a little bit later in 2007. The last three years, has there been additional folks that have notified you that they have diseases which they believe are related to their work in the mines?

MR. BREETZ: Objection to form.

A. There have been some additional pulmonary claims for talcosis.

Q. And how many additional pulmonary claims have there been in the last three years?

A. In the last three years? I would say at least four or five.

Q. And when you say "pulmonary claims," have any of those four or five claims had to do with any cancers?

A. No.

Q. They were all a fibrosis type of disease?

A. Yeah, claiming dust disease.

Q. Now, is it still R. T. Vanderbilt's position that the minerals that came from the Gouverneur Talc mines did not contain asbestos?

A. I don't know if I'd characterize it as our position. I mean, that's our understanding. That's what we firmly believe to be the case.

Q. And -- and that's what I was going to ask you. You firmly -- still firmly believe that to be the case?

A. If not more so.

Q. Okay. And how many -- have you -- you and I talked a few years ago about mesothelioma cases. How many mesothelioma cases have you now been able to identify through the workforce at the Gouverneur Talc mines?

MR. RADCLIFFE: Object to the form.

A. Well, mesothelioma claims are -- in terms of what, in terms of comp claims, workmen's comp claims?

Q. Sure. People that worked in the mines and got the dis --

A. That ever worked for us and that -- and that had filed for a death claim and had mesothelioma on it --

Q. Mm-hmm.

A. -- there were four.

Q. Okay. Just four?

A. Compensation claims.

Q. Okay. How many additional claims -- or not claims. How many additional people, workers, have you been able to identify suffer from mesothelioma other than those four claims?

MR. RADCLIFFE: Object to the form.

A. We're aware of three other cases in terms of people who ever worked for Vanderbilt. Two of them were reflected in the mortality studies, the formal mortality studies we were in, and one case that we were not aware of that we were presented with in a case in New Jersey a couple of years ago. That was not a comp claim or not part of the -- the health studies.

So that's a total of seven people who allegedly had mesothelioma and had worked at -- for some period of time at the Vanderbilt mine.

Q. Okay. And did you thoroughly investigate whether these folks -- whether they had mesothelioma?

MR. RADCLIFFE: Object to the form.

A. Well, we certainly did because we know

that that's a difficult diagnosis. It can sometimes be incorrectly made, sometimes overdiagnosed, sometimes underdiagnosed, so that was a first concern, are they real or not. And then we needed to know as much information as we could about the case, such as other work activities, other competing risks, those -- that kind of thing.

So, yes, we did -- because we have an obligation to look into that, and we did. We looked into each of those cases and got as much information as we possibly could and asked for assistance from medical personnel who are more expert in it certainly than we are.

Q. In those seven cases that -- did -- when you investigated those, did you send those cases out to a pathologist to review to confirm that it's mesothelioma?

A. We did.

Q. And in all seven of those cases did the pathologist report back to you in fact these -- these folks had mesothelioma?

MR. RADCLIFFE: Object to the form.

A. Well, actually, that's not correct. I mean, we tried to get tissue samples, if -- when they were available. In a couple of cases they weren't

available -- they were available, but in most cases they were not. And so basically we made an effort to collect as much information as we could, medical information as well as work histories and so forth, and then provide all of that information, as much as we possibly could get, to physicians who had a background and experience in -- in this area. So that's what we did.

Q. And who was the pathologist that you hired to help you in this regard?

A. Depends on -- on the -- on the case. The first two comp cases occurred in 1995. In -- in both of those cases I asked a Dr. Morgan, Keith Morgan, who's a pulmonary specialist, to review the medical files and to share the medical files and any tissue samples that we could obtain with pathologists that he might use or have had experience with mesothelioma diagnosis, which he did. I don't recall the pathologist's name at the moment. It's in some of the records or documents. So we used Dr. Morgan for that.

There was the third case I think that we became aware of, I think, around nine -- in 2002 or 2003. If I'm not mistaken, I -- I sent those records to Dr. Morgan as well, in addition to

Dr. Boehlecke, who is a pulmonary consultant we've used for a number of years.

And then the last case, 2005, shared that with Dr. Boehlecke, and --

Q. Where's Dr. Boehlecke at?

A. Well, he's a professor of medicine at the University of North Carolina. I think he retired in the last year.

Q. And he --

MR. RADCLIFFE: Did you get to finish your response?

Q. I'm sorry. Go ahead.

A. Yeah, I was trying to -- to -- and then ultimately we sent all of the files and all of the -- the reviews by Dr. Morgan, his pathologist, comments from Dr. Boehlecke, to Dr. Rubin, Emanuel Rubin, in -- in Philadelphia -- he's a pathologist of some repute -- to review all the files and advise us on -- in regard to his impressions of those records, which he did.

Q. And -- and I understand -- I've taken Dr. Rubin's testimony in the past. You're not a medical doctor, right?

A. No, of course not.

Q. And -- and you're not a certified

industrial hygienist.

A. That's correct.

Q. You got your degree in psychology.

A. Yes.

Q. And I understand that you have been excluded as an expert -- not been permitted to give expert testimony in New Jersey. That's correct, right?

MR. RADCLIFFE: Object to the form.

A. I -- I don't know.

Q. Do you recall testifying in a case of Angeline Comandini where a lady named Rachel Placitella was asking you questions?

A. I may have. I -- I don't remember exactly which case was what.

Q. This is page 9. Let me just show you your testimony. It says --

A. What year was that, Joe?

Q. This is a long time ago. This was November 5th of 2009.

A. Oh. 2009?

Q. Yeah. This was about two -- two months ago.

A. Okay.

Q. Two months ago.

"Question: It's my understanding that when you testified in the New Jersey litigation matter you were excluded as an expert witness; is that correct?"

And you said, "I believe -- I believe so."

Do you -- go ahead. Take a minute and read --

A. Well, if that's what I said, that's what I said.

Q. And my question -- follow-up question: Have you ever testified in a trial before a jury as an expert witness where the court deemed you to be an expert?

A. I don't -- I don't think so.

Q. In the Vanderbilt -- or in the Franklin case down in Kentucky, you didn't come down and testify.

A. That's correct.

Q. Why?

MR. RADCLIFFE: Object to the form.

A. I don't know. Wasn't asked.

Q. You wasn't asked?

A. Right.

Q. Since 2007, how many depositions have

you given for R. T. Vanderbilt?

A. Since 2007?

Q. Sure. Last three years.

A. I would say four or five, something some -- somewhere in that range.

Q. And have you testified in any trials?

A. No.

Q. Has any of the folks with -- you're in management with the company, right?

A. I guess that would be -- director would be considered management.

Q. And your pay is tied to how profitable the company is, true?

MR. RADCLIFFE: Object to the form.

A. I don't think my pay is viewed any differently than anyone else's. I don't know that it would be -- be tied to -- to the profitability no more or less than anyone else's would be.

Q. Did you --

A. I know last year no one got raises.

Q. Have you previously testified that your -- that your salary is -- well, actually a bonus -- whether or not you receive a bonus is -- is tied depending on -- upon how profitable the company is.

A. Well, again, I think no more or less than anyone else.

Q. It's based upon the prosperity of the company, your bonus, right?

A. Well, the company has to be -- make a profit in order to, you know, increase salaries or pay bonuses. As I said, last -- last year there were no increases in salaries. In fact, we all had a 20 percent reduction because we all worked four days a week.

Q. And do you -- historically, not last year I'm talking about, sir, or last -- you started -- were hired in 1987?

A. '85.

Q. '85.

A. Right.

Q. Historically, though, your bonuses was tied to your performance, how you did for the company.

MR. RADCLIFFE: Object to the form.

Q. Right?

A. I believe so, as they would be for anyone.

Q. And it -- your -- part of your job has been to -- corporate risk manager, is to look at the

claims and to deny claims, true?

MR. RADCLIFFE: Object to the form.

A. No, it's not.

Q. You -- you evaluate claims, don't you?

A. I do, and I -- I do advise insurance carriers if I feel a claim is legitimate, if I see evidence of a pulmonary disease or any other occupational problem, not only with mines, but our chemical plants as well. If it looks like it's legitimate and the medical data is there to support it, then I support it. If it looks like the medical data isn't, then I recommend to the carriers that they investigate the claim.

Q. I'm going to talk to you about the carriers in a little bit, but how many times have you told the insurance companies that the individuals alleging an asbestos-related disease from an exposure of Vanderbilt's talc is actually a valid claim?

MR. BREETZ: Objection to form.

A. Well, there are no valid claims for asbestos exposure because there isn't any in the talc, but there are valid claims if the person is overexposed to just about any type of mineral dust, so it's possible. We don't see it very often at all, but it is possible. But it's not an asbestos-linked

claim.

Q. When you -- when the company issued its press release in 2008 and said they're going to no longer mine and sell this talc product, did R. T. Vanderbilt advise the press that a jury had determined that R. T. Vanderbilt caused somebody to die?

MR. RADCLIFFE: Object to the form.

MR. BREETZ: Objection to form.

A. As an explanation for why they're not producing the talc?

Q. For --

A. No, that was not part of any press release.

Q. For any reason. In any press release has R. T. Vanderbilt shared with the public that a jury unanimously determined that R. T. Vanderbilt killed somebody?

MR. RADCLIFFE: Object to the form.

MR. BREETZ: Objection to form.

A. I'm sorry. I just -- I don't -- I don't mean to be disrespectful to the legal system, but juries are not scientists. Sorry.

Q. And you're not a scientist.

A. No.

Q. Okay.
A. Neither are you.
Q. Okay. Now, did -- I know --
MR. RADCLIFFE: Excuse me. Please don't argue.
THE WITNESS: Okay.
Q. My -- my -- my question is -- because you guys make decisions on what kind of press releases you want to make out, right?
A. That's correct.
Q. All right. And after the Hirsch case in 2006, a press release was -- was issued about that case. Do you remember that?
A. I think you're right. I think --
Q. And the press release in that case said that the jury determined that there was no asbestos in the product. Do you remember that?
A. I would have to go back and read that. You may be right about that.
Q. Okay. And -- and the reason why I'm just wondering is, if you know, why didn't R. T. Vanderbilt publicize and give -- issue a press release about the Franklin situation like they did with the Hirsch situation?
A. In a press release --

Q. Sure.

A. -- explaining why we're not going to produce talc any longer?

Q. Or to explain that the jury said that it caused the mesothelioma and there was fraudulent concealment and things of that nature.

MR. BREETZ: Objection to form.

A. Well, it's not the reason they closed the talc operation, so why would you explain it in a press release?

Q. I'm just struggling with why you issue a press release for one jury verdict in New Jersey and you don't issue a press release for another one. Do you know?

MR. RADCLIFFE: Objection. Asked and answered.

Q. Should I talk to Roger Price about that?

A. I don't know. If I'm not mistaken, I think the Franklin case was contested or something, if I'm not --

Q. And did you read the appeal decision --

A. No.

Q. -- affirming it?

A. No.
Q. You didn't read the appeal?
A. No.
Q. Okay. All right. Let's talk about insurance companies.
MR. BREETZ: Joe, can we have a continuing objection of any discussion of insurance companies?
MR. SATTERLEY: Sure.
Who are the insurance carriers providing coverage for R. T. Vanderbilt and Gouverneur Talc for claims of mesothelioma?
A. Over the years?
Q. Providing the defense and providing the -- you know, if I win this case, who will pay the --
A. Who will pay?
Q. Who pays?
A. Well, I know who the carriers are typically that are involved.
Q. Who are they?
A. But it depends on the years of coverage and so forth, but I know that Hartford Insurance Company was one. CNA was certainly one. AIG was a comp carrier; what years exactly I'd have

to check.

Q. Was AIG also a liability carrier?

A. I believe they were, yeah.

Q. Anybody other than Hartford Insurance, CNA or AIG provide insurance coverage for R. T. Vanderbilt or Gouverneur?

A. Yeah, Zurich. I think those are the four. Oh, for some period of time -- I don't exactly remember the years, but the -- I think that the talc facility was covered by the state insurance plan I think in -- in New York State.

Q. For workers' comp.

A. Yeah, workers' comp.

Q. Okay. I'm talking about liability coverage for somebody that wasn't an employee --

A. Right, a third-party?

Q. Yeah.

A. Yeah. That wouldn't be state fund. That would be --

Q. That would be --

A. That would be Zurich, AIG, Hartford, CNA.

Q. Okay. And if you know, do you know what years these folks provided coverage?

A. Offhand I don't. I mean, you'd have

to get that from probably Joe Denaro or Paul perhaps.

Q. I'm going to see those folks later, so I'll talk to those about them.

Do you know whether Hartford, CNA, I -- AIG, Zurich, these insurance companies, participated in discussions with you about whether some of these diseases were caused by asbestos?

A. Participated with me?

Q. Sure. You guys had discussions back and forth about whether disease -- diseases from folks like my clients was from asbestos from the talc mines.

MR. BREETZ: Objection to form.

MR. RADCLIFFE: Object to the form.

MR. BREETZ: And let -- I don't know if this is where you're intending to go, but let me tell you what my concern is, Joe, so we can address it.

MR. SATTERLEY: I'm not asking about any attorney conversations, so --

MR. BREETZ: So -- and any discussions about any lawsuits because that is also -- under Kentucky law discussions with carriers about pending lawsuits are also protected by privileges and are -- they are certainly protected. So to the extent --

MR. SATTERLEY: I -- I -- I don't know about that. Have you --

MR. BREETZ: I do.

MR. SATTERLEY: -- got a case? What's the case?

MR. BREETZ: Not off the top of my head, but I know there's a case.

MR. SATTERLEY: All right.

MR. BREETZ: So I caution you, sir, that as you answer this question if you've had general conversations about -- with carriers about general matters, you're -- you're certainly able to testify. But if you've had discussions with carriers about particular matters, then I think those are protected by work product and attorney/client privilege.

So with that in place, I don't -- I don't mean to impede your questions, Joe --

MR. SATTERLEY: Are you instructing him not to answer that question?

MR. BREETZ: To the extent it's -- he's -- you're asking him to divulge work product or attorney/client privilege, absolutely I'm going to instruct him not to answer.

MR. SATTERLEY: Let's just certify the

question.

(QUESTION CERTIFIED TO THE COURT)

Q. Let me ask -- ask without divulging any work product privilege, tell me, have you talked to any of these insurance companies about whether there's asbestos, in your-all's minds?

A. Well, discussions about whether or not there's asbestos in the talc and whether it's linked to a pulmonary claim has -- that's where the discussion would always evolve, around a claim. So in -- in a general sense, no. Claim specific, yes.

So I think that would be covered by your concern, if I'm not mistaken.

Q. Well, all right. I would just put for the record that I've explored this topic other than counsel's objection, but I do want to -- without getting into the substance of your conversations, who have you had con -- conversations with at Hartford about whether there's asbestos in the talc mines?

A. Hartford?

Q. Mm-hmm. You worked for Hartford Insurance Company, right?

A. I did.

Q. Okay. You were insurance -- you adjusted claims?

A. No. I was an industrial hygienist. I took air samples.

Q. Oh, air samples, okay. Who have you talked with at Hartford about asbestos in talc, just by name?

A. I can't recall any --

Q. Can't recall any names at all?

A. -- specific name.

Q. What about CNA?

A. I can't --

Q. Can't recall any names there?

A. -- give you any specific person.

Q. AIG?

A. Again, no specific person.

Q. Zurich?

A. No specific person. They would be linked to claims and whoever the claims handlers were. So they would be linked to a claim. It would be a -- a claims manager or coordinator. Those would be the individuals. If -- if there was even an issue or that were a question, that would be the person that I would interface with.

Q. So you can't recall a single individual by name that you would have had any conversations with about asbestos in the talc mines

at any of these four insurance companies.

A. Not -- not occur very often.

Q. Okay. Would there certainly be an obligation that you turn in to the insurance company information that you have re -- regarding individual claims?

MR. BREETZ: Objection to form.

A. Yes, there would be.

Q. You'd put -- you'd put them on notice, right, of the claim and what the disease is -- alleged disease is?

A. Yeah. There's a process, and the claim is usually initiated at the plant. It goes through a claims office. They -- there's a procedure they go through and some forms they fill out.

And then I see a notice of it, and that's usually how I -- I hear about it. It comes actually from the carrier to me rather than the other way around.

Q. You said earlier that there's only seven mesotheliomas that you've been able to identify from your workforce. You've read the Hull case, Abraham paper?

A. Yes.

Q. And in that paper does he write about

13 mesotheliomas?

MR. RADCLIFFE: You said Hull paper?

MR. SATTERLEY: Yes.

MR. RADCLIFFE: The Hull case, Abraham?

MR. SATTERLEY: Yeah.

MR. RADCLIFFE: Okay.

A. H-U-L-L?

Q. H-U-L-L. You're -- you know what I'm talking about, right?

A. Sure.

Q. Okay. And they're -- they discuss 13 mesotheliomas in the paper?

A. I'm not sure how many they mention. They compare three against eight controls or something of that sort.

Q. Have you gone back to try to figure out whether any of the mesotheliomas in that paper are part of the seven?

MR. RADCLIFFE: And let me just say that to the extent that the Hull paper is going to be relied upon and discussed, we make a demand for all information about those cases so --

MR. SATTERLEY: You -- you --

MR. RADCLIFFE: -- we can do precisely

that.

MR. SATTERLEY: You've already -- I know you're trying to violate HIPAA, but we're not going to go that --

MR. RADCLIFFE: Sir, we don't want any violation of HIPAA.

MR. SATTERLEY: And the court's already addressed this.

MR. RADCLIFFE: It has, and it's ruled that it does not violate HIPAA.

MR. SATTERLEY: The Franklin opinion say that?

MR. RADCLIFFE: I don't know what Franklin says.

MR. SATTERLEY: That's a published court of appeals opinion. You better go read it. Let me move on.

You've read the Hull paper.

A. Sure.

Q. And have you tried to figure out whether those 13 mesotheliomas addressed in that paper are separate in -- individuals than the seven that you've identified?

A. Well, the information that's given in the Hull paper in terms of ages, employment periods,

that sort of thing, is -- is really not adequate for me to make that determination. I did try. I looked at some of the dates.

The closest I could come was the one case that was reported by -- and the second mortality study looked like it might, but even that date was off a little bit. And that's as far as I could go with the information that was there.

Q. And did you review the raw data that Dr. Abraham had provided in response to his deposition in the Franklin case --

MR. RADCLIFFE: Object to the form.

Q. -- about the -- have you looked at all of that?

MR. RADCLIFFE: Object to the form to the extent that you're implying that any data was produced.

Q. We've -- we wrote a whole brief on this with a -- all kinds of attachments. I -- I assume your counsel has probably read it.

Did you -- were you provided with a copy of that?

A. I saw some additional information, but I recall looking at it and not being able to go any further than they did with -- with this paper. It

still was not sufficient.

Q. You're not an epidemiologist, are you?

A. No.

Q. Okay. The -- in 1990, when you went to OSHA and -- you and Dennis Race and Dr. Wylie and several other folks went down to hearings about classification of cleavage fragments versus asbestos fiber. Do you remember that?

A. Yes.

Q. Okay. Did you take with you any workers' compensation claims?

A. There were no workmen's compensation -- well, for what?

Q. For di -- pulmonary diseases.

A. Just general pulmonary diseases?

Q. Yeah. Asbestosis, talcosis, fibrosis, so that the OSHA folks can look and say, "Do these folks have asbestos bodies in their lungs?"

A. Well, those --

MR. RADCLIFFE: Object to the form.

A. Nobody did lung burden studies on comp claims.

Q. My question, sir, was did you take any documents from workers' compensation claims to the OSHA folks so they can determine what types of

diseases was occurring with the miners?

MR. RADCLIFFE: Object to form.

A. Well, it wouldn't have been necessary to do that because it was already a mortality study that was published that also covered morbidity, so there was all -- already a published peer reviewed, review of the morbidity, which is pneumoconiosis or -- or dust disease. It was in --

Q. So --

A. -- in the literature, which is more extensive than comp claims --

Q. So --

A. -- because not every -- everybody that may have a -- feel that they have a dust problem file a comp claim, but in a -- in a mortality and morbidity study, you do look at everyone so they're more complete than comp. So actually OSHA had a better record than they would have gotten from compensation.

Q. So the answer is my -- to my question, sir, is no, you didn't take any of the workers' comp claims or medical records about the miners or millers to the OSHA hearings, right?

MR. RADCLIFFE: Object to the form.

A. There would be no point.

Q. I didn't ask you whether you think there was a point or not.

A. Well, that's --

Q. The answer is no.

A. -- the reason why we did not, yes.

Q. Because you thought there would be no point.

MR. RADCLIFFE: Object to the form.

Q. Okay. We're going to go over --

A. We didn't think. We knew --

Q. -- some of that in a little bit.

A. -- there would be no point.

Q. We'll go over that some in a little bit. So you think that there was already a -- a study that was more detailed in nature for OSHA to look at, right?

A. It's not only that, but the -- the other individual that testified was Dr. Bailey, who -- who every two years read the x-rays and looked at the pulmonary status of those workers. So he was there specifically to talk about his direct experience in reviewing those workers. I don't think you can get any more complete than that.

Q. We're going to be here for two or three days if you just -- you -- if you don't answer

my question. My question is --

MR. RADCLIFFE: We don't need any threats. If we need --

MR. SATTERLEY: No.

MR. RADCLIFFE: -- to take a break, we can do it.

MR. SATTERLEY: No, I'm not threatening, but --

MR. RADCLIFFE: You didn't make a threat? "We're going to be here two or three days" is not a threat?

MR. SATTERLEY: We are going to be here if he continues not to answer my question.

My question is, what was the study that you think that OSHA relied upon?

A. Well, they had the 1980 NIOSH report which included a mor -- morbidity section. And as I said, you had Dr. Boehlecke, who actually was physically looking at the -- the workers.

Q. Any other studies that you think, other than 1980 NIOSH study and the Boehlecke?

A. Well, any other study that would have been published would have been available to OSHA.

Q. Okay. Do you think -- have you, since that timeframe -- by the way, the mesothelioma cases

that occurred, you said there was one in '95, right?

A. There were two.

Q. Two in '95? Did you take those mesothelioma cases to the OSHA hearing so that they can understand that you had two workers -- at least, according to your testimony -- that had died of mesothelioma?

MR. RADCLIFFE: Object to the form. Asked and answered.

A. Well, the hearings were in 1990.

Q. Okay. So you -- is it your testimony there was never a mesothelioma before -- well, let me ask the question this way. Since 1990, have you gone back to OSHA to report how many mesotheliomas have occurred within your workforce?

MR. BREETZ: Objection to form.

A. No.

Q. Have you went back to try to say now our -- our -- our product should be regulated as asbestos because we've had a whole bunch of people die from asbestos-related diseases?

MR. BREETZ: Objection to form.

MR. RADCLIFFE: Object to the form.

A. Well, on two counts. Number one, you don't define minerals by diseases, you define them by

what they are. And number two, that's not what you would do. There's no requirement to go back to OSHA and report on --

Q. I didn't ask if there's a requirement.

A. -- comp claims.

Q. I didn't ask if there's a requirement. I -- I asked did you do that?

MR. RADCLIFFE: Object to the form.

A. No.

Q. Okay. You would agree that R. T. Vanderbilt has never warned the public that people could develop asbestos-related diseases from its products, from its minerals --

MR. RADCLIFFE: Object to --

Q. -- right?

MR. RADCLIFFE: Object to form.

A. That doesn't contain asbestos. Why would you do that?

Q. I didn't ask you your opinion about whether it contained asbestos.

A. Well --

Q. I said they -- they've never warned the public about the minerals from the mines causing asbestos-related diseases.

MR. RADCLIFFE: Object to the form.

A. There are no asbestos-related disease. Why would we warn the public?

MR. SATTERLEY: Let me move to strike as nonresponsive and no basis for -- for the statement.

My question, sir -- you're not a medical doctor, right?

A. No.

Q. You're not trained to determine whether somebody's disease was caused by a potential exposure, right?

A. Well, that's why we hired all the people and -- and asked their opinions, the comp, that we did.

Q. And I'm not -- I'm here to talk with you. If there's somebody else that I'm going to talk to later on, I'll talk with them.

A. Right.

Q. So I'm asking you specifically, did R. T. Vanderbilt ever warn the public that -- that minerals from its mine could cause asbestos-related diseases?

MR. RADCLIFFE: Object to the form.

A. Well, the answer is no.

Q. Okay. Now, with regards to -- just

bear with me one second.

With regards to whether or not the minerals contain asbestos or doesn't contain asbestos, that's beyond your area of expertise.

MR. RADCLIFFE: Object to the form.

A. My personal -- I'm not a mineralogist, so, yes, it would be beyond my personal.

Q. Okay. So every time you tell me when I'm asking you questions today that there's no asbestos, you're saying your personal opinion as the corporate risk manager, not as an expert that's qualified that has a specialty to give that opinion --

MR. RADCLIFFE: Object to the form.

Q. -- right?

A. All right, look. I'm not going to muddy the waters. I'll tell you straight out my understanding of your -- how to answer your question as honestly and straightforwardly as I can.

My job is to understand the risk of our products, okay? If someone says your product contains asbestos, whether it's talc or it's clay or it's wollastonite or it's some -- whatever it is, it's my job to figure out whether that's an accurate accusation or not.

Because I'm not a mineral scientist, I then have to go to people who do know who are mineral scientists and say, "Here's the material, look at it, look at it every way as rigorously as you possibly can, I need your advice, I need your expertise."

We have done that for 40 years, and we've used untold number of mineral scientists to look at this. There is no question in my mind that there's no asbestos in that talc. Is it complicated? Yes. Have people confused it? Yes. But the bulk of the information, the most rigorous, the most comprehensive, the most believable information that's out there by the most competent people you can find says no over and over and over. You can find --

MR. SATTERLEY: Move to strike.

A. -- exclusions.

MR. SATTERLEY: I'd move to strike as nonresponsive.

MR. BREETZ: It was responsive, but let's --

MR. SATTERLEY: No, no, wait a second, Counsel. Let me continue on.

MR. BREETZ: That's why I said --

Q. That's your personal opinion.

A. That's my job --

Q. That's your personal opinion, right?
A. -- to know that. I have a job to know that, Joe.
Q. That's your personal opinion, right?
A. It's not --
Q. But you're not an expert that's qualified to determine whether there's asbestos in the talc -- in the minerals -- you --
A. It's my job to determine that through people who do know what they're talking about.
Q. All right. And -- and I can talk to those people later, and I can talk --
A. Then you should.
Q. Okay. And I -- I will if -- if it becomes necessary. But you are not -- on the question of whether talc contains -- the Vanderbilt talc contains asbestos or not, that's a matter that's beyond your expertise and would be something for another specialty to give a qualified opinion on.
A. I would agree with that, yes.
Q. Okay. So I'm not here -- in all due respect, sir, I'm not here to find out your personal beliefs, your religious beliefs, your political beliefs, your personal opinions, okay? So -- but what I want to find out is factually what has

occurred.

Other folks from the Gouverneur Talc mines have disagreed with you, correct?

MR. RADCLIFFE: Object to the form.

A. Well, I don't know who you're talking about. I have no --

Q. Clifford Kitts. You read his sworn testimony, right?

A. I think Mr. Kitts is a chemist.

Q. Yeah. And -- and he testified under oath that there's asbestos in -- in the products, right?

MR. RADCLIFFE: Objection to form.

A. There have been a number of people who feel there's asbestos in the product.

Q. And Clifford Kipps -- Kitts is one of them, right?

A. Apparently.

Q. Okay. And you read his sworn testimony, right?

MR. RADCLIFFE: Object to the form.

A. I don't recall whether I did or not.

Q. You knew Mr. Kitts?

A. No, I didn't.

Q. Okay. Never met him at all?

A. I don't believe so.

Q. Let me ask you some other general information, historical information about R. T. Vanderbilt, if you know. They were formed in 1916?

A. The corporation, yes, I believe that's correct.

Q. And they began mining talc-related products in the 1940s?

A. Late 1940s. I think they -- they actually started production at the end of '47 or early '48.

Q. And they -- R. T. Vanderbilt is the -- has been the owner of the Gouverneur Talc Company --

A. Yeah, I usually hear it referred to as wholly-owned subsidiary.

Q. And the Gouverneur Talc Company is the one that has the mines -- has had the mines in upstate New York.

MR. RADCLIFFE: Object to the form.

A. Since 1948, yeah.

Q. And has -- has R. T. Vanderbilt closed the Gouverneur Talc Company?

A. They have.

Q. And was that done in 2008?

MR. RADCLIFFE: Object to the form.

A. Yes. I know they changed the name. That -- that's the reason why I hesitated. You'll probably get more detail from -- from either Paul Vanderbilt or -- or Joe Denaro of now it's a division versus a wholly-owned subsidiary, that -- that kind of thing.

Q. Do you know whether -- or do you know the details of the R. T. Vanderbilt purchasing the International Talc Company?

A. The details? No.

Q. You weren't involved in that at all?

A. No, I was not.

Q. Have you reviewed any company document, historical documents about that?

A. None other than just references that the -- you know, I think it was in 1974 they acquired the assets.

Q. When you say "acquired the assets," have you seen the purchase agreement?

A. No, I don't believe I have.

Q. Have you went back and reviewed what they acquired and what they didn't acquire?

A. I don't know the detail. I do know which mines were operated. Whether they were all of

the ones that International owned or a part of them, I don't know.

Q. Do you know the names of the mines that were International Talc mines that later became R. T. Vanderbilt mines?

A. Well, Vanderbilt mined -- was principally interested in a mine known as the Arnold pit, which was directly adjacent to the No. 1 mine, which was the underground mine, which was the only mine that Vanderbilt had opened in 1948. So they were very interested in that open pit mine which was essentially the same ore body. It was just directly adjacent to the underground mine.

They also mined an area a few miles away known as Talcville for several years, I think 1974 through maybe 1976, something in that range. And those are the three mines that I am -- well, the two mines, the Arnold pit and the Talcville mine that --

Q. I'm showing you what's --

A. -- I'm familiar with.

(DEPOSITION EXHIBIT NO. 1 MARKED)

Q. -- marked and -- as Exhibit 1.

A. Mm-hmm.

Q. It's a -- a little bit of a map --

A. Right.

Q. -- in upstate New York. It's got --

MR. RADCLIFFE: Can I -- excuse me, can I have a continuing objection on -- to this exhibit on the grounds of foundation, authenticity and argumentative.

Q. Well, let me -- you can have an objection, but let me ask you questions about it.

R. T. Vanderbilt mines were located in Balmat, New York?

A. Yes. Essentially this area here (indicating).

Q. Okay.

A. Right here (indicating), yeah.

Q. And is that in Jefferson County, New York?

A. Yeah. I always get confused with St. Lawrence County and Jefferson County, but I think that's Jefferson County.

Q. The --

MR. RADCLIFFE: Don't guess or speculate.

A. Okay. Well, it's -- whatever it is, it is.

Q. It's St. Law -- it's your

understanding there's St. Lawrence County and Jefferson County, they're right next to each other, right?

A. Yeah. I think St. Lawrence County is below Jefferson County to the south.

Q. And it's along the St. Lawrence River?

A. Part of it is, yeah.

Q. Okay. And the International Talc mines, were those in a different section in one of those other cities or one of those other mining regions?

A. Well, remember I mentioned Talcville?

Q. Mm-hmm.

A. You have Talcville here. This was owned by International.

Q. Okay.

A. The underground mine is in this area here (indicating).

Q. And you pointed to Balmat?

A. Right. And the -- the Arnold pit, which is the primary mine --

Q. Mm-hmm.

A. -- the open pit mine, was directly adjacent so that was right here as well. So this was operated for a few years in the mid '70s, closed.

MR. RADCLIFFE: You can't say "this" or "that" or --

A. Talcville.

MR. RADCLIFFE: -- "here" or "there."

A. Okay, sorry.

Q. International, Talcville.

A. Right. And then the Balmat underground mine which started in 1948 and the Arnold pit which was taken over in 1974 continued to operate through 1995 when the underground mine was closed down, and then all the ore was coming out of the -- all the talc ore was coming out of the Arnold pit.

Q. The open pit?

A. The open pit.

Q. Okay. The -- other than International Talc, Gouverneur Talc, there -- were there other talc mining companies in this region?

A. Yes. Actually there's a -- there's quite a history of it. Actually, this is -- I understand this area was the area in which the first talc in the United States was mined. There's actually a plaque --

Q. I --

A. -- up there.

Q. I apologize, sir. I'm not talking

historically. I'm talking about when you were with the company.

A. Oh, when I was there? No, no.

Q. Okay.

A. I think that when Vanderbilt acquired International Talc they became the only talc-mining operation in -- in that county, but there had been many, many mining companies up there in other areas.

Q. So by '74 when they acquired International Talc, from that point forward, R. T. Vanderbilt and Gouverneur Talc was the only talc company in this little region here.

A. Right here, yeah, right in this small --

Q. I heard reference in the past to a company called St. Joe's. What's St. Joe's, if you know?

A. Yeah, they're a zinc -- zinc mining. I think they're -- I don't know which conglomerate they're owned by, but it's a zinc mine. They actually mine below the talc.

Q. Okay. And were they in that region also?

A. Yeah, very close.

Q. And where, if you know?

A. Just a little bit to the north of Balmat, between Fullerville and Balmat, right -- right in this region (indicating).

(DEPOSITION EXHIBIT NO. 2 MARKED)

Q. The next exhibit I'll show you is -- you work at com -- company headquarters?

A. Yes.

Q. Okay. Still in Norwalk, Connecticut?

A. That's right.

Q. And this Exhibit 2, is that -- is that a picture of the building you work in?

A. Yes, it is.

MR. RADCLIFFE: That's a picture of the building you work in?

THE WITNESS: Oh, I'm sorry.

MR. RADCLIFFE: Will you pay attention to the questions, please?

THE WITNESS: Yes, I'm sorry.

This is a picture of --

MR. RADCLIFFE: No, he's asking you about Exhibit 2.

A. Oh, this building?

Q. What -- who's in that building?

A. Well, it's the corporate building. I did work in this building for a number of years.

Q. And when did you -- when did you no longer work in the headquarter building?

A. 1996 --

Q. Okay.

A. -- I moved out -- out of this building.

Q. Did you go to the research and development building?

A. I did.

(DEPOSITION EXHIBIT NO. 3 MARKED)

Q. Okay. And that's Exhibit 3. And you worked in one of these buildings here?

A. That's correct.

Q. And which -- which -- which buildings do you work in?

MR. RADCLIFFE: Let me object to Exhibit 3 as argumentative.

A. Well --

MR. SATTERLEY: That's argumentative?

A. -- it's all the way down --

MR. RADCLIFFE: Yes, sir.

Q. Okay. These are three buildings, right, or four buildings?

A. Actually, they're all connected.

Q. Okay.

A. Yeah, there's a -- you can almost see it in here. This is the original research and development building. I think it was built in 1920 or something like that. And I'm located down here in the far end.

Q. And -- and how many folks work in the research and development offices of R. T. Vanderbilt?

A. In the R & D?

Q. Yeah.

A. No more than 50. I don't know the exact number, but it's in that ballpark.

Q. And has that gone up over the years or has it decreased recently?

A. I think it's probably -- I think it's decreasing very slightly.

Q. And how long has R. T. Vanderbilt had a research and development office? You said --

A. I think from its inception.

Q. Okay. From 1916 on.

A. Probably 1920, something like that.

Q. Now, what is No. 1 mine and mill? What is that referring to?

A. Well, the No. 1 mine as indicated here in Balmat --

Q. Mm-hmm.

A. -- is the underground mine. So that's No. 1 mine. That was the only mine that Vanderbilt mined talc from from 1948 to 1995, only underground talc mine.

Q. Only underground mine.

A. Right.

Q. Then -- then you have the Arnold pit, right?

A. That's correct.

(DEPOSITION EXHIBIT NO. 4 MARKED)

Q. And is this a picture of the sign pointing visitors to the underground mine?

MR. RADCLIFFE: Object to Exhibit 4 as argumentative.

A. It is, yes.

Q. And the Arnold pit, you said, is -- was the open pit, right?

A. That's correct.

(DEPOSITION EXHIBIT NO. 5 MARKED)

Q. And is -- is it -- there's No. 5 there. That's the -- that's -- is that number -- No. 5, is that the Arnold pit, the sign for the Arnold pit?

A. Yeah. Yes, it is.

Q. Okay. And that, you said, was

closed -- when was that, last year -- or 2008?

MR. RADCLIFFE: Object to form.

A. Yeah, early 2008.

Q. Okay. And the final -- we're going to have to switch tapes here in a second.

(DEPOSITION EXHIBIT NO. 6 MARKED)

Q. But you became familiar over the years with the various different types of asbestos?

A. Different types?

Q. Sure.

A. Yes.

Q. Okay. And Exhibit 6, that is a demonstrative exhibit of the different types of asbestos; is that true?

MR. RADCLIFFE: I'll object on foundation and authenticity.

Q. Go ahead, sir. You're familiar with those various types of asbestos, are you not?

A. The names.

Q. Okay.

A. And they are -- they're mineral types that can form as asbestos when the crystals form as asbestos. So tremolite can be asbestos or it could be nonasbestos, depending upon how it formed.

Anthophyllite, the same thing.

Crocidolite is a term that is specific to asbestos. The non-asbestiform analog of that is antigorite. It has a separate name, but it's the same chemical composition.

Amosite is an acronym for a cummingtonite asbestiform or cummingtonite asbestos which was produced mainly in South Africa.

Chrysotile is the most common, as you know, type, 95 percent of all asbestos out there. That's a serpentine, and it has a non-asbestiform analog. Fairly common, antigorite, richterite.

Actinolite is another one that's like tremolite and anthophyllite. It only has the one name, but it can form in two different ways.

So when these six, you know, are asbestiform, they grow as cryst -- in that -- in that asbestiform habit, crystal habit, then they -- they are asbestos. But just the term tremolite is not -- does not automatically mean asbestos.

In other -- in fact, my understanding -- you can ask a mineral scientist -- when you say "tremolite" to a mineral scientist, they immediately assume you're talking about the common garden variety crushed-up stone granular stuff. You have to say "tremolite asbestos" to them for them to

know what you -- what you mean.

MR. SATTERLEY: Let me move to strike what somebody else would believe.

My question, sir, is are these the types of asbestos that you've become familiar with? That's -- that was all my question, not about what somebody else might believe something to be.

MR. RADCLIFFE: Object to the form.

A. Well, I just want to be sure that it's clearly understood --

Q. Okay.

A. -- that a word like "anthophyllite," for example, does not mean asbestos. It only means asbestos when it's asbestiform. That's -- and that's what's regulated, that's what's defined. That's --

MR. SATTERLEY: Let me move --

A. -- what it is.

MR. SATTERLEY: Let me move to strike as nonresponsive. Let's change tapes.

THE VIDEOGRAPHER: This ends tape No. 1. We're off the record at 10:16.

(RECESS. KRISTIE DAUGHERTY EXITS SPEAKERPHONE. REBECCA SCHUPBACH ENTERS VIA SPEAKERPHONE)

THE VIDEOGRAPHER: This is tape No. 2

in the deposition of John Kelse. We're on the record at 10:30.

CONTINUED EXAMINATION BY MR. SATTERLEY

Q. Who is Irv -- Irving Tabershaw?

A. Irving Tabershaw I think was the director of the New York State health department for a number of years, and then he opened a consulting company, occupational health, as a physician.

Q. Did he work doing some work for the R. T. Vanderbilt?

A. Yes, he did.

Q. And what type?

A. He helped establish all the medical surveillance programs for all of our facilities, and he also undertook a mortality study of the Gouverneur Talc workers.

Q. And was that published?

A. Yes.

Q. And is that one of the reasons why you're of the opinion that there's no asbestos in -- in the talc products?

A. I don't believe his mortality study really addressed that. He addressed the -- the health end of it.

Q. How many people were dying, of what

diseases and things of that nature?

A. The typical mortality study, yes.

(DEPOSITION EXHIBIT NO. 7 MARKED)

Q. I want to show you what I've marked as Exhibit 7. It is a letter from Dr. Irving Tabershaw to somebody at CNA involving R. T. Vanderbilt versus Boney. Did you know there was a fellow named Alvin -- Allan Harvey with R. T. Vanderbilt Company?

A. Yes.

Q. And what was his job?

A. Well, he -- he was originally in the laboratory. He was a chemist, I believe, and then he --

Q. Like Mr. Kitts. Mr. Kitts was a chemist also, right?

MR. RADCLIFFE: Object to the form.

A. Well, he worked in our -- the -- the quality control lab at the plant.

Q. All right.

A. I don't know what his -- but -- and then Allan Harvey did -- was -- I think his title was environmental affairs manager, so he oversaw some patents and MSDS's and did get involved in -- in the issues with Gouverneur Talc.

Q. You -- you've told me before that you

sort of kept track of workers' compensation claims over the years. You're familiar with the matter of Boney versus R. T. Vanderbilt, Gouverneur Talc Company, correct, Francis Boney?

A. Well, I started with Vanderbilt in 1985, so I -- I would not be active on compensation claims that preceded me by 10 or 15 years.

Q. So you didn't go back and look and -- and see how many people died of cancer from dust-related diseases back before you started there?

MR. RADCLIFFE: Object to the form.

A. Well, that would be an area that would be of -- of interest to me, and that's why the mortality studies were done.

Q. Did you go back and look at a claim such as this one where Francis Boney made a claim of occupational lung disease from work?

A. Well, I would actually look at the mortality studies where you would capture all the cases and all the causes of death rather than compensation records that are selective as to who puts it in or not, so ...

Q. So you're -- I'm trying to figure out this case, sir. Did you go back --

A. The answer is -- would be no, I would

not do that because I had other sources.

Q. You never went back and looked at the Francis Boney file and what he died from and what the court system determined he died from?

A. His speci -- specific file? No, I wouldn't do that.

Q. And -- and this particular letter, this is written from Taber -- Dr. Tabershaw. You know him, right?

A. Yeah, you -- you just mentioned him.

Q. And the CNA Insurance Company, that's one of the insurance companies that provides coverage for R. T. Vanderbilt?

A. That's correct.

MR. BREETZ: Objection to form.

Q. And the -- the letter is dated when?

A. September 27th, 1977.

Q. And is Mr. Harvey, is he copied on this letter?

A. Yes, he is.

Q. And at the bottom of the letter -- the letter relates to Boney -- Francis Boney versus R. T. Vanderbilt, correct?

A. That's the topic, yes.

Q. And he's discussing in the letter

whether or not this individual's disease is occupationally related, true?

MR. RADCLIFFE: Object to the form.

A. Give me a chance to --

Q. Sure.

A. -- to read it and I'll --

Q. Sure.

A. -- be happy to answer.

Q. Sure.

And while he's reading, now let me place on the record that in this case you guys have not produced any documents relative to workers' compensation claims at all. You refer to documents pro -- produced in the Franklin matter.

In the Franklin matter only cancer cases were produced, only certain cancer cases were produced, not all the other pulmonary disease, and I'd request that you produce all workers' compensation claims for dust-related diseases, including asbestosis, talcosis, pulmonary diseases. ^(request no. 1)

MR. RADCLIFFE: There's a law in New York -- these are New York State workers' compensation claims. There's a law in New York that says we can't produce them. And until we're ordered

to produce them, we can't violate that law.

MR. SATTERLEY: Why didn't you guys tell me that months and months ago? I'll file a motion to compel this week and we'll get it on the docket. That's --

MR. BREETZ: Joe, I mean, if you want to talk about months and months, if -- if you had --

MR. SATTERLEY: No, no, no, no. Counsel, you've told me your position. I'll just move on.

MR. BREETZ: I mean, you said if you -- if we had told you months and months ago. If this had been an issue months and months ago, then you should have raised it then.

MR. SATTERLEY: Okay. I'll raise it on Monday.

MR. RADCLIFFE: Well, I don't know what your practice is in Kentucky, but we need time to respond. We need to be able to put our position on paper. It's not going to take that long, but we can do it.

MR. SATTERLEY: You've told me your position. I understand. We'll file -- we'll follow the local procedures and we'll file the motions and we'll find -- we'll get to the truth someday.

All right. You -- have you had a chance to read that letter, sir?

A. Yes.

Q. Okay. Now, that's a -- a letter where Dr. Tabershaw is writing to the insurance company about Francis Boney and whether or not his case is occupationally related, true?

MR. RADCLIFFE: Object to the form.

A. He -- what it looks like to me is he's talking about the probability or -- or the likelihood that it may or may not be occupationally related relative to all the factors that you would consider, principally being his exposure, was he exposed to a lot of dust or not so much dust, did he smoke, did he not smoke. And all of those things would have to be reviewed in order to comment as to whether or not his lung cancer, which he didn't seem to dispute, was causally linked to exposure to the -- to the talc dust, and that's what I get from this.

Q. He's saying in '77 there that it's his view more likely than not that the -- the lung cancer was causally related to the exposure to dust --

MR. RADCLIFFE: Object to the form.

Q. -- right?

A. Unless I'm reading it -- you know,

improperly reading it, I -- I don't think he's saying that. He's -- he's saying you have to consider these variables and that -- in order to talk intelligently about that. He's not saying one way or the other. I didn't get the feel of that.

Q. Let me borrow that letter back. And I apologize. I just want to read something to you. It says, "Cancer diagnosis is not in question." He said that, right?

A. Right.

Q. "To wit, if the worker had 17 years exposure beginning 25 years ago at concentrations of 2 to 5 fiber cc, that exposure is probably sufficient to be at least partially responsible."

A. Yeah, and -- if he had.

MR. RADCLIFFE: What's the question?

Q. And then he says --

MR. RADCLIFFE: Well, let me object because there's no question.

MR. SATTERLEY: Yeah.

MR. RADCLIFFE: You're just reading a statement.

Q. That's -- that's what he said, right?

A. That's what he said.

Q. All right. Then he said, "Neither

Dr. Lamm" -- do you know Dr. Lamm?

A. Yes.

Q. Who's Dr. Lamm?

A. He was a physician. He's an epidemiologist that does epidemiology work, and at the -- at some point he worked for Tabershaw Associates. I don't know exactly what years.

Q. (Reading) Neither Dr. Lamm nor I will be available to testify. If you need medical epidemiologic -- logic testimony is necessary, consider either Keith Morgan of West Virginia or Hans Weill of Tulane University.

He wrote that, right?

A. He wrote that.

Q. Okay. And have you -- I take it you haven't -- or have you investigated why Dr. Tabershaw refused to testify in this case?

MR. RADCLIFFE: Object to the form. Argumentative.

A. I -- I have no idea if he refused or just couldn't. I don't know.

Q. But Keith Morgan, is that -- Dr. Keith Morgan, is he the doctor that you referred to earlier that you occasionally go to to help you out on pathological issues?

A. Well, he's a highly regarded pulmonary specialist, yes.

Q. How much money have -- has R. T. Vanderbilt paid Dr. Keith Morgan?

A. I have no idea.

Q. How could I find that out?

A. I would think I would have to look in my records to see if I have records. I would probably be the person who would have records.

Q. You're the person on that issue as opposed to Denaro or somebody else?

A. His records may actually more accurate, but they may be more difficult to track since I would keep records of -- of individuals that I would ask, you know, to -- to advise us.

Q. You do know that the case of Boney resulted in a decision by the New York court system in favor of the worker.

MR. RADCLIFFE: Object to the form.

Q. You do know that, don't you?

MR. RADCLIFFE: Object to the form.

A. If they did, they did.

Q. You don't follow that?

A. No.

Q. Okay. But you have previously told me

you're the person with the most knowledge regarding workers' compensation claims, right?

A. In the company in terms of occupational health, I would say I would be, yes.

(DEPOSITION EXHIBIT NO. 8 MARKED)

Q. Okay. In the matter of Elaine Boney, Respondent, versus Gouverneur Talc Company, July 10, 1980, have you ever seen that?

MR. RADCLIFFE: This is Exhibit 8, which is a -- appears to be the first page of a reported opinion as cited with some other statements. I'll object to foundation, argumentative, to form.

Q. Let me show you that. It's a 1988 [sic] appellate decision against R. T. Vanderbilt. Have you ever seen -- anybody at the company ever share that with you?

MR. RADCLIFFE: Well, I object. That's not what that document is.

Q. That -- that first page.

A. The white section?

Q. Sure.

A. I don't recall seeing it. It doesn't mean that I may not have.

Q. Okay. In this reported decision it says that there's asbestos content as high as

60 percent.

A. Okay.

Q. Okay?

A. That's what it says.

Q. According to the testimony of Clifford Kitts. Do you see that?

A. Yes.

Q. And then it says, "The record as a whole contains substantial evidence supporting the award."

A. That's what it says.

Q. Have you seen any -- going back -- I know you weren't with the company in 1980, but going back and looking at records regarding R. T. Vanderbilt and Gouverneur Talc, anything that R. T. Vanderbilt did to educate the public about one of its own employees dying from asbestos-related cancer?

MR. RADCLIFFE: Object to the form.

MR. BREETZ: Objection to form.

Q. At this time frame?

A. Well, I -- I do have difficulty answering these questions because I think that I've mentioned before that the company relies on what we view, and I think most others, argumentatively, may

view as -- as the most compelling evidence or information. And that type of information would come from a formal epidemiologic study of the workforce, not from compensation records.

And you may disagree, but that's what we believe and I think that's what most research scientists would tell you.

So you would know from a formal epidemiologic study exactly how many lung cancer cases occurred, how many people died of lung cancer or died from any other type of cancer or died from accidents or any other cause.

And then there is a -- an issue as to causality, whether or not those causes of death are linked to exposure to -- to the work.

That's the kind of information that's pertinent, I think, to the company. It's certainly pertinent to me.

Compensation claims are fine. I mean, when they come up you have to deal with them and you try to figure out whether they're legitimate or not. If they're legitimate, they -- they deserve to be addressed. If they're not, they deserve to be investigated, but that's on a case-by-case basis.

If you're trying to determine a causal

association between an exposure and a response, you're much better off doing a -- a scientific study where it's all-inclusive rather than piecemeal. And so when you give me exhibits of individual cases, it doesn't tell me very much.

Q. How many people --

A. And I don't know -- you know, it's difficult for me to comment on comp systems and -- and comp boards and what they do or they don't consider to be evidence. All I can tell you is that the scientific basis data that we rely upon is pretty extensive and -- and it's pretty rigorous and it's -- it's far more detailed and -- and far better than this sort of thing.

Q. How many workers have to die from asbestos-related cancer before you warn the public?

MR. RADCLIFFE: Object to the form.

Q. I mean, I just showed you one right there and you said that's not enough, you've got to go to epidemiology. How many of those folks do you have to see --

A. Well --

Q. -- before it's appropriate from a corporate health standpoint -- a corporate risk management standpoint, I should say, to warn the

public?

MR. RADCLIFFE: Object to the form.

A. Well, when we feel that the science base is such that there is definitely a risk demonstrated, then we have an obligation, legally and morally, to -- to -- to relay that -- that risk. We do not see that risk in the data that we have.

MR. RADCLIFFE: I'm going to object --

Q. And my question --

MR. RADCLIFFE: -- and move to strike. Nonresponsive.

Q. My question is morally -- you just raised up morally as a company. How many individuals have to die before it's appropriate to warn if one's not enough?

MR. RADCLIFFE: Well, now I object. Whether the witness raised morally or not, which I moved to strike, it's not an appropriate question for a deposition. We're here for --

MR. SATTERLEY: Sure it is.

MR. RADCLIFFE: -- legal issues. We're here for -- it is?

MR. SATTERLEY: Please, Counsel, in Kentucky law you state your objection and we move on.

MR. RADCLIFFE: Well, I'm trying to

work with you on this. If I have to instruct him not to answer, I will. But if -- if you're going to ask questions about morality rather than legality, then I'm going to have to instruct him not to answer.

MR. SATTERLEY: Under Kentucky law that's inappropriate. Is it -- privilege is the only basis to instruct a witness not to answer. And if you're instructing him not to answer, certify the question and I'll move for cost and sanctions to come back up here and redepose this man.

Go ahead.

A. Could you read -- I'm sorry, could you read back the question?

Q. The court reporter will read it back for us.

A. Okay.

(REPORTER READS THE RECORD)

MR. RADCLIFFE: Object to the form.

A. Well, first of all, the company does warn about the risks of its talc.

Q. Causing mesothelioma, lung cancer?

MR. RADCLIFFE: Object to the form. Please don't interrupt the witness.

MR. SATTERLEY: Let me move to strike as nonresponsive, but go ahead.

MR. BREETZ: Well, let him finish before you can determine whether it's nonresponsive.

MR. SATTERLEY: I think it is nonresponsive.

Go ahead.

A. Well, the company warns on its -- on its labels and material safety data sheets that overexposure to our talc, like many mineral dusts, are capable of causing harm up to --

Q. Cancer?

MR. RADCLIFFE: Object to the form. Please don't interrupt the witness.

MR. SATTERLEY: I'm asking about cancer. I asked specifically about cancer. It's nonresponsive.

A. It does --

MR. RADCLIFFE: Well, whether it's nonresponsive or not, do not -- you have to let him finish his answer. Go ahead.

A. The warnings that we place on -- on the product -- did place on -- on the product, included potential for pneumoconiosis or talcosis, which can occur. It did not include reference to cancer because the data that we have indicate to us that the material does not cause cancer, so

consequently, we would not warn for it.

Q. Okay. My question, sir, was about cancer. I showed you this case of Mr. Boney dying of cancer --

A. Yes.

Q. -- 1980. And my question was, how many people have to die of cancer before you believe it's appropriate to warn about cancer?

MR. RADCLIFFE: Object to the form.

A. We would warn about cancer if we knew that our product, whether it was talc or any other product, caused cancer. We have no evidence that it does, so we would not warn for it and -- and didn't.

Q. Let me -- I think -- I want to ask you also -- you already told me you're not an epidemiologist. You don't have any training in the quality -- or you're not qualified to testify about the quality of case reports versus epidemiology, right?

A. I'm not sure, you know, how you would say qualified. I -- I can read -- read --

Q. So can I.

A. I can read the comments. I can read --

MR. RADCLIFFE: Please --

A. -- the conclusion --

MR. RADCLIFFE: -- do not interrupt the witness.

A. -- conclusions that are -- are made by people who are qualified. I can read those.

Q. I -- I understand. So can I.

A. And -- and that's what I do.

Q. Okay. But you've not been rendered an expert on the value of case reports versus epidemiological study by any court system or any body, governmental body or anything like that, have you?

A. Oh, as an expert to comment on --

Q. Sure.

A. -- on differences?

I -- I know them, but I wouldn't consider myself an expert and that's correct, I wouldn't be.

(DEPOSITION EXHIBIT NO. 9 MARKED)

Q. And let's show you Exhibit 9 there, Mr. Shippee versus Gouverneur Talc Company.

MR. RADCLIFFE: Let me object. It appears to be incomplete. I don't know if it's complete or not.

MR. SATTERLEY: If you give me the

complete -- you're the ones -- you guys are in control of the documents. So if you give me the documents like I asked in request for production of documents, it might be complete. But go ahead.

Mr. Shippee's --

A. Mm-hmm.

Q. -- case against Gouverneur -- is it Gouverneur Talc listed there?

A. Versus Gouverneur Talc, yes, that's listed.

Q. And does it indicate -- this is 1970 what?

A. Five.

Q. '75. In '75, did he have cancer of the lung?

MR. RADCLIFFE: Object to the form.

Q. I've highlighted it there for you right there. Do you see it says, "carcinoma of the lung"?

A. Yeah. It says, "Carcinoma is present" -- "is present apparently as a primary carcinoma in a severely diseased lung."

Q. Severely -- if I could just borrow Exhibit 9 back for --

A. Sure.

Q. -- for a second.

It's got a -- it's addressed to the Workers' Compensation Board there in Syracuse, right?

A. Yes, it says.

Q. Okay. And the second page -- that paragraph there on Mr. Shippee in 1975, in his case against Gouverneur Talc Company, if you could read that paragraph, that last full paragraph.

A. Where you have yellow?

Q. Be sure to read it out loud so the folks on the phone and everybody can hear what the doctor said about Mr. Shippee back in '75.

A. Okay. The section you have yellowed --

MR. RADCLIFFE: No. He said read the last full paragraph.

Q. The whole -- the last full paragraph, yeah.

A. The whole paragraph.

MR. RADCLIFFE: You have to listen to the question.

A. Okay. (Reading) The major damage is to the lungs and these show a variety of lesions. These include diffuse and nodular fibrosis which is massive in the lower lobes, focal bronchiectasis,

focal abscess formation, squamous carcinoma, focal areas of bronchopneumonia, diffuse and nodular pigmentation in areas of chronic pneumonia with bronchoalveolar metaplasia.

In the upper lobes there is diffuse fibrosis, pigmentation and emphysema, together with exuberant perivascular fibrosis. The larger bronchus in -- on one section show surrounding squamous carcinoma plus subepithelial spread of carcinoma.

Underlying these terminal changes are those of the fibrosing pneumoconiosis or dust pneumonia producing pigmentation, nodular fibrosis and accumulations of pigment.

The alveoli and the fibrous tissue contain large numbers of pre -- pigmented spec -- spiculate fibers, probably iron containing. Some are long, band-like and with pigment spots, others -- others short and spiculate. Some free of an alveoli or in septae, others are in pigmented macrophages. They are accumulating in such numbers as to fill some alveoli, virtually all are birefringent.

A prolonged search has shown only a very few typical asbestos bodies and the appearances are not those of asbestosis. Whatever dust he has been exposed to has produced a softer, more cellular

fibroblastic proliferation than is usually seen with silicosis or asbestosis."

Q. The Shippee case, are you familiar with that case?

A. I know the name.

Q. Okay. And did R. T. Vanderbilt contest this claim, if you know?

A. I don't know.

Q. Okay. This would indicate, these documents, that Mr. Shippee made a claim against Gouverneur -- Gouverneur Talc Company back in '75 time frame, correct?

A. That's correct.

Q. And at that time frame he had a lung cancer.

A. In -- yes, he had lung cancer.

Q. Okay. And he had some fibrosis in his tissue that looked like either asbestosis or silicosis or -- according to this record.

MR. RADCLIFFE: Object to the form.

A. Yeah. The description that -- that's being -- what I'm reading here is -- is evidence of what you might find in -- in the lung tissue from an overexposure to -- to talc. You can get fibro -- fibrotic evolution from overexposure.

Q. Talc can cause fibrosis, right?

A. Sure, talcosis is --

MR. RADCLIFFE: Objection. Please let him finish his answer.

A. And he's saying that -- what -- what he's looking at there is -- he is saying it differs from -- you know, from what you might see with asbestosis or silicosis.

Q. So -- so now we've got Mr. Boney with lung cancer. We've got Shippee with lung cancer. They've both made claims. How many more -- have you gone back to look to see how many more people had cancer that worked in the -- in the mines or the mills there in -- in Gouverneur?

MR. BREETZ: Objection to form.

A. Well, I -- I'm sorry, I don't mean to be cantankerous about -- I would just have to give you the same answer I gave you before, is that if all you have is compensation experience, that's all you have to look at.

Q. I'm sorry --

A. If you have done full-blown studies on -- on your worker group by competent epidemiologists and physicians, then you look to them to tell you or let -- let you know whether or not the

work that they have done suggests a causal link between exposure to that material and the end -- endpoint disease. In this case you're talking about lung cancer.

Q. Mm-hmm.

A. This document that you asked me to read suggests to me that, yes, the person had lung cancer. He also had a lot of exposure to talc, and he showed it in -- in his lung.

One is not necessarily linked to the other. It's not because he had this that that caused -- necessarily caused the cancer. I don't know. He may have been a smoker. I have no idea.

Q. Are you finished?

A. Yes.

Q. Okay. My question was have you gone back and looked to see how many other folks that were working with Gouverneur's had developed lung cancer?

MR. BREETZ: Object to the form.

Q. Back in the '70s.

A. Through the epidemiologic studies we have, yes.

Q. And -- and you say, "we have." I'm asking about you.

A. The Vanderbilt Company --

Q. You --
A. -- has.
Q. Mr. Kelse, I'm asking about you. Have you personally went back to look to see how many people had lung cancer from -- and -- and worked in the mines and the mills and was exposed to these fibrous dust?
A. I've read all the epidemiologic studies so, yes, I have.
Q. And you think all the epidemiological studies have all the medical records of -- and the workers' compensation claims included in them?
MR. RADCLIFFE: Object to the form.
Q. For example, is Boney and Shippee's case in the epidemiological studies that you reviewed?
A. Mr. --
MR. RADCLIFFE: Objection to the form.
A. -- Boney and Mr. Shippee died of lung cancer. That would be on their death certificates. And their death certificates would -- would prompt the reporting of lung cancer in those mortality studies, so yes.
Q. Okay. So how many folks died of -- based upon your review of the epidemiologic studies,

how many people died of lung cancer after working in the mines, in the mills at the Gouverneur Talc Company?

MR. RADCLIFFE: Object to the form.

A. The last most up-to-date epidemiologic study was the Honda study, Elizabeth Ezell, went to 1990, and the number of lung cancer deaths was 31.

Q. And how many mesotheliomas was in Honda?

A. They reported two.

Q. And are the two that was reported at Honda separate and apart from the seven we talked about earlier?

MR. RADCLIFFE: Object to the form.

A. No, they were included.

(DEPOSITION EXHIBIT NO. 10 MARKED)

Q. Exhibit 10 -- I showed you this already.

MR. RADCLIFFE: Yes.

Q. Exhibit 10, Mr. -- this is Mr. Harmner, Harmer?

A. Dale Harmer, yes.

Q. You knew Dale, didn't you?

A. I know who he is.

Q. He was a worker over there at

Gouverneur, right?

A. Yes.

Q. And this medical report, does it not indicate lung tissue with asbestos bodies? Do you see that?

MR. RADCLIFFE: I'm going to object to the exhibit, lack of foundation. It's multiple documents. There's no evidence to show it was a single document or that they belong together as one document. Foundation.

Q. Does that not say, "asbestos" -- "lung tissue with asbestos bodies"? Do you see that?

A. That's what it says.

Q. He's 49 years of age, that worker there?

A. "Age 49."

Q. Okay. And that House of Good Samaritan there, that's in Watertown, New York. That's upstate New York, right, not too far from where the mines are, right?

A. Watertown --

MR. RADCLIFFE: Object to the form.

A. Watertown is about 30 miles to the south, yes, pretty close.

Q. Let's flip over to -- if I could

borrow that back for just a second. I'll show you -- just in the interest of time direct you where I want to take you to. This is to Charmaine Hauff -- Hauff, and it's from the Waterfront Medical Services, PC. Do you know what that is?

MR. RADCLIFFE: Same objection as to the document.

A. No, I'm not familiar with that group.

Q. It says, "As you know, he is a 50-year-old white male who on 6-1-90 underwent right thoracotomy and upper lobectomy for adenocarcinoma of the lung."

Do you see that?

A. Yes.

Q. It says, "Pathologic examination of resected lung material revealed not only" -- "not only the carcinoma, but also numerous ferruginous materials and asbestos bodies as well."

Do you see that?

A. Yes.

Q. And he was a worker?

A. Yes.

Q. And this pulmonologist, Dr. David Davin, M.D., do you know him?

MR. RADCLIFFE: Same objection to the

document.

A. I don't.

Q. He says, "I certify and affirm that the foregoing report is true to the best of my knowledge under the penalties of perjury." And it's signed off by the doctor, right?

A. Yes.

Q. Okay. So in 1990, this doctor was testifying under oath that he had determined this man had asbestos bodies in his tissue.

MR. BREETZ: Objection to form.

MR. RADCLIFFE: Object to the form.

Q. Right?

A. That's what he said.

Q. Did you, as the corporate risk manager, obtain the pathology and send it out for evaluation?

A. No.

Q. You've done that in the past, have you not?

A. I did that for -- when they were available for the mesothelioma cases that you mentioned earlier.

Q. For example, the Franklin case, did you send that out for tissue analysis?

A. Did I?
Q. Sure.
A. I don't recall doing that.
Q. Okay. So now we've got -- we've got Boney, we've got Shippee, we've got Harmer. There's -- so far we've got three lungs cancers, right?
A. Right.
Q. And you're not qualified to say that when that man identifies asbestos bodies -- when that doctor identifies asbestos bodies in the tissue that he's incorrect, right?
A. You would probably need to talk to a good pathologist to have a discussion on the pros and cons and reliability of lung burden work.
Q. The Honda study you mentioned earlier, that was funded by R. T. Vanderbilt, right?
A. That's correct.
Q. It was published in 2002, correct?
A. That's correct.
Q. Did the Honda study -- they include two mesotheliomas, correct?
A. That's correct.
Q. Do you know why the Honda study -- did you -- you guys funded it. Did you not share with

them the mesotheliomas that occurred in the '90s?

MR. RADCLIFFE: Object to the form.

A. No, we did not.

Q. And do you know why that is?

A. The nature of the study had a vital status cutoff of 1990, so they occurred after the vital status cutoff of the paper.

Q. So that -- scientists determined to cut off the disease in 1990.

A. That was the period of study, you know. Whenever you do a study, you have a beginning and an end, and that's the section that you study.

Q. And there's been at least five additional mesotheliomas that occurred from 1990 to 2002, correct?

MR. RADCLIFFE: Object to the form.

A. In addition to the two, yes.

Q. Okay.

A. That would make it seven.

Q. For example, George Evans was another -- was a mesothelioma victim, right?

MR. RADCLIFFE: Object to the form.

A. His death certificate said that.

(DEPOSITION EXHIBIT NO. 11 MARKED)

Q. That's Exhibit 11.

A. Mm-hmm.
Q. That's -- G. E., that's George Evans, right?
A. That's correct.
MR. RADCLIFFE: Object to the form.
Q. He died of mesothelioma after working for -- working at the Gouverneur Talc Company?
MR. RADCLIFFE: Object to the form.
A. Well, I say that's what's on his death certificate. Whether it's an accurate one or not, that's ...
Q. And you -- and you -- and you researched him.
A. Yes, I did.
Q. As well as several of the other mesotheliomas, right?
A. Certainly.
Q. And you know that George Evans worked for the Gouverneur Talc Company 33 years, from 1954 to 1987, right?
A. If that's -- that's the records that we have, that's it.
Q. He was a laborer and a quality control and he eventually became a supervisor, right?
A. That's correct.

Q. And his -- the pathology report of George Evans was confirmed by the Mayo Clinic, right?

A. I believe so. I'd have to go back and look at the files.

Q. And he died on June the 10th, 1995.

A. 1995. I don't know if that's the exact date, but that's --

Q. It would be on his death certificate, though, right?

A. Right.

Q. At least seven years prior to the Honda study.

A. Prior?

Q. Yes. The Honda study was in 2002.

A. Oh, when it was published.

Q. Sure, yeah.

A. Yeah, prior to being published, yes.

MR. RADCLIFFE: Let me object to Exhibit 11 to the extent that it violates New York law on information to be shared about workers' compensation claims.

MR. SATTERLEY: The court in Kentucky already ordered all the workers' compensation claims that you guys turned over to be matters out in the public. There's no violation of New York law at all.

If you want to take that matter up with the court, you certainly can.

In addition to George Evans, Mr. Bickford also died of mesothelioma. He was a Gouverneur Talc employee, right?

MR. RADCLIFFE: Same objection.

A. That's correct.

Q. He worked for Gouverneur Talc from 1949 till -- was it 1954?

A. I don't know. I don't have the record.

Q. How do we get the record? The employment records for Mr. Bickford?

A. Oh, I think that those could be supplied to you, I mean, what we have in terms of when he was hired and when he left, what jobs he had.

Q. You do recall that Mr. Bickford -- was he one of the ones that you sent over to Dr. Rubin?

A. No. He was one that I had no knowledge of.

Q. Okay. How did you learn that one?

A. That was -- appeared in a case in New Jersey.

Q. But he had, according to the records you saw, mesothelioma and he died in 1994.

MR. RADCLIFFE: Object to the form.

A. Yeah. The only document we had was a death certificate.

Q. And he -- the death certificate indicated he died of mesothelioma in 1994.

A. If that's what it said, yes.

Q. Let's see. Mr. Malbeuf, did I pronounce his name?

A. Malbeuf.

Q. Malbeuf.

A. Right.

Q. What was his first name?

A. Larry.

Q. Larry. He worked at the Gouverneur Talc Company for -- 1954 to 1994, right?

A. I believe that's correct, yes.

Q. And he --

(DEPOSITION EXHIBIT NO. 12 MARKED)

Q. Let me show you what I -- what I'll show -- show your counsel Exhibit 12.

MR. RADCLIFFE: Same objection to this document.

Q. Exhibit 12 here is a death certificate that somebody's blacked out. Do you see that --

A. Yes.

Q. -- part of it?
A. Yes.
Q. And then right onto the death certificate is his employment, some of his employment there with the company.
A. That's correct.
Q. He worked -- according to that, did he work as a miller, first miller -- first as a laborer, then a miller, then second miller, then quality control?
A. Yeah. The lion's share of his work was in quality control.
Q. He spent approximately 39 years at the Gouverneur Talc Company, right?
A. Yes.
Q. And his mesothelioma -- he died from that disease in 1995 as well, correct?
A. Well, that's what the death certificate said.
Q. Death certificate says that, right?
A. Yes.
Q. Okay. And that was, once again, seven years before the Honda study.
A. Before it was published.
Q. Sure.

A. Yes.
Q. R. T. Vanderbilt, how much did they pay for that Honda study?
A. Oh, I -- I don't know. It was probably close to maybe -- the typical cost for a study like that runs a couple hundred thousand.
Q. Two hundred and some-odd thousand dollars?
A. Something like that. I don't have the exact figure.
Q. And how -- when did that study begin? When did RTV begin that study?
A. I think it was in the -- might have been in the mid -- mid '90s. I'd have to go back and look at the actual date. '94, '95, something like that. Maybe '93.
Q. So from '94 or '93 up to 2002, that's -- they -- they spent time doing the study, doing the research?
A. Took a -- yeah, a few years.
Q. And certainly you told the researchers in the Honda study all about these folks with mesothelioma, right, like this Malbeuf?
MR. RADCLIFFE: Object to the form.
Q. Because you knew about them, right?

MR. RADCLIFFE: Object to the form. Which -- which question should he answer?

Q. Well, the first asked, did you tell Honda -- the Honda group about the other folks dying of mesothelioma?

A. No.

Q. Okay. Why not?

A. Because it was after their vital status cutoff.

Q. But you knew about them, right?

A. I knew about them in 1995, '96.

Q. You would agree that if you told them about these other mesotheliomas, that that would potentially alter the -- any conclusions that Honda may draw?

MR. BREETZ: Objection to form.

MR. RADCLIFFE: Object to the form.

A. I don't know that at all. I doubt it would.

Q. So you don't think that may cause concern with regards to the researchers doing that $200,000 study that RTV was paying for if they found out there was more people dying of mesothelioma than just the two they found?

MR. RADCLIFFE: Object to the form.

A. I -- I can't speak for them. I don't know. They would be interested in causality.

Q. But you -- you knew of -- of these folks in '95 and '96. You investigated them, sent them to your own doctors to evaluate?

A. That's correct. Did that.

Q. And one of the doctors you I think mentioned earlier was somebody down in North Carolina. What was his name?

A. Brian Boehlecke.

(DEPOSITION EXHIBIT NO. 13 MARKED)

Q. Exhibit 13, once your counsel gets finished talking --

MR. RADCLIFFE: Same objection to Exhibit 13 on the workers' comp issue.

Q. Boehlecke, is -- is that his letter to you in 1996 about Mr. Maleauf -- I apologize, what's his last name?

A. Malbeuf.

Q. Malbeuf. Malbeuf. Is that part of Exhibit 13 there?

A. I don't know if it's in relation to Mr. Malbeuf or -- or Mr. Evans because they're both around the same time frame.

Q. You --

A. The name's blanked out. I -- okay. I see he's talking about a pleural effusion, and I know that that was a characteristic of Mr. Evans -- or rather Mr. Malbeuf, so ...

(DEPOSITION EXHIBIT NO. 14 MARKED)

Q. In addition to the folks we've already gone over, is there a fellow named Rice? Was it Ray Rice?

A. Robert Rice.

Q. Robert Rice. He died of mesothelioma as well.

MR. LONG: You've been watching too much football.

MR. RADCLIFFE: No. 27, I think.

MR. SATTERLEY: I'm sorry, I'm sorry. You're right, I'm watching too much football.

Robert Rice. Robert Rice. He -- he died of mesothelioma as well, right?

A. That's what the death certificate said.

Q. And he worked at Gouverneur Talc Company from 1956 to 1975?

A. Yes, yes. Yes, he did.

Q. And --

A. Actually, I'm sorry, do you have a

copy of the death certificate?

Q. Sure. Exhibit 14.

A. Yeah, because I think --

MR. RADCLIFFE: Same objections to Exhibit 14.

Q. Somebody's blacked out the -- the names there. Do you see it?

A. Right.

MR. RADCLIFFE: He's blacked out the names, but you've put initials at the top.

MR. SATTERLEY: Because that's what I think Dr. Rubin, when he published that report that's got all their names and all their vital information in the depositions and testified in court proceedings, I don't think there's been any limitations in that regard.

But go ahead. You --

A. Okay.

Q. You know --

A. That's right.

Q. -- Robert Rice worked at the Gouverneur Talc Company for close to 20 years, right?

A. Twenty years. '56 through '76.

Q. And he had both malignant mesothelioma and the autopsy revealed asbestosis, right?

A. Would suggest it -- I think it said -- it's hard to read, but something about talc and --

Q. Asbestosis, too?

A. Yeah.

Q. It says "asbestosis." And now Mr. Rice's death occurred in 2001, right?

A. That's correct.

Q. And that was a year before Honda study -- the Honda study came out.

A. Was published, yes. I think we learned of this in 2003, though. I think it was actually his wife that filed the compensation claim, if I'm not mistaken. Up until then, we hadn't been aware of this case.

Q. And now, with regards to the Ray Labow compensation claim, you guys fought that, didn't you?

MR. RADCLIFFE: Object to the form.

A. Fought?

Q. Fought it, yeah. When they -- he filed a workers' compensation claim for his mesothelioma, you guys fought it.

MR. RADCLIFFE: Object to the form.

A. I'm not quite sure what you mean by fought it.

Q. Well, you didn't just agree, yeah,

this man's got mesothelioma from work and we're going to pay his family and pay for his damage. The company didn't do that, did they?

MR. RADCLIFFE: Object to the form.

Q. Had to go -- you contested it.

A. Well, we did -- didn't just automatically agree. We -- we -- we did want the confirmation I think that his mesothelioma was confirmed. I don't think we had an issue with that. I think our issue was whether or not there was a competing risk, may he have contracted that -- contracted that pulmonary cancer from some other source.

Q. You mean the pleural cancer.

A. Yeah.

Q. The pleural. The mesothelioma.

A. Yeah. He definitely had that. There's no question.

Q. Okay. And the Workers' Compensation Board found in favor of Mr. Labow, that it was, in fact, a work-related occupational disease.

A. That's what they found, yes.

MR. RADCLIFFE: Object to the form.

Q. Now, was Richard Evans one of the experts that you guys hired to -- to help contest

that Ray Labow case?

A. I think he was referred to as the --

Q. Richard B. Evans?

A. -- IOM, independent -- IME, or independent medical evaluation. That means that he was hired by the carrier.

Q. Zurich.

A. Zurich.

Q. Zurich's the insurance company, right?

A. Right.

Q. And so it's your testimony he's completely independent.

MR. RADCLIFFE: Object to the form.

A. Well, we did not hire him.

Q. You didn't, but you tried to influence his opinions on causation, did you not?

MR. RADCLIFFE: Object to the form.

A. Well, once again, I have to stop the way you asked -- asked the question. We shared the information we had which we felt was pertinent to the case. He had access to all information.

Q. You wrote him a letter back in 2005, did you not, prior to him writing -- issuing any type of report --

A. That's correct.

Q. -- to tell him your personal opinions?

MR. RADCLIFFE: Object to the form.

A. Well, I shared with him studies that he could read.

Q. You -- hmm. Studies. What type of studies did you share with him?

A. Well, I sent him the mortality studies, the animal studies that were done with this material that produced no tumors. A couple -- I may have sent him one of my own summaries of all of the -- all of the studies, along with the studies themselves, and that's what I sent.

Q. Because you didn't want him to give a causation opinion even though -- well, you didn't want him to give a causation opinion, right?

A. Well, I wanted --

MR. RADCLIFFE: Object to the form.

A. I knew he would be asked to do that, and I felt it was important that he -- that he had all the information we had and any other information that he may want to obtain. So I'd want a decision made on the most complete information possible.

(DEPOSITION EXHIBIT NO. 15 MARKED)

Q. Exhibit 15 is a letter dated January 10, 2005, from you to his doctor.

MR. RADCLIFFE: Object to 15. It's argumentative.

Q. Do you remember writing a letter to this doctor back in 2005 about the Ray Labow -- helping you out on the Ray Labow situation?

A. Well, again --

Q. Is that --

A. -- you ask --

Q. Is that your letter, sir? That's what I'm trying to figure out.

A. Yeah, but I -- I want to answer your question when you say about me -- him helping me out. What I'm trying to do is I'm trying to provide information we have that's pertinent to the issue of causality, and so I provided it.

Q. Anywhere in that letter does it say, "Enclosed you'll find a bunch of studies about this issue"?

A. No, it doesn't. It just says, "enclosed the most recently published human health stud" -- "human health studies," plural, so I did provide studies.

Q. The bot -- this letter basically -- I'll read -- (Reading) In discussing the captioned case with Ann Marie Mize, it was agreed that an

independent medical evaluation in this matter -- would be wise for me to forward studies we feel are pertinent to this case. This is a particularly important case to Vanderbilt because the causal allegations presented in these medical records we have seen are simply in error, i.e., the asbestos exists in the talc or the talc itself causes mesothelioma.

First of all, let me ask you, is Ms. Mize -- she's with Zurich, the insurance company?

A. Yeah. She'd be the claims manager, I think.

Q. And was she the one that picked Mr. Evans?

MR. RADCLIFFE: Object to the form.

A. I -- I don't know.

Q. Or Dr. Evans, I'm sorry.

A. Yeah, I don't know. She probably was.

Q. Okay. In this letter you say that he worked as a "wheeler operator in the mill (employment records enclosed)."

How long did he work as a -- a wheeler operator?

A. Whatever the employment records indicated. I -- do -- do you have that here?

Q. Go back to the -- the R. L. Maybe it's --

A. R. L.? Let me see if I can find that.

Q. Is it there? Maybe you don't have them. Those, once again, could be provided to us, the employment records? ^(request no. 2)

A. Sure.

MR. RADCLIFFE: Object to the form. That's not an agreement to provide anything.

MR. SATTERLEY: We'll follow up with a request.

And you seem to indicate in this -- the letter that you believe that he was exposed to asbestos and insulation materials in the plant?

A. I took some bulk samples from various places in the plant as part of an asbestos abatement activity. And in the wheeler area there were pads, insulation pads. And when sent off for analysis, they did -- they contained some asbestos, a certain percentage. I have that report.

Q. You have that report? You can provide it to me as well? ^(request no. 3)

A. Sure.

Q. Okay.

MR. RADCLIFFE: Same objection.

Q. And -- and was that chrysotile or was that crocidolite or --

A. It was chrysotile, predominantly.

Q. You didn't -- you didn't take any air sampling to indicate that that chrysotile product was emitting dust from that pad, did you?

A. No. We just took the bulk material.

Q. So you can't testify or you don't have any basis to have anybody testify that those pads released any asbestos in its normal operation.

MR. RADCLIFFE: Object to the form.

Q. Right?

A. No, other than the absence of people reporting chrysotile and what air samples that were taken.

Q. Okay. You also indicate in this letter to Dr. Evans something about him working as a gas station attendant. You don't have any evidence of whether he worked around brakes or asbestos-containing brakes, do you?

A. I'd have to go back and look in the file. My recollection was that he did do brake work.

Q. Really? Why did you say to Dr. Evans, "I do not know whether he worked on brakes or not"? I highlighted it there.

A. Well, in -- five years ago I guess when I had the records in front of me, I didn't see any evidence one way or other that he did.

Q. The bottom line is you're -- you -- all you were trying to do was trying to shift the blame to some other exposure source, isn't that true?

MR. RADCLIFFE: Object to the form.

A. No.

Q. Isn't that true?

A. No, it's not true.

Q. Isn't that true, sir?

MR. RADCLIFFE: Object to the form.

A. It's not true.

MR. RADCLIFFE: Asked and answered.

Q. Well, after you sent this material to Dr. Evans and you gave him all this information, he -- he confirmed this disease was mesothelioma, but he wouldn't say that it was related to the talc, correct?

MR. RADCLIFFE: Object to the form.

A. Well, again, I have to go back and read his report. I -- I -- I believe he -- he felt that it was unlikely to be related to the talc.

Q. And the Workers' Compensation Board, once again, disagreed with your expert. And on

appeal, both the board found in favor of the claimant and the appeal -- Mr. Labow's family, after he passed away, won on appeal as well, correct?

MR. RADCLIFFE: Object to the form.

(DEPOSITION EXHIBIT NO. 16 MARKED)

Q. You've seen that.

MR. RADCLIFFE: Let me see it.

A. Yes. That was the board panel decision.

Q. Okay. So they -- they determined that it was still occupationally related. It was related to work at Gouverneur Talc, the mesothelioma was caused by that.

MR. RADCLIFFE: Object to the form.

A. Whatever their opinion was.

Q. Now, in -- the case in New Jersey, when you testified down in New Jersey, there was a stipulation between R. T. Vanderbilt and the plaintiff's counsel, five -- five mesotheliomas. Do you remember that?

A. Yes.

Q. And I think when I took your testimony a couple of years ago, I actually wrote on a yellow sheet of paper and we wrote out the stipulation. Do you remember that?

A. I vaguely -- yeah.

Q. Have you ever taken a stipulation and -- the cases listed by Abraham and Hull encased in the report and tried to determine -- to confirm that, in fact, those aren't the same cases?

A. I'm not sure I understand, you know, issues of stipulation. As I mentioned before, I checked what information I -- I had from the Hull paper, the dates against the dates of the -- of the compensation cases, and I told you I -- I couldn't get a match for any of them. The closest I came was the fellow that was reported in the second mortality study who had worked in I think 1948 as a surveyor for a week or so.

MR. SATTERLEY: Let's change tapes. Unless you need to keep talking.

THE VIDEOGRAPHER: This ends tape No. 2. We're off the record at 11:30.

(RECESS)

(DEPOSITION EXHIBIT NO. 17 MARKED)

THE VIDEOGRAPHER: This is tape No. 3 in the deposition of John Kelse. We're on the record at 11:38.

(CONTINUED EXAMINATION BY MR. SATTERLEY)

Q. What I was talking about is what I've sort of tried to do in Exhibit 17 is figure out mesotheliomas not counted by Honda. And I've -- I've put together a little chart of date of birth, date of death, years of exposure between what I could pull from the Abraham paper and the stipulation that you and I previously made in a prior deposition, the stipulation you made in New Jersey, to demonstrate that there's -- you know, how many mesotheliomas there are.

MR. RADCLIFFE: I'm going to object to the document. It's argumentative, lacks foundation. And also Mr. Kelse didn't make any stipulations.

MR. SATTERLEY: We'll go back to the record and we'll figure out what that says.

But anyway, you see what I've done here. I've got the -- a list of Abraham and it's got five mesotheliomas, and then there's a stipulation and it's got five mesotheliomas. Do you see that? And it's got date of birth, date of death and years of exposure.

A. Yes.

Q. Have you went back and done this type of analysis yourself?

A. Well, as I indicated, I -- you know, I -- I'd have to go back and look again at -- at what data was in -- I remember trying to do it, and I had a hard time with it --

Q. Okay.

A. -- because it just wasn't -- the information was not there.

Q. Did -- did -- in Dr. Abraham's paper, did he refer to mesotheliomas as published by Enterline?

A. He referred to Enterline. Enterline had done some studies on the prevalence of mesothelioma in -- in New York State and certain counties. I think he referred to that. That was the reference.

Q. And there was a refer -- Enterline refers to eight mesotheliomas in the Jefferson and St. Lawrence counties. Do you recall that?

A. I don't know if it was eight and I don't know if it was in Jefferson/St. Lawrence. I -- I -- I do know from subsequent work that the excess was in -- not the county where the mining was, it was in the other county. I think that's St. Lawrence.

Q. And -- and that's -- my next question is, can we find out from personnel files whether the

employees all lived in the same county where they worked?

A. Well, we certainly would have records on people's addresses. So to that extent, I would think, yes.

Q. Sure. Like, for example, a lot of folks that live in -- or work in Louisville, Jefferson County, actually live in Oldham County or Bullitt County, the counties surrounding Louisville. And I guess a question that I had is if we -- who do we go to at R. T. Vanderbilt to find the list of the employees with their addresses?

MR. RADCLIFFE: Object to the form.

A. Well, it could start with me.

Q. Is that -- is that -- do you maintain that?

A. I don't, but I -- I would be the person who would pick up the phone and -- and ask for that information if it was available, and I -- I think -- I don't know for sure whether it would be, but I just don't know.

Q. Did you provide to the Honda group, the counties in which the employees lived in so that the Honda group in their study could analyze mesothelioma death rates in -- in each county and

things of that nature?

A. No. That was completely, you know, alien to the purpose of the study. The study was for -- for Vanderbilt talc workers.

Q. Oh.

A. All Vanderbilt talc workers, not general population in counties.

Q. Will you agree to provide me with all documentation, everything you provided to the Honda study people?

MR. RADCLIFFE: Object to the form. He won't agree in a binding way on Vanderbilt.

Q. You have all that, don't you?

A. Well, they certain -- the type of information we used is what you would expect you'd want to know, how many people worked, when they worked, what -- what departments they worked. All of that information would be in personnel file -- files.

Q. No, I apologize, sir. Everything you provided to the Honda group when you paid them $200,000 to do this research, do you have those -- the documentation still?

A. The -- the company --

MR. RADCLIFFE: Object to the form.

A. The company would have those types of

records, because that's what I've provided, would be the records they would need to look at that any company would have, employment records.

Q. I'm talking about correspondence, e-mails, things -- letters writing back and forth when you -- Dear Dr. Honda, this is what I'm enclosing, things of that nature.

A. I don't know how -- what records I really have from that. I mean, obviously I have the finished products that -- you know, the studies. And I have some documents that pertain to I'm sending you, you know, all the dust data I have, you know, that you can add to all the dust data you're getting from other sources, and here's all the work designations in terms of work areas and so forth, that type of thing. I do have a lot of those records still.

MR. SATTERLEY: I'd request that we get all documents. If you're going to rely upon Honda at all at the trial, all documents that you have in your possession regarding the Honda study. ^(request no. 4)

MR. BREETZ: Just follow up with a letter.

MR. SATTERLEY: I will.

MR. RADCLIFFE: Well, I'll agree with you as long as it cuts both ways. If you rely on Hull, we'll do the same thing.

MR. SATTERLEY: I didn't pay for Hull and Hull is not a witness in my case. And I know you've been running around trying to do that for -- or R. T. Vanderbilt has, harassing folks for years on that, but that's not the issue. I will follow it up with a letter and a request to get copies of that.

Q. Slim Thompson, C. S. Thompson. He has been a long-time R. T. Vanderbilt mineralogist?

A. Well, he's a mineralogist and he worked for Vanderbilt for quite some years.

(DEPOSITION EXHIBIT NO. 18 MARKED)

Q. And I want to show you a letter dated November the 4th, 1976. It's a Report of Call at Syracuse.

MR. RADCLIFFE: Which deposition exhibit number is this, 18?

MR. SATTERLEY: Yes.

MR. RADCLIFFE: So the other -- the 23 on here is from something else?

MR. SATTERLEY: Yeah. Exhibit 23 is probably from the trial in Anderson -- in Franklin, Anderson Circuit Court. It is.

Have you seen that letter regarding the Boney situation? Why don't you do this? Why don't you read it out loud so the folks on the phone and everybody in the room can hear what this letter is about.

MR. RADCLIFFE: The whole thing?

MR. SATTERLEY: Sure.

A. The whole thing?

Q. Yeah, read it out loud.

MR. BREETZ: Joe, just -- again, a continuing objection to the references to insurance, they're continuing.

MR. SATTERLEY: (Nods head up and down). Go ahead.

MR. BREETZ: Is that a yes?

MR. SATTERLEY: Yeah.

MR. BREETZ: Okay.

MR. SATTERLEY: I mean, I --

MR. BREETZ: Yeah, I just wanted to make sure.

MR. SATTERLEY: I've already said it once. I don't -- I understand you preserve your objection, but go ahead. I disagree, but go ahead.

A. Read it, okay. (Reading) Dr. C. S. Thompson and I discussed the workmen's

compensation hearing scheduled for November 17th, 1976, dealing with former GTC worker Francis Boney.

Mr. Boney died in May 1976 while his compensation case was in progress. The diagnosis was death due to bronchogenic cancer. Prior to death, Mr. Boney was claiming complete disability due to talcosis. Mr. Boney's widow is now claiming that the cancer was a result of talcosis brought on by exposure to talc, and CNA is faced with a sizeable claim that must be handled separately from the workmen's comp proceedings that were taking place before Mr. Boney's death.

In this type of case, unlike the W -- workmen's comp cases of disability of living claimants, there is no settlement out of court. CNA either pays the stipulated sum to the widow or is freed from any responsibility, depending upon what the court rules was the cause of death.

CNA believes that if the workmen's comp court referee rules that death was caused by cancer, which in turn was caused by talcosis, there will be a rash of similar claims from many other GTC workers. This may be especially the case since the Boneys -- since the Boney widow's lawyer is apparently making a career out of handling talc

worker cases. He has handled some ITC worker cases and is now adding the GTC workers to his list of clients.

Mr. Goldberg said that the Boney attorney had mentioned that Mr. Kitts would be at the hearing, and it is believed that Kitts also gave testimony at other hearings involving former ITC workers. Accordingly, CNA is quite anxious to counteract any Kitts testimony that asbestos might be involved in the Boney case. Otherwise, they believe they can expect many more similar claims from former GTC workers.

It was agreed that Mr. Harvey would attend the hearings scheduled for November 17th in Syracuse for the purpose of observation and advising Mr. Goldberg in any way that might help counteract Kitts' testimony. Mr. Goldberg will leave the hearing open until we have had a chance to study the transcript of Kitts' testimony with Dr. Thompson. Then another date will be set for Dr. Thompson to present rebuttal as well as new testimony of his own. They felt that this procedure was as good or possibly better than having Dr. Thompson at the hearing on the same day as Kitts.

We discussed at length the medical

aspects of the case. CNA is now relying on a pathologist from Albany who may or may not know much about the talc-asbestos problem. We suggested that CNA contact Dr. Tabershaw for advice on this whole situation and they seemed quite receptive. We would not be surprised if CNA brings him in on the case as a consultant.

In summary, CNA is mainly interested in disassociating talcosis from lung cancer and, by inference, exposure to New York State talcs from carcinogenicity. To do this, they need to establish that little or no asbestos was normally found in the ores mined at the time Mr. Boney was working for GTC. This is where they need our assistance.

AMH, Allan Harvey.

Q. Allan Harvey was working at R. T. Vanderbilt at the time of this letter, correct?

A. 1976, yes.

Q. Be fair to say this would have been a letter that was created by Mr. Harvey during his employment at R. T. Vanderbilt?

MR. RADCLIFFE: Object to the form.

A. I really don't see a clear indication that he wrote it other than the initials at the end.

Q. His initials.

A. That's all I have.

Q. And -- and you also -- it's also carbon copied to -- to some other executive at the company. Hugh Vanderbilt?

A. Senior.

Q. Yeah. He was the CEO back then.

A. That's correct.

Q. Okay. And who else received a copy of this letter?

A. T. Noland, a Tom Noland.

Q. Do you know who he was?

A. Executive VP, second in command. G. L. Fiederlein, who at the time I think was the chief financial officer. Dr. Thompson. Vern Streitmatter. He was in charge of the operating facilities operationally. G. Erdman was the plant manager. P. -- P. B. Gibney, Jr., and K. S. Karsten, neither of those I -- I don't recognize those names.

Q. But it would be fair to say the -- the names in the document, the information in the document, the fact that they were talking about documents, fair to say more likely than not this is a document involving R. T. Vanderbilt.

MR. RADCLIFFE: Object to the form.

Q. Right?

A. It's involving what it -- what it says.

Q. The Boney case that we were talking about earlier.

A. Right.

Q. Okay. If I could just borrow that back from you --

A. Sure.

Q. -- for a second. I wanted to just ask you one question about -- it says, (Reading) Mr. Goldberg in any way -- advising Mr. Goldberg in any way that he might help counteract Kitts' testimony.

You said earlier, I think, you've read Mr. Kitts' testimony, right?

MR. RADCLIFFE: Object to the form.

A. I know Mr. Kitts feels there's asbestos in the talc.

Q. And he was the chemist at -- at R. T. Vanderbilt.

A. I think he worked for International Talc as well.

Q. And when -- and when -- when R. T. Vanderbilt bought International Talc in 1974, Kitts came over to work for -- for R. T. Vanderbilt,

right?

MR. RADCLIFFE: Object to the form.

A. I don't know -- I don't have any direct knowledge of what his -- what the period was.

Q. It says, (Reading) CNA is mainly interested in disassociating talcosis from lung cancer, and, by reference, exposure to New York talcs from carcinogenicity.

Do you know -- do you have any knowledge why they want to do that?

A. Well, there's no association that I'm aware of in the literature for talcosis or pneumoconiosis, you know. It may be a secondary or -- or an accompanying disease with lung cancer, but I think it -- it's -- there may be some debate about, you know, one link to the other, if you've got asbestosis or talcosis or kaolinosis or any of the pneumoconiosis, whether they may prompt a -- a -- a carcinogenic response in the lung.

My understanding is these are two different things, two different, you know, biologic processes, but that's something you should ask a physician.

Q. It says, (Reading) To do this, they need to establish that little or no asbestos was

normally found in the ores mined at the time Mr. Boney was working at Gouverneur Talc Company.

Is that what -- and then it says, "This is where they need our assistance." Do you remember reading that?

A. Yes.

Q. And that's what you have been doing for the last 25 years now, 24, 25 years, correct?

MR. RADCLIFFE: Object to the form.

Q. Providing assistance to try to prove that there's little or no asbestos in the ores of the -- the mines up there.

MR. RADCLIFFE: Object to the form.

A. I've been providing science base, you know.

Q. But the truth of the matter is, before OSHA was enacted -- you know OSHA was enacted in '72 or about there.

A. Enacted?

Q. Yeah.

A. You mean --

Q. OSHA --

A. You mean --

Q. OSHA regulations.

A. You mean OSHA's asbestos standard --

Q. Yes, the OSHA asbestos standard.
A. -- was enacted in 1972. That --
Q. Yes.
A. That's what they did, yes.
Q. Okay. But prior to that R. T. Vanderbilt -- and you know this -- they told the public, told the world -- well, no, they didn't tell the world. They have made publications about some of their Nytal products, correct?
A. There -- there were product sales brochures, things of that nature.
Q. And in some of their Nytal brochures in the '60s, they indicated that there's asbestiform materials in -- in the ore, correct?
MR. RADCLIFFE: Object to the form.
A. I'm aware of one old publication that references a reference to the possibility of asbestos in that general region that -- that references a document that was written in 1942.
Q. Let me show you -- and which -- what document are you referring to now? Are you talking about what I'm going to show you?
A. I think that's the one, yeah.
(DEPOSITION EXHIBIT NO. 19 MARKED)
Q. Let me show you Exhibit 19. And this

is the R. T. Vanderbilt brochure publication on Nytal from 1966, June 1st, 1966, correct?

A. Right.

Q. If you flip to the first tab I have there under properties. Do you see the section called properties?

A. Right, Section IV.

Q. And then it's got "General Appearance, Raw Ore." Do you see that?

A. That's correct, yeah.

Q. And I've highlighted down there where -- under tremolite, (Reading) Tremolite occurs in the long prismatic crystals and columnar to fibrous aggregates.

Do you see that?

A. Right.

Q. "Asbestiform varieties are common. Tremolite has the same general appearance as wollas" --

MR. RADCLIFFE: Wollastonite.

A. Wollastonite.

Q. -- "wollastonite."

Okay. So in this 1966 publication, R. T. Vanderbilt told customers or whoever was given this document that there was -- asbestiform varieties

are common, right?

MR. RADCLIFFE: Object to the form. Can you -- can you repeat that question for me, please?

Q. Sure. In this 1966 publication, R. T. Vanderbilt was stating this publication under properties, "Asbestiform varieties are common," right?

MR. RADCLIFFE: Object to the form.

A. It's in a Vanderbilt document, but it references Rogers and Kerr. It's a reference that's quoted out of a geological text.

Q. Wait a second. I apologize, sir. You've totally lost me. Where is -- I don't see a -- a -- a footnote after that sentence.

A. Yeah. Look up above under "General Appearance." See the paragraph 1 there?

Q. Oh, I see.

A. Okay. If you go down to the last sentence, "Rogers and Kerr give the following description."

Q. Mm-hmm.

A. And then -- then this is in quotes.

Q. Okay.

A. And so what I -- what you just read is

a quote --

Q. Mm-hmm.

A. -- from a geological text. If you go back to the reference -- what do they have it here? I think it's 4, if I'm not mistaken. That -- yeah, so that's 1942. So this is -- this is --

Q. Rogers and Kerr.

A. Right. This is a general --

Q. Mineralogy.

A. Right. It's a -- a general mineralogical text talking about the talc region, mining region, and that -- that's their -- the view of the mineral -- you know, the mineral composition that can exist in that region.

Q. And -- and R. T. Vanderbilt put this publication together, though, right?

A. The sales group -- or research and development likely did. That seems to be what the focus is.

Q. Now, at no point have you found any brochures back in the '60s, '50s, '60s or even up till '71 say -- that tried to make this distinction between fibrous talc and cleavage fragments?

MR. RADCLIFFE: Object to the form.

A. Off the top of my head, I -- I'd have

to say no, but I -- I would have to look. I don't know that it was -- it really was an -- raised as an issue until 1972, became really prominent as an issue.

Q. And when you say "raised as an issue," it was raised as an issue because OSHA passed asbestos regulations?

A. Yeah, and -- and what it was they were covering and not covering.

Q. And -- and the asbestos regulations were thought to potentially be of disastrous economic consequences to R. T. Vanderbilt.

MR. RADCLIFFE: Object to the form.

Q. Right?

A. Well, I don't know what the thinking was. I'm not going to speak for somebody else, but it was very clear that there was a lot of confusion about what the '72 OSHA asbestos standard covered and didn't cover. It was an asbestos standard, so you'd assume it covers asbestos. But in their de -- descriptive information in the standard, it was so broad that you couldn't get a clear idea, and so that created some confusion.

Q. Now, this 1966 brochure -- by the way, I've put another sticky on that. If you could --

A. Mm-hmm.
Q. -- flip to that page. What page are you on there?
A. This would be page 10.
Q. Okay. If you could read what I've highlighted there.
A. Sure.
MR. RADCLIFFE: Just one moment, please.
Q. This is under the "Nytal 99 and Nytal 100."
A. Okay. Should I read that in --
Q. See where I've highlighted there?
A. I do.
Q. Read that.
A. "Anthophyllite and tremolite, which are constituents of the talc, are both amphiboles, and I think there is another amphibole in these two samples."
Q. Maybe -- you're reading the -- I'm -- I'm not at the same spot that you are so, let me just borrow that.
A. I read what you had --
Q. Okay.
A. -- in yellow.

Q. Oh, why don't you read -- go back and -- and read -- I'll highlight the whole thing. That --

A. Oh, and here? Okay.

Q. I just didn't --

MR. RADCLIFFE: Can I see it?

Q. -- begin --

MR. RADCLIFFE: Okay.

A. Okay.

Q. Oh, I'll tell you what. I'll read it, and you tell me if I'm reading it correctly.

"The amphibole-serpentine suites that are possible in a talc rock are almost endless, and this renders interpretation very difficult. For example, anthophyllite and tremolite, which are constituents of the talc, are both amphiboles; and I think there is another amphibole in these two samples."

Do you see that?

A. Yes.

Q. And that's referring to the Nytal 99 and 100. Do you see that?

A. Up above?

Q. Yeah.

A. Yeah. I'm just looking to be sure

that's what it's referring to.

Q. Now --

A. It appears to be, yes.

Q. We know that R. T. Vanderbilt sold its product, according to this document, to a wide variety of industries, right?

A. It did.

Q. I mean, we've got ceramic. They sold these products for people to use for ceramics?

A. Mainly like sanitary ware, toilets, sinks, things of that nature. Some was sold into the hobby craft, but predominantly the industrial ceramic.

Q. So we've got hobby crafts, we've got making tile, making -- manufacturing, what, toilets and bathtubs and things of that nature?

A. Mm-hmm, yes.

Q. Like, for example, American Standard, they make bathtubs and toilets. Was that one of the customers?

A. I don't know for -- for sure, but that would be the type of --

Q. The type of?

A. Yeah.

Q. In addition, the products were sold to

paint manufacturers to incorporate this in paints?

A. That's correct.

Q. These products were sold to companies for -- in the building industries like, for example, Georgia-Pacific

MS. SCHUPBACH: Object to the form of the question.

A. Yeah, I -- I don't know exactly which -- which customers, but some of them went into some building materials. It wasn't the -- the lion's share of the uses, but some did, yes.

Q. Okay. Joint compound type products?

A. Some.

Q. Yeah. We're going to go over -- did you look at the answers to interrogatories that R. T. Vanderbilt filed in this case? I think you were listed as helping out on some of these questions.

MR. RADCLIFFE: Object to the form.

A. I guess I would have to look at it to tell you. I -- I may have.

Q. For example, on page 8 -- this is the McCauley case. On page 8, I asked about the various different amounts sold to different companies. Like the first one is Bondex listed there. Do you see

that?

A. Yes.

Q. And then you've listed quantities of -- of -- and the type of products sold to that particular company, right?

A. That's what's listed. That wouldn't come from me, but --

Q. Where would that come from?

A. Well, probably better ask that question to Paul Vanderbilt. If it didn't come from him, he would have a better understanding of where he would get this information.

Q. Does Paul Vanderbilt, as the vice president of the company, keep track of these sales records to these various entities?

A. Well, he -- he doesn't directly, but he would ask for the information from the sales groups, I would think.

Q. Who does directly? Who's the sales group that he would ask?

A. Well, in the minerals group it would be, you know, the -- it would be the sales managers for the markets. So in other words, where you -- when you mentioned ceramics and you mentioned paint, there are sales managers that --

Q. I wanted a name.

A. -- oversee -- that's who they would go to.

Q. I'm sorry, I apologize. I wanted a name if you know who's in sales.

A. Well, again, I -- I -- I'm not very familiar with how you get sales records and -- and so forth, but I'd say -- really I'm not the guy you should ask that question. You probably need to get a clearer, more accurate answer from somebody else.

Q. I'll talk to Paul about that.

A. Yeah.

Q. This next company listed under here is Georgia-Pacific. And it says they don't have any records of sales prior to '74 and no records after 1980 to Georgia-Pacific, and then there's a description of a -- of products sold beginning in 1974, 180,000 pounds of Mouldene. Do you see that?

A. Yes.

Q. And then '75, 40,000 pounds of Fibertal --

A. Yes.

Q. -- 40 -- No. 2?

A. Mm-hmm, yes.

Q. And then '76; 40,000 pounds of

Fibertal No. 2?

A. Yes.

Q. And then '74, 453,000 pounds of Mouldene?

A. Yes.

Q. And then '76, 8,000 pounds of Fibertal No. 2?

A. Yes.

Q. And then Bestwall here -- Gypsum in 1974, four -- 140,000 pounds of Mouldene?

A. Yeah.

Q. And continuing on down here, 120,000 pounds of Mouldene?

A. Sure, that's what it says.

Q. '75, 40,000 pounds of Fibertal 2?

A. Yes.

Q. And '76, 40,000 pounds of Fibertal 2?

A. Right.

Q. And then 1980, it's got 44,000 of Nytal 200?

A. Right.

Q. And then they've got similar type -- you've got additional information about Kaiser Gypsum?

A. That's what it looks like, yes, sir.

Q. Okay. And then the question about National Gypsum and U.S. Gypsum is objected to. Have you -- do you know a company called National Gypsum?

A. I've heard of it.

Q. Were they -- they purchased R. T. Vanderbilt pro -- product?

A. I would have to check.

Q. Okay. And same with U.S. -- U.S. Gypsum and National Gypsum both? You'd have to check on that?

A. I think U.S. Gyp I'm pretty sure did. I'm not sure about the other.

Q. I'd re --

A. Less sure about the other.

MR. SATTERLEY: I'd request counsel supplement the interrogatories since Mr. McCauley clearly identified those manufacturers of products in his deposition. ^(request no. 5)

MR. BREETZ: Just follow up with a letter so that I know.

MR. SATTERLEY: Okay.

THE REPORTER: I'm sorry, I --

MR. SATTERLEY: I already did once, but I will again.

MR. BREETZ: I don't remember any

letter asking --

MR. SATTERLEY: May 14, 2009. But that's all right. We'll follow up with it.

All right. So what you're basically telling me is I should go talk to Paul Vanderbilt and the salespeople about the various customers.

A. Right, in terms of the origin of this data that you showed me.

Q. Okay. No. 19, we can set to the side.

Did R. T. Vanderbilt, to your knowledge, develop any other brochures like this 1966 -- I guess this was a 50th anniversary.

A. Yeah, that's what it says.

Q. Okay. Do you know who this 50th anniversary document was directed to? Was it --

A. Directed to potential customers.

Q. Potential customers?

You can't -- I guess you don't know who actually would have received that, though, right?

A. I don't.

Q. Okay. Now, going back in time, we talked about they referred to the '40s, but the '40s is the first time asbestos geologically was identified as being in the Gouverneur Quadrangle, correct?

MR. RADCLIFFE: Object to the form.

Q. If you go all the way back to 1925 at the New York State Museum Bulletin, they listed asbestos as a contaminant -- or not even a contaminant. As a mineral, did they not?

A. I don't know. I'd have to look at the documents.

(DEPOSITION EXHIBIT NO. 20 MARKED)

Q. I'll show it to your counsel first.

While your counsel is looking at that document, just in the interest of time I'll ask you, have you seen any documents that would indicate that R. T. Vanderbilt warned Kaiser Gypsum about any of the dangerous natures of R. T. Vanderbilt's product?

MR. BREETZ: Objection to form.

MR. RADCLIFFE: Object to the form.

A. I know that we've produced various warnings at various times. Whether they went -- what customers they went to, I -- I -- I don't know. If -- if they were a customer, they -- and it was at the time a particular warning was worked up, then they would have seen it.

Q. I'll come back to that in a minute with regards to some other folks.

Exhibit 20, the New York State Museum

Bulletin.

A. Right.

Q. You've seen that in the past, true?

A. I -- I don't -- I don't know. I may have. I certainly don't remember.

Q. Dated 19 -- 1925. I've highlighted a section of that, if you could read that off for us.

A. At the bottom, sure.

Q. Sure.

A. "Asbestos." Under that category. "Fibrous tremolite or brittle asbestos is not uncommon in the walls of the talc mines, one or both of which may be constituted of tremolite schist. It is also to be seen in other limestone areas, as a development of normal tremolite."

Q. And if you flip back to the first page, what -- what are they talking about? No, the -- the cover page. Are they talking about the geology?

A. This one here?

Q. Yeah, the geology of what?

A. Geology of the Gouverneur Quad -- Quadrangle.

Q. Okay.

A. So that's the mining region.

Q. And -- and was the R. T. Vanderbilt of the Gouverneur Talc mines in the Gouverneur Quadrangle?

A. If it included the Balmat area, it would be.

Q. Okay. As a matter of fact, if we go back to Exhibit 19, there's a little map there. Is that the Gouverneur Quadrangle?

A. Well, it looks like it's St. Lawrence County.

Q. Okay. Okay. So that's St. Lawrence County?

A. Yeah.

Q. Can you tell me -- Gouverneur -- the Gouverneur Talc Company, it would be fair to say, is it within the Gouverneur Quadrangle?

A. Well --

MR. RADCLIFFE: Object to the form.

A. Yeah, I know exactly what that refers to, so it's hard -- I can't really tell you. All I can say is if that -- if that quadrangle incorporates the Balmat-Fowler area, then the answer would be yes.

Q. Have you ever researched that?

A. I've not.

Q. Twenty-one.

(DEPOSITION EXHIBIT NO. 21 MARKED)

Q. You said in the past that warnings were given. Let me show you a material safety data sheet for 1975, R. T. Vanderbilt. Is that the way generally warnings were conveyed, through material safety data sheets?

A. That is the way they are conveyed predominantly, yes.

Q. And is -- is 1975 the earliest you have identified any MSDS from the R. T. Vanderbilt Company?

A. In the records I've seen, it seems to be mid '70s, yes, sir.

Q. The reason why I ask is I've looked through a lot of your-all's records in the Franklin case --

A. Mm-hmm.

Q. -- and the earliest I could see was this one that's dated May 1st, 1975.

A. That's pretty much my experience too.

Q. And this re -- relates to Nytal 99, 100, Nytal 100 -- is it 100 R?

A. H -- HR.

Q. HR, okay. And would it be fair to say prior to this 1975 time frame you're -- you've not

seen anything that would indicate a warning to a customer about any health consequences of the Nytal products?

MR. RADCLIFFE: Object to the form.

A. Yeah, as I sit here, I'm not aware of any.

Q. And in 1975, the material safety data sheet, did it go out to all customers?

A. I can't say that specific. I know we do now and what we've done for 20 -- several dec -- decades, but I don't know exactly what they did in 1975. I can only assume.

Q. In the 1975 warning on this material safety data sheet, did it warn of mesothelioma?

A. No.

Q. Did it warn of lung cancer?

A. No.

Q. Did it warn of asbestosis?

A. Not specifically.

Q. Did it warn of talcosis?

A. Not specifically.

Q. Did it warn of pulmonary fibrosis?

A. Not specifically.

Q. Did it indicate or tell the recipient of this document that you could get sick and die if

you breathe too much of this product?

MR. RADCLIFFE: Object to the form.

A. Well, on the MSDS here you see a Section IV, you see it says "Health Hazard Data." Under "Health Hazard Data," you notice that they've broken down the mineral composition of the talc into the -- you know, up above you see the percent. Down below for each of the components, over to the right they list something that's called "TLV," threshold limit value.

Threshold limit value is an amount of that dust, in this case -- in this case a million particles per cubic foot as measured that way. And what this tells a user of this product is that if they maintain their dust levels for each of these components below that particular level, that according to the regulatory standards or the existing standards at the time, that that material is then safe, you know, to deal with.

And -- and so by listing the health hazard data, the threshold limit values, you are telling the customer, the person using your talc, that they should not be exposed to higher than these levels. If -- if -- and if they are, then they are at risk.

Q. Risk of -- of cancer and mesothelioma?
A. It doesn't --
MR. RADCLIFFE: Object to the form.
Q. I mean, I'm -- does it say anything about cancer?
A. No.
Q. Does it say anything about you could die -- does it say death -- you breathe too much of this stuff, you can die? Does it say that on this document?
A. No.
MR. RADCLIFFE: Object to the form.
Q. Does it say that it's -- would cause serious bodily harm?
A. No.
Q. Does it say that it could -- it could prevent the lungs from operating normally?
A. No. It just warns against breathing excessive dust based on these levels.
Q. Is the word "excessive dust" on there?
A. It says, "avoid breathing dust."
Q. Okay.
A. "Use respirator if threshold limit values are exceeded." So these are safe standards. If you have more than this dust, you should wear

personal protective equipment.

Q. And the serpentine threshold limit value that -- that R. T. Vanderbilt was telling its customers -- or actually not all its customers, but whoever might have been lucky enough to get one of these, 50 million particles per cubic foot. Was that -- is that -- was that the proper threshold limit value for serpentine dust?

A. In --

MR. RADCLIFFE: Object to the form.

Q. 1975.

A. Well, unless I -- I would have to go back and -- and check the threshold limit values. That -- that's produced by the American Conference of Governmental Industrial Hygienists, which I think in the mid '70s were the standards that were being used. Subsequently, they used specific OSHA standards.

Q. Asbestos. What was the TLV for asbestos in 1975; do you know?

A. It was -- it was something around 5 fibers per cc or something in that area.

Q. Ten times less than that -- what's listed for --

A. Well, no, this is in million particles per cubic foot. You know, when -- when you measure

for asbestos, you actually count asbestos fibers in the air and you count the number of fibers per cubic centimeter of air, and so that's different than millions of particles per cubic foot. Those are two -- you can't compare those two.

Q. The -- the TLV for asbestos, if you took asbestos at the TLV back at that time frame and put it in a vial --

A. Yeah.

Q. -- how much would be there?

MR. RADCLIFFE: Object to the form.

Q. You're laughing because it's --

A. I --

Q. -- very small, right?

MR. RADCLIFFE: Object to the form.

Q. It's invisible, isn't it?

MR. RADCLIFFE: Object to the form.

A. You measure -- you would measure the risk based upon the airborne concentration.

Q. Is asbestos at the threshold limit value at the time of this document visible to the naked eye?

A. Some -- some -- if it was actual asbestos fibers, some would be and some would not. Depends on the type of asbestos, the way in which it

was processed.

Q. And what reference or what authority do you have for that other than your personal opinion?

A. Well, it would have to -- I'd have to rely on my 35 or 40 years as a hygienist and references that I've read relative to how you sample for various contaminants, obviously asbestos being one of hundreds.

Q. What would asbestos look like at 5 million particles per cubic foot?

MR. RADCLIFFE: Object to the form.

A. Well, that's just an inappropriate way to even discuss it. There -- that's a -- that's just particle counts.

Q. Mm-hmm.

A. You can count everything of all sizes. You can count just those that meet certain size criteria, whatever size criteria you want to stipulate. And then -- but then you have to then be sure that 100 percent of that is what you're counting as particles, you know.

So like if you -- if -- usually, unless it's an asbestos mine or unless it's a processed asbestos used in a textile mill or

something where you can be pretty much assured that whatever you collect on your air filter is pretty much all asbestos.

In most natural environments certainly, you know, you're going to get a -- a -- a group of particulates and you have to separate them out, so you have to know what's what. So it's a little different and much harder task than if you know exactly what the exposure is and you don't have to worry so much about separating it out.

Q. So what's it look like? I mean -- I mean, is it --

A. What do you mean what's it look like?

Q. Is it -- can you see it? Can you see 5 million particles per cubic foot of asbestos in the air?

MR. RADCLIFFE: Objection, asked and answered.

Q. And if so, when's the last time you've seen this happen?

A. It -- it's an --

MR. RADCLIFFE: Objection, asked and answered.

A. It's just in -- an inappro -- it's a wrong way to ask -- you can't -- if you're asking me

what does asbestos look like in the air, you know, can you see it all or -- you know, if that's what you're asking, I can help with an answer on that. I can't answer a question that's -- that's -- you're talking about all particles, and I just --

Q. Have -- have you ever attempted to take in 5 million particles of asbestos and put it into some type of container so we can see how much it is?

A. Again, it -- it -- it's just not all uniform size. It depends on the type of asbestos. It depends on --

MR. RADCLIFFE: He asked if you've simply put it in a container. He's asked you if you've put it in a container.

THE WITNESS: Yeah.

MR. RADCLIFFE: Did you put it in a container?

THE WITNESS: Well -- well, no.

MR. RADCLIFFE: Okay. That's the answer.

Q. Now, you -- you bring some interesting points. Asbestos, you say, are various sizes. The tremolite asbestos, what's the various sizes of that?

MR. RADCLIFFE: Object to the form.

A. Tremolite asbestos fibers.
Q. Sure.
A. Again, it depends on in that case how it's processed. Typically, tremolite is an amphibole. Tends to be a little shorter and fatter, like all amphiboles, in contrast to serpentine chrysotile.
Q. Which is straight, right, like a needle?
MR. RADCLIFFE: Object to the form.
A. No. Chrysotile is very curly.
Q. Oh, curly.
A. It's a phyllosilicate. It rolls on itself and it's extremely long --
Q. Mm-hmm.
A. -- extremely thin.
Q. Is the serpentine -- was that -- serpentine was listed as a --
A. Yeah, antigorite, lizardite. It's -- it's -- it's common rock and soil forming minerals. It's --
Q. And that's -- serpentine is clearly within the Gouverneur mine.
A. Oh, yeah. It's -- it's treated -- it's treated as a nuisance dust. It's very common

material.

Q. A nuisance dust. You mean that's the way you guys treat it?

MR. RADCLIFFE: Object to the form.

A. It's the -- it's the way it's regu -- it used to be called nuisance dust. Nowadays they call it particles not otherwise regulated. So in other words, if you don't have a standard for a particular product -- for a particular mineral particle like silica or mica or kaoline, okay, if it's not on a list and it doesn't have a -- a threshold limit or permissible exposure limit, it's not on the list, it's covered under this blanket thing known as particles not otherwise regulated.

And there is a standard, and that happens to be 10 milligrams per cubic meter of total dust and -- and 5 or 3 milligrams per cubic meter of respirable dust, which means particles that are less than 10 micrometers in size.

Q. My question was do you guys -- R. T. Vanderbilt just treat serpentine dust as just nuisance dust, right?

A. Because that's what --

MR. RADCLIFFE: Object to the form.

A. -- it was.

Q. Just a nuisance to you guys?
MR. BREETZ: Objection to form.
MR. RADCLIFFE: Object to the form.
Q. Is it just a nuisance to you?
MR. RADCLIFFE: Object to the form.
A. I -- I --
Q. Is serpentine dust --
A. Do you want me to answer?
Q. -- just a nuisance?
Yes, I want you to answer.
MR. RADCLIFFE: Object to the form.
A. Serpentine dust, like all dust, you want to keep, you know, at -- at a safe level.
Q. Okay. And why is serpentine dust a nuisance for R. T. Vanderbilt?
MR. BREETZ: Objection to form.
A. Well, I -- I --
Q. Is it an economic nuisance?
MR. RADCLIFFE: Object to the form.
A. I described it as a -- it's -- it's characterized -- used to be characterized as nuisance dust. That serpentine dust is now characterized as particles not otherwise regulated. Particles not otherwise regulated, previously known as nuisance dust, would have a general catchall standard of -- of

10 milligrams per cubic meter.

So if I'm -- if you're dealing with a dust that contains serpentine and I take an -- a -- an air sample on you as you work with that all day long for eight hours, I will compare in milligrams per cubic meter of serpentine that you were exposed to to that standard, and that will give me a -- a -- tell me whether or not you're overexposed on that day for what you were doing.

If you were overexposed, that tells me that I need to protect you better, I need to give you personal protective equipment, or better yet, I need to provide better ventilation or isolate you from the dust or do any number of things to make your work environment safer for you.

(DEPOSITION EXHIBIT NO. 22 MARKED)

Q. Dr. John Dement from NIOSH in Cincinnati, Ohio reported to -- or reported on his examination of talcs from the Gouverneur district, correct?

A. That's right.

Q. And he reported that, in fact, in his -- he's an industrial hygienist, right?

A. That's correct.

MR. RADCLIFFE: Object to the form.

Q. Cert -- he's a certified industrial hygienist --

A. That's right.

Q. -- right?

And you're not certified.

A. That's right.

Q. And Dr. Dement was with NIOSH, the National Institute for Occupational Safety and Health.

A. That's correct.

Q. And he has reported that there's actually asbestiform, tremolite, anthophyllite in the Gouverneur Talc mine, correct?

MR. RADCLIFFE: Object to the form.

A. Well, that's what he has said.

Q. Okay. And -- and -- and you don't have any evidence of any companies or -- paying him any money to come to that opinion like R. T. Vanderbilt has done with some of its analysis?

MR. RADCLIFFE: Object to the form.

A. Yeah, I -- I don't know how to answer that.

Q. You don't have any evidence that Dr. Dement is biased by financial motivation or anything like that, do you?

MR. RADCLIFFE: Object to the form.

A. Well, people can be biased for other reasons other than money.

Q. I under -- I didn't ask you about that, sir. My question is do you have any evidence that Dr. John Dement, the certified industrial hygienist with the National Institute of Occupational Safety and Health, had any bias whatsoever for or against R. T. Vanderbilt?

A. Yeah, I have no --

MR. RADCLIFFE: Object to the form.

A. I wouldn't know.

Q. Okay. All right. But you do know that he reported that there is asbestiform anthophyllite within the Gouverneur Talc mine.

MR. RADCLIFFE: Object to the form.

Q. Correct?

A. That's what he has said, yes.

Q. And he's reported that -- Dr. Dement's reported there's fibrous asbestiform tremolite within the -- the mine, R. T. Vanderbilt mine, right?

A. That's what he said whenever that was --

Q. And he's also --

A. -- late '70s.

Q. I'm sorry. And he also reported that chrysotile was found in two of the seven samples analyzed.

A. I think he said that, yeah.

Q. Not only did Dr. Dement say that, Lucy McCrone, a senior research scientist with the McCrone Company, also likewise said that, true?

A. True.

Q. If you could, on this -- this is a McCrone report dated December 12, 1975, I marked as Exhibit 22. You've seen this in the past, true?

A. Sure, yes.

Q. If you could turn over to the last page, I've highlighted a conclusion there.

A. Mm-hmm.

Q. If you could read that out loud.

A. The whole page, just the yellowed section?

Q. The yellow -- the highlight.

A. The yellowed?

Q. What I've highlighted --

A. Okay.

Q. -- for you.

A. (Reading) Taken in conjunction with the light microscopical examination, however, during

which a delinquent [sic] search was made, particularly on sample 83757, for fibers which might be anthophyllite rather than tremolite, one is forced to the conclusion that, rather than being a calcium bearing anthophyllite, the fibers are in fact a low calcium tremolite. The aspect ratios of many of the fibers observed are quite high in numerous fibers, such as those shown in Figures 20, 22, 24 and 30, showed the classic fibrous structure of the asbestos minerals. There is no doubt in our minds that these are indeed asbestos fibers rather than cleavage fragments of a more massive amphibole.

Do you want me to go down to the next yellow?

Q. Sure. Go ahead.

A. Okay. "In answer to this specific question, 'Do these particular talc samples contain any asbestos materials?' the answer must be an unequivocal yes."

And then it's signed by -- you've got this yellowed. Do you want me to read that?

Q. Yeah. There's four folks that signed off on it?

A. Right.

Q. Who are those?

A. Ralph Hinch, research chemist; a Richard Shimps, research chemist; Lucy McCrone, senior research scientist; and Ian Stewart, Electron Optics Group.

MR. SATTERLEY: Let's change the tapes.

THE VIDEOGRAPHER: This ends tape No. 3. Off the record at 12:33.

(RECESS)

THE VIDEOGRAPHER: This begins tape No. 4 in the deposition of John Kelse. We're on the record at 1:39.

(CONTINUED EXAMINATION BY MR. SATTERLEY)

Q. Did you have a good lunch, sir?

A. Pretty good.

Q. Okay. We're going to keep talking about some things. How many -- have you put together a list of nonmalignant pulmonary claims?

A. I did, yes.

Q. And when did you put together that list?

A. I'm not ab -- completely sure. It was at least a year ago, I think.

(DEPOSITION EXHIBIT NO. 23 MARKED)

Q. And did you, in putting together a

list, do it from reviewing workers' compensation files?

A. Yes.

Q. And did -- how far did you go back? Did you go back to the '80s?

A. Whatever my records were.

Q. Okay. And did -- in the list did you list whether or not the workers' compensation award was granted, denied, opened, things of that nature?

A. I don't recall. What does the paper show?

Q. Well, I have a three-page document I'm going to mark as 23 and I'll show it to your counsel.

MR. RADCLIFFE: Was this produced in Franklin?

MR. SATTERLEY: No. Wasn't produced in Franklin and wasn't produced in this case. Should have been produced in this case, but ...

A. Yeah, it indicates the claim status.

Q. Okay. And this is a list you put together, right?

A. Yes.

Q. And if you could flip through the other two pages, I think the third page there was some reference to cancer. Is there --

A. Yes, there are.
Q. Is this sort of a summary you put together last year?
A. Last year at some point --
Q. The first page says April of 2009.
A. As of, yeah.
Q. As of April 2009.
A. Yeah.
Q. So was that about the time you put this together?
A. Would have been.
Q. And does that fairly and accurately represent the claim files that you had when you reviewed and were able to --
A. What records I had.
Q. Okay. And where is the underlying data for this?
A. I'm trying to -- there are several sources of information. One is insurance companies sometimes provide what -- what's known as summary reports, you know, composite lists of claims, open, closed, nature of the claim, if it's closed, if any funds were -- were allocated. And that's a primary source of information.
And then there are the individual

claim forms themselves which would be, you know, documents from the -- a comp hearing or something of that sort, you know, the files. A combination of those two sources would probably be the origin of that -- provided the information for that list.

Q. This is an incomplete list, though, correct?

MR. RADCLIFFE: Object to the form.

Q. Because we know that Boney and Shippee are not on this list.

MR. RADCLIFFE: Let me see.

Q. Under cancers, or Harmer, for that matter.

MR. RADCLIFFE: I object to the form.

Q. Is -- look at the cancer --

A. Let me look a look.

Q. Yeah, take a look at the cancer. We know the -- that Shippee was in the mid '70s, '75, and Boney was awarded in 1980. And neither one of those are on that list, right?

MR. RADCLIFFE: Object to the form.

A. It's hard for me to tell, but on -- on the face it would appear not, yeah.

Q. Okay. And then the Harmer case, I think we went over that case also earlier. Is

that -- that's -- is that on that list? This would be a 1990 cancer?

A. No. Those would obviously -- they should be listed -- oh, well, here -- you see this? I'm not sure whether this may refer to those or not. I mean, I would have to go back. You see talcosis contributed to lung cancer, and then there's another reference to lung cancer here.

Q. Oh, I see. So there's two --

A. In fact, there's here as well, so it's --

Q. That's 1972, so we know that Harmer didn't have lung cancer until much, much later than '72. If we just compare that to -- let's pull Harmer back out. Let's see when his lung cancer there -- his asbes -- lung tissue with asbestos bodies was 1990, but let's flip it over to the lung cancer diagnosis and see when that was.

Adenocarcinoma of the lung in 1990.

A. Okay.

Q. So it would be fair to say '72, that wouldn't be Harmer. '96 wouldn't be Harmer. '93 wouldn't be Harmer, would it?

MR. RADCLIFFE: Object to the form.

A. Yeah, I don't know. I'd have to look.

An -- another variable here would be -- I think indicates Harmer -- I think he had filed for talcosis. There was some discussion of that, so -- and I don't think it would have been '72, but it might have been some other date. I -- but you're right. I mean, there's no way for me to -- to tell. I'd have to --

Q. Well --

A. -- go back.

Q. When you say he filed for talcosis -- because as I look through all his medical reports, there's discussion of asbestosis and asbestos bodies. Is there a -- a -- when you -- on the workers' compensation claim a box check-off, asbestosis, talcosis?

A. No box that I can recall. I mean, I can't memorize every one of their forms, but the typical -- the typical -- there's usually an entry -- it's usually typed in, and it usually says "alleges dust disease."

Q. Okay.

A. And -- and I think the reason I fill that out, there was a question of how many claims specifically use the word "asbestos" or "asbestosis" in it. And I think I was trying to capture those

where they -- and -- and I think I made -- noted in a couple of places where that term was actually used.

Q. Now, did you -- I know that you have in the past with regards to mesothelioma cases, you've been pretty vigilant in -- in gathering medical records and trying to learn as much as you can about mesothelioma cases, right?

A. I -- I would say that's right.

Q. Have you likewise done the same with all of the dust-related diseases and gathered records to see if they have asbestos bodies in their lung tissue and things of that nature?

MR. RADCLIFFE: Object to the form.

A. Well, you know, my -- my response to that is -- is pretty much the same as it was before. I would rely more on the morbidity studies and the medical surveillance data than I would on comp records.

Q. Have you -- I guess my question is, have you gathered the medical records at all for people with -- in -- with lung damage, people that are alleging lung damage, to see if, in fact, there had been biopsies that had found asbestos bodies like Mr. Harmer's doctor found?

A. Well, asbestos bodies. Also known as

ferruginous bodies. Again, you'd have to talk to a physician about this.

Q. I apologize, sir. Maybe you didn't understand. I asked have you gathered the medical records? I don't want you --

A. Oh, medical rec -- well, no. As I told you, if it -- if it's an individual compensation claim and is, say, for a pulmonary disease, I will look at our medical surveillance data and -- and see whether or not the information that we have in our files indicates that it's an illegitimate claim because people can show interstitial fibrosis from exposure to our talc, anybody's talc.

And if it appears that that's the case, I will advise the claims handlers that our records indicate that it -- it's a legitimate claim.

If our records indicate that that's not the case, we don't see evidence of that, I will suggest to the carriers that they have a -- you know, that they do further workup and have other physicians look into the case. And that's as far pretty much as I go.

In terms of whether or not people are suffering from dust disease as -- whether it be pneumoconiosis, whether it be a -- a cancer of the

lung, whether it be mesothelioma, those types of causal associations and the prevalence of -- of those endpoint diseases, I would rely on the medical surveillance data from the pulmonary consultant, and I would rely on the epidemiologic studies that are done of those workers. That's what I would rely on. And that's pretty much the way I deal with those various information areas.

Q. Are you finished?

A. I --

Q. I asked -- all I asked you is did you gather the medical records for the nonmalignant dust diseases and I think you said no, right?

MR. RADCLIFFE: Object to the form.

A. That's correct.

Q. Okay. But you have done that with mesothelioma claims.

A. Yes.

Q. Okay. Now, Exhibit 24 -- you're familiar that R. T. Vanderbilt has a record of closed workers' compensation dust disease claims, lung claims, correct?

A. We do have some records, yes.

Q. And I've got one as of 1982 I've handed to your counsel that's dated Exhibit 24.

(DEPOSITION EXHIBIT NO. 24 MARKED)

Q. That's an -- individuals with dust-related diseases from Gouverneur Talc as of that date, correct?

A. That -- that was in the files, yes.

Q. And so what I'm trying to figure out is between 1982 and '86 I think is the first one you've got listed here -- you've only got three in the late '80s -- '86, '87 and '89 -- are there any other lists of folks with diseases, dust-related diseases other than these two lists?

MR. BREETZ: Objection to form.

Q. To your knowledge, sir, is there any other list of individual workers that had dust-related diseases other than these two lists?

MR. RADCLIFFE: So you're replacing your earlier question with this one?

MR. SATTERLEY: Well, I'm trying to get an answer.

A. I guess the rea -- only reason I'm hesitating is I'm trying to -- I'm looking at the injury dates here. I'm looking at these earlier -- I know this is archival information, and so if -- and I know I compiled this list. Did I add, you know, these onto this list, and if not, you know, why --

why would I not have done that? And so I'm trying to figure out --

Q. Those are much older, are they not? Those are --

A. Oh, they are, yeah. This is -- and -- and I think what this is --

MR. BREETZ: When you-all -- just -- when you-all say "this" and "those" --

THE WITNESS: Oh, right, right.

MR. BREETZ: -- if you can identify the particular exhibit.

Q. Twenty-four is a much older list than 23.

A. Right, right. So we'll -- maybe I'll refer to it as the older list, the archival list.

MR. RADCLIFFE: He's not asking you where you got the lists. He's saying other than these two lists, are there any other lists?

THE WITNESS: Yeah, I know what he's -- I know what he's asking and I'm not sure.

There are -- remember that I -- I mentioned the computer printouts that the carriers will -- would provide?

Q. Mm-hmm.

A. Those -- those would, I think,

cover -- that -- that would fit into the category you asked about.

Q. Okay.

A. And tho -- those obvious -- they exist.

MR. SATTERLEY: All right. Well, I would request that and I'll forward that up -- follow that up with a letter. ^(request no. 6)

But as far as you personally being involved in creating any additional lists, I take it the '82 list, you weren't involved in creating that list, the older list.

A. No. And -- and now I'm looking and I'm trying to remember because this -- this goes back a little bit. Not that far. And I think what I was doing was I was taking the more up-to-date information that I had, you know, from the printouts or maybe the files and then I was essen -- and then I had this -- this earlier data, and I was putting these two together and saying, to the best of my knowledge, based on what I have, this is our record of nonmalignant pulmonary claims. And at the bottom is -- and here's my record on the cancer pulmonary -- based on the records that I had or looked at.

Q. But --

A. And so this was my effort to produce what I believe to be as -- as complete a record of a nonmalignant respiratory disease as I could.

Q. Did you -- so I guess I'm just trying to close this out.

You haven't prepared yourself any other list of workers with diseases --

A. Like this, no.

MR. RADCLIFFE: Wait till the -- wait till the question is over.

Q. All right. The reason why I ask is your counsel just handed me a -- a -- a list of four cases I'm going to mark as 25 if that's okay with counsel.

(DEPOSITION EXHIBIT NO. 25 MARKED)

Q. And I wanted to ask you, did you prepare that list?

A. Yeah. They're the same as these four right here.

Q. You prepared this 25 as well, as a separate list.

A. Yeah, just on -- on mesothelioma.

Q. Did you type this up yourself?

A. Yeah.

Q. Twenty-five. When did you do that?

A. That was probably earlier, maybe two years ago. Maybe earlier than that.

Q. And why did you prepare that?

A. Because it provided a summary of the status of the mesothelioma death claims, comp claims relative to the information that we obtained for those -- those claims. So it's a summary -- summary sheet.

Q. And the reason -- you can set those to the side, except 25, now. I'm going to talk to you about 25 --

A. Okay.

Q. -- because we got a little bit more information on 25 than we do on these others.

A. Mm-hmm.

Q. You've got a -- a category, "Other Work" and then you have "Actual Asbestos Exposure." Do you see that?

A. Mm-hmm.

Q. All right. So what you did with these four individuals, you went out and tried to reconstruct their work history, tried to understand where they had potential asbestos exposure somewhere else, right?

A. To the best information we could get,

yeah.

Q. Did you do this reconstruction with regards to the other folks, the nonmalignant dust diseases?

A. No.

Q. And why is that?

A. Well, because we have a medical surveillance program. We have a pulmonary specialist that looks at -- at the x-rays and advises us as to whether or not he sees a dust-linked disease. If he does see a dust-linked disease, that tells me I need to control the dust better. That's what I need to know.

Q. I think in 2007, we went over some of these cases a little bit. But I want to ask you -- and -- and I won't go through it in much detail -- a lot of detail today because I think I went over it with you. But I was concerned and confused under Labow's actual asbestos exposure, 2005. Do you see that?

A. Right.

Q. You typed, "Very likely during brake work in the '50s." Do you see that?

A. Yes.

Q. You're saying he was very likely

exposed to asbestos as his brake work in the '50s, right?

A. That's right.

Q. Okay. And that's exactly the opposite of what you told the doctor when you wrote him -- the doctor that was hired by the insurance company, you had no evidence that he was exposed to asbestos.

MR. RADCLIFFE: Object to the form.

Q. Right?

A. Well, that's true, I didn't.

Q. Okay.

A. I said "very likely" here. Likely means I wasn't saying I knew he -- he did.

Q. Okay. So you don't have any -- you don't have any -- a factual basis for exposure to asbestos for any of these four individuals, co-workers, friends, family members, saying they were exposed to asbestos in this environment?

A. No. Short of actually going there, I can only say something is probable or likely or -- or not. That's the best I can do.

Q. Now, the E. J. Noble Hospital, is that in Gouverneur?

A. Yes, it is.

Q. And -- by the way, your -- one of your

attorneys told me that Dana Putman is no longer working for the company?

A. That's correct.

Q. And when did he leave?

A. Just a couple of months ago.

Q. Did he just retire?

A. I -- I'm not sure exactly how that -- that ended.

Q. Okay.

A. I know we reduced the workforce considerably. It went -- you know, now it's just the wollastonite operation. It's gone from about 100 people down to 27, so, you know, adjustments were -- were made in personnel all over.

Q. And how long was Dana with the company?

A. I could not say for sure. Certainly more than 20 years.

Q. Now -- and he was -- was he the vice president and general manager of the Gouverneur Talc Company?

A. Yes, he was.

Q. At the time he left?

A. Yes.

Q. And was he involved in assisting you

in dealing with the medical adviser, Brian Boehlecke, is that his name?

A. Brian Boehlecke.

Q. Boehlecke?

A. Yeah. No, he was not.

Q. Okay. Was -- were you the person that had to I guess interface with that doctor?

A. Predominantly, yes.

Q. And do you believe that it's the responsibility of the company to investigate any pulmonary condition regarding the cause of that pulmonary condition?

MR. RADCLIFFE: Object to the form.

A. Yeah. We -- I have the -- part of the medical surveillance program at the talc mine was pulmonary linked, and the purpose of that was occupational. And the purpose of occupational is to determine whether you're seeing a -- a -- you know, indications of a -- of a dust disease or a dust problem so that you can take action to correct it.

Q. Each of those four mesotheliomas listed on that Exhibit 25, they were all awarded compensation for their disease?

A. Yes, they were.

Q. And that the -- that meant that the

workers' comp board felt that it was work related.

MR. BREETZ: Objection to form.

MR. RADCLIFFE: Object to the form.

Q. Right?

A. However they explained it, but that's typically why they would make the award.

Q. And -- and -- and in essence, R. T. Vanderbilt was the employer -- were they the employer that was found to have caused the disease?

MR. RADCLIFFE: Object to the form.

Q. Or was it Gouverneur Talc Company?

MR. RADCLIFFE: Object to the form.

A. I really don't know how that would be characterized.

Q. Regardless, it's your understanding that the determination that was made with regards to these mesothelioma cases is it was work related during their work in the mining and milling operation, right?

A. It would be, yes.

Q. Okay. Now, do you know who Arthur House is?

A. No, I don't.

Q. You mentioned the E. J. Noble Hospital was in Gouverneur, New York. I have an autopsy of

Mr. House dated 1995, and I'll show it to your counsel, Exhibit 26 there.

(DEPOSITION EXHIBIT NO. 26 MARKED)

Q. And while your counsel is looking at that, do you remember being involved in dealing with OSHA back in the late '80s with regards to the issue of talc versus asbestos, talking with OSHA?

A. We were -- we were -- we interfaced with them on their standards as it pertained to definitions, things like that.

Q. And did you actually travel down to Morgantown, West Virginia, on occasion?

A. Sure.

Q. On how many times?

A. Four or five times, maybe, at most.

Q. And did you and other folks from R. T. Vanderbilt call down to OSHA from time to time?

MR. RADCLIFFE: Object to the form.

A. I don't recall ever -- I recall submitting a lot of documents into the public record. I don't recall talking on the phone.

Q. Did R. T. Vanderbilt maintain any call logs or any documentations of each of their contacts or some of their contacts with OSHA or OSHA representatives?

A. Not to my knowledge.

Q. So you've not ever been asked to look for documents relative to contacts, communications, letters, e-mails, phone calls to OSHA back in the late '80s, early '90s?

A. Well, you'd -- what I see in the files before my time and -- and even after, there will sometimes -- there will be copies of correspondence as it's linked to submissions. There will sometimes be, like all companies, internal summaries or memos. They're not routine. They may or may not be produced. And that's the sort of thing you would see, you know, in the normal course of business and --

Q. Do you have a --

A. But no formal, structured --

Q. Do you have a file on -- on this -- these OSHA communications?

A. I do have a file, yes.

Q. And where do you maintain that file?

A. In my office.

Q. How big is that file?

A. Probably -- well, let me -- let me just get a clarification. If you say correspondence, just the correspondence, it's maybe 3 or 4 inches.

Q. Okay.

A. If it's formal, you know, actual reports and submissions with attachments and all of -- and testimony, transcripts and things of that sort, it's more like maybe a half a foot or something like that.

MR. SATTERLEY: Okay. I would request copies of that, and I'll follow that up with a letter to counsel. ^(request no. 7)

Now your counsel has seen the autopsy report on Mr. House, Arthur House. He was at the E. J. Noble Hospital there in Gouverneur. And what I wanted to point out and ask you, you said you -- how -- how can we find out if he was an employee of -- of Gouverneur versus International Talc or -- or something?

A. Well, we -- we would have a -- a file, you know, with his name on it, and -- and it would have some of this -- some of the information you showed me. It would have his work area, when he was hired, probably have his application form.

Q. Mm-hmm.

A. That's typically what I see in their personnel files. So it would require calling and saying, "Do we have a record on Arthur House?" And

they would go alphabetically, you know, and -- and see if they could find it.

Q. Earlier you said to me -- when I mentioned the word "asbestosis," you said, well, sometimes asbes -- asbes -- when I said "asbestos bodies," you said sometimes they're called ferruginous bodies. Do you remember that?

A. Yes.

Q. Is ferruginous bodies, in your mind, equivalent to asbestos bodies?

MR. BREETZ: Objection to form.

A. Well, I -- I don't feel really comfortable, you know, talking about this in detail. And -- and anything I say about it I would just couch with I'm not a physician --

Q. Right.

A. -- and you need to -- I can tell you my understanding.

Q. Okay. And is your understanding -- I appreciate that, sir. Is your understanding -- is talcosis, just talc, does that cause ferruginous bodies as well?

A. It's my understanding that -- that particles, in -- including talc, which is a durable -- hangs around your body for a long time,

biodurable -- and many particles -- I'm not sure every particle, but many particles including asbestos fibers and many other particles, some of them will develop this sort of defensive mechanism where the body tries to digest it and produce this iron, you know, protein and stuff around the particle.

And those sometimes -- you know, people refer to those sometimes as asbestos bodies because earlier research was done on asbestos and this is the sort of thing they would see.

In order to know whether that part -- whether that body is actually because of an asbestos fiber, you have to go to the core of it. I mean, you have to take it out and do the core and you have to do like a mineral analysis as you would as though the mineral weren't in the tissue.

And there are -- and there are issues, as I understand it -- and again, I couch that with -- or qualify that with I'm not an M.D., but when a particle is in the body and the pHs and the acids and all of the things go, you know, whether the morphology and the characteristics of the particle are -- are not altered in -- in some way.

So there are lots of issues about adequate identification of the particles. And even

if you have particles and even if you have ferruginous bodies or asbestos bodies, which -- whatever -- however you want to call them, the next issue is so what does that mean? Because they're there does that mean the cause -- maybe it did or maybe it didn't. It's just not -- you know, association is different than causation. It's this whole problem of trying to -- so if something is there, what does that mean type -- type of thing.

Q. So I think I understand some of what you're saying. You're saying that either talc or asbestos can cause ferruginous bodies, right? It doesn't matter what you call it. It can still cause it.

MR. RADCLIFFE: Object to the form.

A. I -- that's my understanding. And not only talc, but there -- I think there are other -- other mineral particles as well. And it may depend on -- on their physiochemical properties and their size and a few other variables. But again, I'm not an expert.

Q. I understand you're not an expert.

This report right here indicates that Mr. House, he had fib -- mineral fibers, pneumoconiosis. And it says right here, "There were

some pleural plaques noted on the diaphragmatic surface."

Do you see that?

A. That's right, yes.

Q. Okay. And is it your understanding in the literature that -- that talc causes pleural plaques?

A. It is.

Q. Okay. And then it goes on to say right here that there are "rare ferruginous bodies" identified. Do you see that?

A. Yes.

Q. Okay. And that's under the microscopic description?

A. Mm-hmm.

Q. And then over here it says, "Ferruginous bodies are seen with the mineral description within the lungs. They are most common with cases of asbestosis."

Do you see that?

A. Yes.

Q. Okay. And -- so the -- the only way I could figure out this guy, Mr. House -- and he died on March the 17th, 1995 -- he's not on -- on your list there, is he?

A. 1995? I -- I don't know.
Q. So we -- we need to get his personnel file to figure out if he worked at the company, right?
A. Yeah. Joe, I -- is that a comp claim? Does it say?
Q. No. It's -- it's a medical -- it's an autopsy report.
A. Okay. See, so -- because this list would be the comp.
Q. Oh, that's just the comps. I'm sorry. I apologize.
A. That's okay.
Q. So in order to figure out if he's an employee, you can -- we can --
A. Sure.
Q. Somebody could check on that, right?
A. Yes.
Q. All right. Do you know Lance -- excuse me, Linton Hance?
A. Well, I have to say no. The name sounds a little familiar, but ...
(DEPOSITION EXHIBIT NO. 27 MARKED)
Q. I've given -- I've given to your attorneys some -- another set of medical records.

While they're looking at that, let me ask you about something else. From time to time, R. T. Vanderbilt has paid companies when they are -- when there has to be asbestos removal or abatement relating to their talc, right?

A. Well, during my time I think it -- I know of one occasion that I was involved in.

Q. Okay.

A. I don't know if there had been earlier ones. I -- I believe there were.

Q. And -- and the one that you recall, which -- which company was that?

A. Oh, the abatement company?

Q. No, no, which company client that requested R. T. Vanderbilt to pay because the talc product was determined to be asbestos --

A. Oh, I'm sorry.

Q. -- and there had to be some disposal -- handling and disposal?

MR. BREETZ: Objection to form.

MR. RADCLIFFE: Object to the form.

A. Yeah, I'm sorry.

Q. Sure.

A. I was thinking of our own plant. I'm not -- I'm not aware of any for -- for customers that

I -- none that I know of.

Q. What's Rimtech?

A. I don't know.

Q. So are you saying -- was there, for your own company, some asbestos disposal costs associated with it?

A. There were two -- there were a couple -- yeah, we -- we did a -- remember I -- I mentioned before -- I went through the plant, collected samples of insulation and things of that nature and brake pads and things that could conceivably -- you know, typically may -- may contain asbestos and sent them off to analysis to confirm whether they did or they didn't. And that was done for the purpose of determining what additional asbestos in that old plant we might want to remove.

There was a time when I worked at Vanderbilt where we also removed some talc product from a warehouse, I think it was in Syracuse, New York, because it had sat there for two decades and they weren't using it anymore. And it was removed.

MR. SATTERLEY: Are you still looking at that?

MR. BREETZ: Oh, I just --

Q. Twenty-seven was Linton Hance. He was at the E. J. Noble Hospital there, and --

A. Okay.

Q. -- they say at the bottom that --

A. Mm-hmm.

Q. -- they suspected either mesothelioma or lung cancer, I believe. Do you see that?

A. Yes.

Q. Okay. Once again, we'd have to go to your-all's records to see if he was an employee of Gouverneur Talc?

A. You would.

Q. Or International Talc, for that matter.

A. Well, I don't know if we have records of who worked for International unless they also worked for us, in which case we would see that they worked for International before.

Q. Do you recall the records indicating that when Gouverneur Talc bought International Talc they retained and kept some of the employees on with Gouverneur Talc?

MR. RADCLIFFE: Object to the form.

A. I know that they did, but I -- as -- as to the records, I've never seen it.

Q. Do you recall reading that what Gouverneur Talc did was they conducted a screening of the International Talc employees and anybody found to have any dust-related diseases wasn't hired?

MR. RADCLIFFE: Object to the form.

A. I'm not familiar with that.

Q. Not familiar with that at all?

A. No.

Q. I'll talk to Mr. Denaro about it maybe tomorrow.

The -- if I could have that back for --

A. Sure.

Q. -- just a second.

Mr. -- this is a 1996 record. (Reading) It says that there's a pleural based mass with suggestion of erosion of the chest wall and adjacent rib involvement.

You do understand or recognize that mesothelioma is a pleural mass, right?

MR. RADCLIFFE: Object to the form.

A. Well, it's a pleural tumor.

Q. Mm-hmm. Do you know this Dr. Reyes, the doctor that --

A. No, I don't.

(DEPOSITION EXHIBIT NO. 28 MARKED)

Q. Exhibit 28 is a letter from you to Alan Avrich. Do you know who that is?

A. I'll look at the letter. Oh, okay. This is that -- I mentioned to you that we removed some talc from customers' storage. I think that's what this is.

Q. The customer had some R. T. Vanderbilt Mouldene product in East Syracuse, New York, and -- and they contacted you, and you and R. T. Vanderbilt agreed to pay them or pay for the disposal of that, correct?

A. That's correct.

Q. And that was $7,500, right?

A. That's what it says.

Q. And you wrote in -- in the letter there -- and I apologize, I'm pulling it back.

A. That's okay.

Q. The first sentence, "We believe your plans to dispose of your client's unwanted Mouldene talc product as if it were an asbestos-containing material is appropriate."

A. Right.

Q. Because they were concerned that the product was asbestos, it could potentially hurt

people, right?

MR. RADCLIFFE: Object to the form.

A. Well, in the very next sentence I said, "Although this talc does not contain asbestos."

Q. Excuse me, sir. I know your personal opinion in that regard.

A. It's not an opinion.

Q. No, no, no.

A. It's what I wrote.

Q. I apologize. I said was the reason why that they were concerned about the Mouldene talc was because they were afraid it could potentially be asbestos, could potentially hurt people?

MR. BREETZ: Objection to form.

MR. RADCLIFFE: Object to the form.

A. Well, the reason for that was that for a period of time in the mid -- mid '70s, there were three or four grades of talc that came out of the mining area in Talcville. Mouldene was one of them.

And, at that time, we believed that those grades from that mining area looked like it did contain some asbestos, so we actually labeled those specific products. And then later we found that that was incorrect, that actually the material that we thought was asbestos wasn't.

Nevertheless, we did label some product, Mouldene being one of them. And I think that the bags that were stored in that warehouse actually had that label on it. And so they were concerned that with that label on it they would be better off if they just handled it as though it was and it would be a -- a better way to go about it.

Q. And you thought -- you and Mr. Vanderbilt, Mr. Fiederlein all thought that -- let's go on and pay the $7,500.

MR. RADCLIFFE: Object to the form.

A. Well, we -- we agreed to -- to take that cost, yes.

Q. Yeah. Because it would be the best approach to minimize cost, right?

A. It -- it seemed to us under these circumstances with that label on it, even though the label is incorrect and it didn't contain asbestos, it said that it did. And we knew that, as you would anticipate, anyone handling those bags would be very, and rightfully so, concerned about handling them. And so we were going to dispose of them as though they did contain asbestos because it seemed the prudent thing to do.

Q. The prudent thing to do was to dispose

of them with the proper precautions for asbestos, including bagging them, labeling them, so that folks wouldn't be exposed to the dust, right?

MR. RADCLIFFE: Object to the form.

A. To handle it as though it was an ACM material, yes.

Q. And by the way, earlier I showed you the answers to interrogatories where Mouldene was one of the R. T. Vanderbilt products sold to Georgia-Pacific, Kaiser Gypsum. Do you remember that?

MR. RADCLIFFE: Object to the form.

A. Well, I don't know whether it was or -- you showed it to me and it's there. Whatever is there is there. Again, I don't know where our products were sold.

(DEPOSITION EXHIBIT NO. 29 MARKED)

Q. And this right here, Exhibit 29, that's a memo from you to Mr. Fiederlein, a carbon copy to the president, Mr. Vanderbilt.

A. Mm-hmm.

Q. (Reading) And you say that I believe our conservative approach eliminate costs.

What do you mean by that?

A. To be honest with you, I'm not sure.

It would almost seem like it would be the other way around because it costs more to handle it as an asbestos-containing material than it would to just take it to a landfill, an un -- you know, an unregulated landfill for this.

I'm probably -- well, I'm probably thinking that if you didn't handle it that way and it had that label on it, you -- you could incur, you know, a lot of upsetment and then what -- you'd have to deal with that, no, it's not really asbestos containing, but the label says -- by the time you're done doing all of that, it probably -- it may cost you much more than if you just say, "Look, just dispose of it as though it was. Do take the safe route."

Q. You've got to hire lawyers and things like that if --

A. Yeah, you guys.

Q. So --

A. Because you got to eat, you know.

Q. You've got to get Dennis Race involved and everything else?

MR. RADCLIFFE: Object to the form.

A. Something like that.

Q. Okay.

A. But that -- yes, I did --
Q. So I understand.
A. Okay.
Q. You wanted to go ahead and just pay that $7,500 off so you don't have to face an OSHA citation, have to hire lawyers and everything else, right?
MR. RADCLIFFE: Object to the form.
Q. Isn't that true?
A. Well, you don't know.
MR. RADCLIFFE: Object to the form.
A. The potential is higher if -- if -- for that -- there is a potential for that to happen, so you -- you weigh it.
Q. So -- all right. But that's true, right? That's -- that's what you meant when you said it's -- the conservative -- to minimize cost is to avoid OSHA citations, avoid litigation, avoid lawyers, right?
MR. RADCLIFFE: Object to the form.
A. To avoid getting into this whole business of, well, why did you label it as asbestos containing when it's not.
(DEPOSITION EXHIBIT NO. 30 MARKED)
Q. Exhibit 30 is a photograph of that

Mouldene --

A. Mm-hmm.

Q. -- that somebody took when they were out there. And it shows that -- that label on it, right?

A. That's correct.

Q. And that label that R. T. Vanderbilt put on that Mouldene was on there for less than six months, correct? I mean, the labeling process.

MR. RADCLIFFE: Object to the form.

A. I don't know. I don't know how long that was -- that's never been clear to me.

Q. At some point in time in the '70s, R. T. Vanderbilt told Georgia-Pacific that its product contained asbestos, right?

MR. RADCLIFFE: Object to the form.

A. At -- at some time what year? I'm sorry.

Q. In the '70s.

A. In the '70s? Well, as it pertained to these four or five grades, if Georgia-Pacific was using those four or five grades, there's a good probability they did. I can't -- offhand, I don't know exactly, but I wouldn't be surprised. They were willing to label it when they thought they had it,

so ...

Q. Let me show you what I've marked as 31.

(DEPOSITION EXHIBIT NO. 31 MARKED)

Q. It's a letter dated January 2nd, 1975 and a technical data sheet dated August 7, 1975 from R. T. Vanderbilt. I'll show it to your attorney first.

MR. RADCLIFFE: What's your record for a number of exhibits at a deposition?

MR. SATTERLEY: About 180.

MR. RADCLIFFE: Oh, man. I object to Exhibit No. 31. Lack of authenticity. Foundation. It's argumentative.

Q. The -- this right here, this letter from -- I think I've shown this to you before -- in 1975 to Georgia-Pacific, this letter that went --

A. Okay.

Q. -- from Mr. Harvey -- was that Mr. Harvey at the bottom?

A. No.

Q. Who is it?

A. This is Pamela Morvay.

Q. Oh, Pamela Morvay.

A. Yeah.

Q. Okay. She was with R. T. Vanderbilt, though, right?

A. A secretary, I think, yeah.

Q. Okay. And she sent this letter to Georgia-Pacific indicating that those talcs, those five grades, had asbestos in it?

MR. RADCLIFFE: Object to the form. Letter speaks for itself.

MS. SCHUPBACH: Object to form.

THE REPORTER: I'm sorry.

MR. SATTERLEY: That was Rebecca Schupbach. She objected.

MS. SCHUPBACH: Just give me a continuing objection, Joe, and I won't interrupt.

Q. Do you understand the question, sir?

A. Yeah. That's what it's saying.

Q. That's what it says, right?

A. Yeah.

Q. All right. And then over there, that technical data sheet, 1975 --

A. Mm-hmm.

Q. -- what product is that for? Is that R. T. Vanderbilt product?

A. Fibertal?

Q. Yeah.

A. That would have -- I'm not sure. I -- I'm inclined to think it's -- it's fi -- fiber 1 or 2, but I don't know that for sure.

Q. Okay.

A. But I know that the typical stuff from the underground mine was not called -- we didn't use fiber. We used Nytal trade names.

Q. At the bottom of that technical data sheet, can you read that right here, what that says about that product?

A. "Fibertal carries an asbestos warning label and should be handled accordingly."

Q. Do you know how long R. T. Vanderbilt told its customers that Fibertal contained an asbestos warning label?

A. I don't -- I don't know exactly how long that was.

Q. How could we find that out?

A. Good question. I've tried to find that out myself. I think it's -- I just -- I don't want to speculate.

Q. Now, earlier I showed you a material safety data sheet from 1975. Do you remember that?

A. Yes.

Q. And in that 1975 material safety data

sheet it said "non-asbestiform, tremolite." Do you remember that?

A. I'm sorry, which MSDS was it for?

Q. For Nytal.

A. Okay.

Q. Do you remember that?

A. That's right.

Q. Pull it back out?

A. If it was for Nytal, it would say that.

Q. It says, "non-asbestiform," right?

A. That's correct.

Q. And for Nytal 99, 100, Nytal 100 HR, right?

A. That's correct.

(DEPOSITION EXHIBIT NO. 32 MARKED)

Q. In 1980, though, the material safety data sheet for the same product did not have the non-asbestiform information, true? That's a 1980 material safety data sheet, correct?

A. That's correct.

Q. And it -- if we just compare that to the 1975, somebody made the decision to take that non-asbestiform off that MSDS, right?

A. That's correct.

Q. And somebody also took -- made the decision to take out the reference to use respirator. There's no -- under the special precautions?

A. Mm-hmm.

Q. Doesn't say anything about using a respirator, right?

A. That's correct.

MR. RADCLIFFE: Object to the form.

Q. And somebody made the decision to take off it exceeds TLV. Doesn't say anything about a TLV under the special precautions, right?

A. That's correct.

Q. Instead of just saying "avoid breathing the dust," it says "do not breathe dust," right?

A. Yes.

Q. And it says, "prolonged inhalation may cause lung injury." Do you see that?

A. Correct.

Q. But it's still 1980 -- and by this point in time, between '75 and '80, Dr. Dement had already set forth his opinion about the asbestos in the R. T. Vanderbilt talc, correct?

A. He set forth his opinion, yes.

Q. But there's no question in your mind

that both Exhibit 21 and 32 are both R. T. Vanderbilt material safety data sheets.

A. That's correct.

Q. And then in 1981, I've got another material safety data sheet. I'll call it Exhibit 33.

(DEPOSITION EXHIBIT NO. 33 MARKED)

Q. That's another R. T. Vanderbilt material safety data sheet, right?

A. Yes, it is.

Q. And it doesn't say non-asbestiform, right?

A. That's right.

Q. And it doesn't say anything about using a respirator.

A. That's right.

Q. And doesn't say anything about the TLV.

A. It says "PEL."

Q. Well, it says under health hazard data "PEL," but under special precaution, does it tell folks --

A. Oh, oh, okay.

Q. -- anything about the TLV like the '75 one did?

A. No.

Q. And through your review of historical information in the company, were you able to determine who within the company made the decision to change the material safety data sheet?

A. Who specifically? No.

Q. Now, in this time frame also in the late 1970s, the Mine Safety and Health Administration advised Gouverneur Talc that its minerals were asbestos containing as well, right?

MR. RADCLIFFE: Object to the form.

A. I believe early reference was to the effect that they felt they had detected some asbestos in some air samples.

Q. George -- is it Erdran?

A. Erdman.

Q. Erdman?

A. Mm-hmm.

Q. He was the vice president and general manager of the Gouverneur Talc Company back in the late '70s, right?

A. Yes -- yes.

Q. And there was a federal inspection by Mine Safety and Health Administration way back when, and they had determined that there was anthophyllite asbestos on many of the -- the air sampling, right?

A. Well, if that's what the report said.

(DEPOSITION EXHIBIT NO. 34 MARKED)

Q. Let me show you -- well, actually there's also chrysotile there. Let me -- Exhibit 34. I'm sure Mr. Radcliffe's seen that before. If you could, take a look at the first page. It's addressed to the vice president of the company, right?

A. Right.

Q. And it's from the Mine Safety and Health Administration in Washington, D.C.?

A. Yeah.

Q. And if you flip over to the second page here, I've put a tab on it and I've highlighted it. First of all, there's chrysotile identified at 16.7 percent?

A. Yes.

Q. And then underneath there there's anthophyllite asbestos at 6.3?

A. Is that 8 -- would be 8.3.

Q. 8.3. And then -- and anthophyllite asbestos, what -- if you could go through and read me the various percentages of the various asbestos that the --

A. Mm-hmm.

Q. -- agency --

A. Well, let's see. 16.7 chrysotile, I said. 8.3 anthophyllite asbestos on one filter.

Second filter, 16.7 percent anthophyllite asbestos.

Third filter, 20 percent fibrous talc.

Q. Mm-hmm.

A. So that's not asbestos.

Fourth sample, anthophyllite asbestos, 13.3, then some fibrous talc.

9.1 anthophyllite asbestos on the -- one, two, three, four, five -- fifth cassette sample, and 33 point -- well, this -- the other two are just fibrous talc.

Q. Let me borrow this back and I want to show you one other thing and ask you about it.

Tom Rogers is identified here as someone that worked in the mine number -- No. 1 mine and mill. Do you see that name right there?

A. Right.

Q. Have you ever talked to Tom Rogers?

A. I don't know.

Q. Have you ever read his testimony, sworn testimony?

A. Again, I'm not sure. I may have.

Q. He testified I think in 2007 that at

one point the -- his manager, the manager took him out and showed him where the asbestos was located. Does that refresh your recollection about reading his testimony?

A. No. I smile because the fibrous talc looks like a vein.

Q. Of asbestos?

A. Yeah.

Q. Okay. Now, right here it says he works -- location, the 500 level. Does that mean he's five stories down?

A. 500 feet.

Q. 500 feet. Okay. Thank you very much.

And then William Fuller is another fellow -- the next fellow right here is a -- he's a mine worker as well, No. 1 mine and mill, and he's identified as a slusherman. Do you see that?

A. Yes.

Q. And you know Mr. Fuller. This would indicate he was a worker there, right?

A. Underground miner, yeah.

Q. Yeah. And it says No. 3 -- does it say stop --

A. Stope.

Q. -- stoop?

A. Stope.
Q. Stope? What does that mean?
A. That's the area in which they mine. It's like a cavern. Essentially they blast ore from the ceilings and the walls, it falls down and then they scrape it into conveyors and that's what crushed up. So that cavern gets bigger and bigger, and those caverns are called stopes.
Q. And under Charles Minckler, Minckler is identified in a No. 1 mine as a motorman trammer. Do you see that?
A. Yeah.
Q. The 700 level.
A. Mm-hmm.
Q. Over here it's got -- it says, 23.3 percent toxic fibers. Do you know what that means?
A. Toxic fibers?
Q. Toxic fibers.
A. No.
Q. Did you -- did you personally monitor Mr. Minckler for his asbestos levels at any point in time?
MR. RADCLIFFE: Object to the form.
A. Very unlikely. I probably

personally moni -- I may have personally monitored him for total dust, respirable dust, talc, that sort of thing. Not for asbestos.

Q. And -- and real quickly, what's the difference between -- how do you -- is the -- is the monitoring different for asbestos versus talc?

A. It is.

Q. And how so?

A. Well, probably easier to explain monitoring for asbestos. Monitoring for asbestos, what you're after is a fiber, okay? So it's basically collected on a filter that's similar to what you would collect for -- for talc, except that with talc when you collect it on a filter, you're -- you're taking the weight difference between the filter before you pulled the air through it and the filter after you pulled the air through it. And the difference is the amount of particulate on the filter, and it could be all particulate.

For asbestos, you will again draw air through a filter, a little bit different size, it has a little -- what's known as an extended neck on it, on the -- on the cassette, and then you're not weighing the filter at this point. You're then taking the filter and then putting it under -- after

you do a few things, to put it under a microscope and actually look at the -- at the -- at the particles on the filter and make a determination as to what those particles are.

If the particles are very elongated and fibrous by some definition -- usually 3 to 1, aspect ratio, longer than 5 micrometers -- then you would look at those particles and then you have to determine whether the ones you're looking at are actually asbestos fibers, and then you use morphological characteristics to help you to make that determination.

And then if you want to know what type of -- what the mineral type is, let's say crocidolite versus chrysotile or whatever, then you have to take it out from the light microscope or you leave it there and you do dispersion staining and put refractive index materials on it. Depending upon where the index falls, it tells the microscopist or mineralogist what type of mineral it is.

Or you can put it in an x-ray defraction type of equipment and get a -- like a fingerprint, the chemical composition of it, and that tells you what the -- what the mineral is.

So it's a bunch of steps that you can

go through. You can begin with something very simple, just look through the microscope and count and size, and you can move from there to identification with stains and look at the way the light passes through the particle and whether you've got optical continuity and you look for bundles and all that kind of stuff.

You can move to another bit of equipment that tells you the type of mineral it is, and then you can take it even further than that and go right to individual things that are -- they can't even see under the light microscope because it's not sensitive enough. So there's a whole range of things you do.

Q. I guess my point I was trying to make is monitoring for talc is different and separate than monitoring for asbestos, right?

A. Yes.

MR. SATTERLEY: Okay. Let's take a break because we need to change tapes.

THE VIDEOGRAPHER: This ends tape No. 4. We're off the record at 2:37.

(RECESS)

(DEPOSITION EXHIBIT NO. 35 MARKED)

(REPORTER'S NOTE: THE FOLLOWING

EXCHANGE WAS ON THE STENOGRAPHIC RECORD ONLY)

MR. SATTERLEY: Just to see if we can work out a stipulation on the five mesos we worked out before in Franklin, I marked as 35 to this one handwritten notes on those. You'll get a copy of it, and let -- let us know if we can -- if we can stipulate.

MR. RADCLIFFE: And right now I'm willing to stipulate that there's four workers' compensation claims which are -- the -- the data is included on the exhibit that was marked earlier, and the fifth one is a -- evidently simply a death certificate that -- that lists meso -- mesothelioma, but I've not seen that, and so I simply just need to see a copy of that and then we can agree.

(OFF THE RECORD)

(BOTH VIDEO AND STENOGRAPHIC RECORD RESUME)

THE VIDEOGRAPHER: This begins tape No. 5 in the deposition of John Kelse. We're on the record at 2:59.

(CONTINUED EXAMINATION BY MR. SATTERLEY)

Q. We were talking earlier about the vice president and general manager, George Erdman of the

Gouverneur Talc.

You have previously seen and read a letter that he'd sent to all employees regarding asbestos versus talc. Do you remember that letter?

A. I know he wrote one.

Q. Okay. And I'm reading from your testimony in June of 2006 in a case that was pending in Texas. And I'm -- the reason why I'm reading that is I don't have the letter, and I was going to request a letter.

It says, quote, "Our corporate management is determined to force the issue with NIOSH and OSHA at this time so that the confusion created by the state regulation is not pertuated."

A. "Perpetuated."

Q. "Perpetuated."

Do you remember that letter?

MR. BREETZ: Objection to form.

A. (Shakes head from side to side).

MR. BREETZ: You need to give an answer.

A. Yeah, I --

MR. SATTERLEY: Why don't I do this. Why don't I request a copy of that letter of May 27th, 1988. But I also want to -- ^(request no.

8)

MR. BREETZ: Again, Joe, just do that in a letter.

MR. SATTERLEY: Okay. (To the reporter) If you can just mark each of the places where I've requested so I don't forget.

MR. RADCLIFFE: (To the reporter) If you'll just write a letter for Joe.

Q. I think that letter is going to say, quote, "We are certain that the prospect of labeling our product as asbestos as required by OSHA regulations would lead to rapid loss of our business," end quote.

Does that refresh your recollection?

A. I would have to look at the letter. I mean, there's no reason why I wouldn't say no. I just -- I just don't -- I don't have it memorized.

Q. But you would certainly agree that anybody that would have a product that contains asbestos is pretty much doomed.

MR. RADCLIFFE: Object to the form.

A. No, I don't think I'd say that.

Q. Let me show you your sworn testimony. The question was asked on June 27th, 2006:

"Let me look at the third paragraph.

Quote, 'We are certain that the prospect of labeling our product as asbestos as required by OSHA regulations would lead to the rapid loss of our business,' end quote. Now, sir" -- directed to you -- "isn't that exactly why R. T. Vanderbilt fought so hard to get the talc out of the asbestos standard, because they wanted to sell as much as they could?"

And your answer was: "Well, certainly, anybody that would have a product that contains asbestos is pretty much doomed."

MR. RADCLIFFE: Object to the form.

A. Well, if that's what I said, that's what I had said.

Q. And do you believe that?

MR. RADCLIFFE: Object to the form. Can I see it?

MR. SATTERLEY: Just a second.

A. Well, I -- yeah, at a certain point I think I -- I would agree, but there were companies that -- that were very profitable that produced asbestos. That was their product. At one time, asbestos was a desirable thing to -- to produce. They were -- weren't doomed, although ultimately many of those companies did get basically put out of

business over -- over the -- over the real thing.

Q. Nobody --

A. So --

Q. I'm sorry.

A. Nobody would want, you know, an asbestos label -- certainly wouldn't want it if there wasn't asbestos.

Q. And -- and the reason why R. T. Vanderbilt didn't want it is because they didn't want to see their business destroyed, right?

MR. RADCLIFFE: Object to the form.

A. Well, I would say in all honesty it's a very good prospect that if you have asbestos in your product and you genuinely have it and -- and, as you should, tell people that you do and you're obligated to do that, that -- that that's going to cause concern and few -- fewer people will buy your product, if not everyone.

Q. And it's been your view that if -- if asbestos is not -- if talc is not properly removed from the asbestos standard, that it would destroy the R. T. Vanderbilt business.

MR. RADCLIFFE: Object to the form.

A. Well, it wasn't in the asbestos standard in the first place. It -- it -- what we

were concerned about was that materials that were not asbestos were being called asbestos in -- incorrectly, and that's what the issue was.

Q. The decision to have or to fight the -- well, wait a second. You said just a minute ago that it -- it was never regulated as asbestos, but it was. I mean --

A. I do not --

MR. RADCLIFFE: Object to the form.

A. No, it wasn't.

Q. From 1972 to 1990, it was -- even non-asbestiform talc, tremolite -- excuse me, non-asbestiform tremolite would be regulated asbestos. That's why you fought to try to get it changed, right?

A. No.

MR. RADCLIFFE: Object to the form.

A. We fought because that was unclear, because it was unclear. You know, if I -- if I had to ask, I would ask you to show me in the 1972 standard where it says that regulating non-asbestiform, you know, materials were -- that's not -- it's an asbestos standard. It's reasonable to assume it covers asbestos. If it's not asbestos, it wouldn't be in the asbestos standard. I don't think

that's too much of a stretch for most people to understand.

Q. With regards to the statement, though, "anybody that would have a product that contains asbestos is pretty much doomed," you stand by that statement, don't you?

MR. RADCLIFFE: Object to the form.

A. Oh, I think today I'd probably modify it a little bit, but I think I -- I would say that certainly it's not a desirable thing, especially if it's not true.

Q. But if it is true, they're doomed, right?

MR. RADCLIFFE: Object to the form.

Q. If the product is asbestos, they're doomed.

A. Oh --

MR. RADCLIFFE: Object to the form.

A. Listen, I'm not make -- you know, it was -- should -- somebody once said never make giant, sweeping statements or never say never, and it was probably inappropriate for me to it use terms like "doomed."

Q. But --

A. So today I would -- I would not say

doomed. I would say it would be difficult for them based on the history of what occurred.

Q. Robert Bacon was an R. T. Vanderbilt employee, correct?

A. Robert -- yes, yes.

Q. And Robert Bacon received from the Tile Council of America a letter dated July 18th, 1973.

(DEPOSITION EXHIBIT NO. 36 MARKED)

Q. While he's asking -- while he's looking at that, I'll talk to you about Robert Bacon a little bit more. Robert Bacon, you've seen documents to indicate that he participated in contacting Dr. Kleinfeld, for example.

A. Oh, I know he was active. And to the extent that -- that work was being done with Dr. Kleinfeld, he would have had interface.

Q. And Dr. Kleinfeld was the individual that wrote the paper -- that published the paper back in 1967 on mortality of talc miners and millers in upstate New York.

A. If that's the date, yeah.

Q. 1967?

A. Right. That's one of his earlier ones.

Q. And -- and Mr. Bacon -- the documents relative to Mr. Bacon contacting Dr. Kleinfeld, where are those documents located now?

A. Any documents that would pertain to -- to any communications between Mr. Bacon and Dr. Kleinfeld more likely I would have them than anyone else.

Q. And where -- do you keep them in a particular file?

A. I do have a file that I would look -- look at.

Q. And where is the -- where is the file -- what's the file called or what -- I mean, is it just a general file or is it --

A. Well, it's a file that I -- that I labeled correspondence, Vanderbilt correspondence. And I -- I put correspondence in some chronological order, and that's the name of the files in my office.

Q. And it goes way back to the -- what, the late '60s, early '70s?

A. Probably the earliest is early '70s.

Q. Okay. And there's correspondence in there from Bacon to Kleinfeld?

MR. RADCLIFFE: Object to the form.

A. I would have to look, but that's where

I'd have to look --

MR. SATTERLEY: And I --

A. -- if I looked.

MR. SATTERLEY: I would request a copy of that file and I'll follow that up with a letter. ^(request no. 9)

Is there -- do you also have documentation in your files regarding customers -- when customers call in to advise R. T. Vanderbilt about OSHA inspections or OSHA problems?

A. I have a file that I maintain that is a record of customer inquiries as to the composition of the talc and -- and issues -- regulatory issues that may pertain to it.

Q. And how -- how -- this customer inquiry file, how -- how big is that?

MR. RADCLIFFE: Object to the form.

A. It's -- takes up most of a file drawer because it's by year. Goes back quite a ways.

Q. And on -- in some of these customer inquiries are issues relating to the classification of asbestos versus nonasbestos addressed?

A. Some.

Q. And do -- do you have documentations where they call in where folks in-house write

memorandums or write letters or address the inquiry made from the call-in?

MR. RADCLIFFE: Object to the form.

A. Those would be the records I have.

Q. And that -- and that's one drawer in a file cabinet?

A. Yeah. Not a full drawer, but --

Q. But by year.

A. Yeah.

Q. And -- and what time frame does that span?

A. Oh, I'd have to go back and look. The way I arranged it was correspondence from the time I started with the company that I was directly involved with, so that would go back to '85. And then as I would find correspondence in folders, you know, that were like -- was like that, response to customers or inquiries that predated '85, then I would put those in a folder behind that. And so it's pretty much the way it's arranged.

Q. Have you been involved in paying expert witnesses for their time preparing for this case?

MR. RADCLIFFE: For this case?

MR. SATTERLEY: Yeah.

A. No.

Q. Do you -- as you sit here today, do you even know who the expert witnesses who have been listed in this case?

A. No, actually, I don't.

Q. Have you talked to any expert witnesses yourself about Mr. McCauley's mesothelioma?

A. No.

MR. SATTERLEY: I would request the call-in customer inquiry documents, and I'll follow that up in a letter as well. ^(request no. 10)

Oh, I was -- I showed this to your counsel already, this letter from Mr. -- to Mr. Bacon from the Tile Council of America. It's No. 36. You've seen that in the past, correct?

A. I can't say that I have, but I can't say that I haven't either. Again, I see a lot of documents.

Q. During the -- you -- I know you didn't come down to the Franklin trial, but during the Franklin trial Paul Vanderbilt acknowledged that R. T. Vanderbilt was a member of the Tile Council of America. Do you believe that to be accurate?

A. I think that's true.

Q. And Mr. Bacon at this time frame -- I

think it's '73 -- would have been an employee of R. T. Vanderbilt?

A. Yes.

Q. And if I could borrow that back real quick, I want to ask you a question about -- on the second page here there is -- Mr. Fitzgerald writes to Mr. Bacon, and he says -- regarding the asbestos regulations and its impact, if you could read what I highlighted there.

A. Mm-hmm. "Finally, there is no question that the quality of the product would suffer by any such change, making it even more difficult to compete with the lower cost of foreign imports while maintaining quality standards for the domestic industry. Thus the alternative for some American manufacturers could be economically impractical and cause them to go out of business."

Q. Was the -- the documentation that you reviewed indicate that the -- the reason why R. T. Vanderbilt fought the OSHA regulations encompassing the minerals in Gouverneur, is -- was it because of economic reasons?

MR. RADCLIFFE: Object to the form.

A. That has not been my impression as -- as a principal concern. Would it have a ramification

to that? Probably, but that is not the reason why we argued against poor science.

Q. So I understand it's -- I understand you said it's -- you believe there's poor science. And with regards to the science aspect, what science degree do you -- did you receive?

A. I just have a -- a degree in psychology.

Q. Is that a Bachelor of Arts or Bachelor of Science?

A. Bachelor of Arts.

Q. Bachelor of Arts. Okay. All right. With regards to this letter, it says, "There is no question but a domestic ceramic wall tile industry will be seriously injured if OSHA requires tremolitic talc to be classified and handled as a toxic asbestos mineral."

Do you remember seeing that?

A. That's what it says.

Q. And you agree with that, right?

MR. RADCLIFFE: Object to the form.

A. Well, let me look at that again.

Q. It's that last sentence right there before Mr. Fitz -- Fitzgerald signs it.

A. Where they would have to close down

and export and move to a foreign country?

Q. I didn't ask you about moving to a foreign country. I'm sure some companies have done that, but I asked you about the last sentence. Do you want to read it out loud and talk to me about it?

A. Yeah. "Thus" -- let's see. "Thus, there's no question but that the domestic ceramic wall tile industry will be seriously injured if OSHA requires tremolitic talc to be classified and handled as a toxic asbestos mineral."

Will be seriously injured. I would agree that it would be injured. How seriously would be a matter of opinion.

Q. Okay. So if I get this straight -- if I understand what's happened here, in 1973 the Tile Council of America was reporting to your-all's company these -- these OSHA regulations could seriously impact -- financially impact business, right?

A. The tile business.

Q. And R. T. Vanderbilt's largest customer was tile, ceramic tile -- or ceramics, right?

MR. RADCLIFFE: Object to the form.

A. I can't -- I know it was -- if not the

first, it was the second biggest.

Q. And -- and 1967, we already talked about -- the Kleinfeld article talked about the mortality of miners and millers from upstate New York. You're very familiar with that, right?

A. Yes.

Q. And so if we advance from '67 to '77 to '87 to '97 to 2007, during those 40 years, R. T. Vanderbilt continued to mine, mill, process and sell talc, right?

A. That's correct.

MR. RADCLIFFE: Object to the form.

Q. And only after four months -- three or four months after the Franklin verdict the -- the decision was made to stop doing what they've done for so many years, right?

MR. RADCLIFFE: Object to the form.

A. Well, in terms of time frame. If you're trying to draw a causal link.

Q. Okay. And in that situation -- you know the verdict in that case, right? It was five -- over $5 million --

MR. BREETZ: Objection to form.

Q. -- in punitive damages to punish the company were awarded?

MR. BREETZ: Objection to form.

MR. RADCLIFFE: Object to the form.

Q. You know that, right?

A. I guess.

MR. RADCLIFFE: Don't guess.

Q. Okay. Let me -- did you not -- did you not follow that at all?

A. I try to stick to industrial hygiene, I try to stick to the miner -- mineralogy and try to stick to the occupational health and the science end of it, not the legal end of it. I don't think the courtroom is the proper place to do science. Sorry.

Q. So no matter what the -- no matter how many times a jury determines that R. T. Vanderbilt has participated in causing somebody injury and death, that's not important to you because that's not the forum you want to address these issues.

MR. RADCLIFFE: Object to the form.

MR. BREETZ: Objection to form.

A. Yeah, I don't think I said that. I said it is very important to us, but I think it's important that -- that you get the very best data and the very most rigorous evaluation possible. I think you get that from science. You don't get it from this other venue.

Q. The -- I think we're up to 37 now here.

(DEPOSITION EXHIBIT NO. 37 MARKED)

Q. This is a letter from R. T. Vanderbilt to talc customers in 1977 stating that you -- you could not certify the product to be a nonasbestos product, right? Right?

A. I'm sorry, if you read back the question, I'd be --

Q. Sure. In 1977, R. T. Vanderbilt sent this out to its customers saying that you could no longer certify that the talc was -- did not contain asbestos, right?

A. That's what the -- that's what the notice says, yes.

Q. And -- and Dr. Morton Corn with the OSHA specifically advised R. T. Vanderbilt that they couldn't do that, they couldn't certify it's a nonasbestos-containing product.

MR. RADCLIFFE: Object to the form.

Q. Right?

A. I would have to go back and look at, you know, that group of correspondence in terms of how that was couched.

Q. Well, doesn't it say that right there?

"Dr. Morton Corn, the assistant secretary" --

A. Yeah.

Q. -- "of OSHA has contacted us and said we can no longer certify our talc as nonasbestos containing"?

MR. RADCLIFFE: Object to the form.

A. Well, it's just what the -- I can only tell you what's in this document.

Q. Okay. I would request any additional correspondence you have relating to this if you need to go back and look at something.

So if you have -- do you believe you have some additional documents relating to Dr. Morton Corn?

A. I believe that the series of correspondence that -- that is associated with this, which I think is associated with a -- an earlier decision by assistant secretary Stender and then a number of years went by and then Dr. Corn rescinded what's known as the field memorandum.

Q. Is this all a part of your 3- or 4-inch OSHA file?

A. It would be in there. It would also be in the correspondence file, so it can be in a couple of places.

Q. And so the -- when you say the correspondence, is that different than your call-in customer inquiry file?

A. Yeah.

Q. That's completely different.

A. Yeah.

MR. SATTERLEY: Okay. And I'd request both those. ^(request no. 11)

(DEPOSITION EXHIBIT NO. 38 MARKED)

Q. Let's see. Thirty-eight is a letter to Georgia-Pacific dated January 4th, 1983 from Allan Harvey. This, once again, would be a letter from R. T. Vanderbilt to one of its customers, Georgia-Pacific, correct?

A. Yes.

Q. And this was -- was this an attempt to convince Georgia-Pacific that the talc products were nonasbestos containing?

MR. RADCLIFFE: Object to the form.

MS. SCHUPBACH: Object to form.

THE REPORTER: I'm sorry, who was that on the phone?

MR. SATTERLEY: Rebecca Schupbach.

A. Looks like a report that's relaying the experience of the company as it pertains to OSHA

actions. And then it looks like, the section that you have yellowed, an announcement that the company has commissioned Tabershaw Associates to run an epidemiologic study of the miners and mill -- millers.

Q. And that's -- I'm glad you raised that point. How much did you guys pay Tabershaw to -- when you commissioned that study?

A. I don't know off the top of my head.

Q. How do I find that out? Would Denaro -- would Mr. Denaro have that information or would you have that information or somebody else?

A. I'm sure he would have it someplace. How easy it would be for him to find, I don't know. It's one of the first studies, so -- I don't think I have any records that would indicate cost, but I -- you know, I'd have to look to see. It -- it's conceivable that I might.

Q. If you could look and provide it to your counsel, I'd request that with regard to Dr. Tabershaw. ^(request no. 12)

You said it's one of the first studies. Is the first study -- you're referring to the first study that you guys paid for.

A. The first one after the NIOSH work,

yes.

Q. Okay. But, in fact, there was the earlier study from Kleinfeld back in '67, right?

A. Well, that wasn't specific to Vanderbilt, but there was an upstate New York talc workers study.

Q. Just talc workers in general, right?

A. General region.

Q. Yeah. Okay. Let me move on -- forward to Exhibit 39.

(DEPOSITION EXHIBIT NO. 39 MARKED)

Q. You're familiar with a company called D-A-P, or DAP?

A. Yes.

Q. They're a customer, correct?

A. I know they are, yes.

Q. And, in fact, did they have concerns and customer inquiry about asbestos issues?

A. Yes, they've asked about it.

Q. And did they actually go out on their own and have testing done to determine whether the material was asbestos containing?

A. I believe they did.

Q. And is Exhibit 39 a February 1984 letter where they report back that the product that

they tested, the talc product tested was 30 to 40 percent asbestos?

MR. RADCLIFFE: Object to the form.

A. That's what this letter would indicate, yeah.

Q. After -- after they determined -- let's see who they -- let's see, they had -- they had some x-ray defraction and polarized light microscopy in Dallas in their labs -- or some laboratories in Dallas on the 3X talc, IT 3X talc, right?

A. Yes.

Q. And at that time frame R. T. Vanderbilt was still selling the IT 3X talc, right?

A. Yes.

Q. And did -- do you know when R. T. Vanderbilt ceased selling the IT 3X talc?

A. I don't. I'm not sure whether they ceased selling it or changed, you know, the -- the grade name. That may also have happened.

Q. What do you mean by that, changed the grade name, just changed the name of the product?

A. Yeah. IT would -- would probably stand for International Talc, which meant that it was ore that was -- came out of the Arnold pit. And at

some point they may have changed it to a Nytal or something of that sort.

MR. RADCLIFFE: Objection. Move to strike.

Q. Did you see indi -- indications through your correspondence file of -- of where Dr. Slim Thompson, Al Harvey would have to go out and convince customers that the product was not asbestos containing?

MR. RADCLIFFE: Object to the form.

A. I know there's been a history of personnel from the company, including myself, that have visited customers to discuss the issue of whether the talc contained asbestos or not -- or not.

Q. And -- and would -- would these R. T. Vanderbilt employees, whether it be Dr. Thompson or Al Harvey, would they go out and show a film, an 18-minute film to -- to try to be sort of very impressive and impress these customers about this issue?

MR. RADCLIFFE: Object to the form.

A. Well, I -- well, I know they did, I'm sure.

Q. Okay. And, for example, in this situation after the customer DAP determined through

their own testing that the talc product was asbestos containing, Slim Thompson and Al Harvey went out and showed them the film to try to impress upon them that it's a nonasbestos situation, right?

MR. RADCLIFFE: Object to the form.

A. They would explain their understanding of what the composition of the talc was and why they believed that and show the evidence for it, and that's what they would do.

Q. By the way, the film I'm referring to is called A Matter of Fact, right? You've seen that film.

A. I have.

Q. And that's an 18-minute film put together by R. T. Vanderbilt?

A. I believe it's -- it's about that time.

Q. And does -- in the film does it show workers working in the mining and milling process?

A. It does.

Q. Does it show those workers wearing air-supplied respirators?

A. Air supplied?

Q. Sure.

A. Air -- you mean self-contained air

supplied?

Q. Well, either -- I was going to -- if -- if you said no to that, I was going to ask you about canisters, so ...

A. Well, there's a difference. I mean, air --

Q. Yeah.

A. -- air supplied is like -- is like the rescue Scott Air-Pak thing where it supplies air to you. Filtered air would be where you'd put -- it goes through a filter.

Q. Mm-hmm.

A. I -- I don't know how many years, but for many, many years the plant used what's known as Racal respirators, which are helmets with a face shield and the -- and the filter at the top of the helmet and a motor in the back that pulled the air, pushed it through the filter and the air across your face.

Q. That was a -- to suck the dust away from the workers' breathing zone?

A. Well, not --

MR. RADCLIFFE: Object to the form.

A. -- not suck it away. Capture it in the back and -- and -- and provide the -- the

cleansed filtered air across the face.

Q. I see.

A. And so it's -- it's more efficient than wearing a respirator where you have to suck the air, you know, through. But those are not self-contained.

Q. I see.

A. That's -- that's why I was confused by your question.

Q. I apologize. In the film do you know what type of respirators are depicted?

A. I believe there are both.

Q. Okay.

A. I think you would see canister and also see the helmet.

Q. And the -- it's my understanding -- correct me if I'm wrong -- that the R. T. Vanderbilt has had its workers in the mines and mills wear some type of respirator for 30, 40, 50 years or more.

A. They were required without question I think in the early '80s. During the time that I was there from '85 on, it was a requirement. Earlier than that it was less stringent, but they were available and they were encouraged to use them. And there may have been certain activities like packing

where they may have been required. Beyond that I -- I can't -- I don't know any -- anything more.

Q. The film was made, though, in the late '70s, a matter of fact, was it not?

A. I believe it was. I think that's the date.

Q. And the film, you said, had both types of respirators depicted in there?

A. It -- it did. I think actually the -- the film may -- I think it started before 1980, but I think it was like '80, '81 or so before it was ready.

Q. Did R. T. Vanderbilt tell its customers at all under what circumstances a cartridge respirator should be used as opposed to a helmet type respirator that you guys were sometimes using?

A. Well, there's what's known as, you know, NIOSH approved or appropriate respiratory protection. Either respirator is effective, so either one could be used. So when you --

Q. I'm sorry.

A. So our MSDS's -- I know earlier ones you noticed used respiratory protection. Later ones, in the late '80s and '90s, I think referenced respirators and it said, "NIOSH approved." So as long as it was approved for that type of dust it was

fine --

MR. SATTERLEY: Objection.

A. -- either --

MR. SATTERLEY: Move to strike.

A. -- either type.

MR. SATTERLEY: Nonresponsive.

I didn't ask you your opinion about which one was acceptable and which one wasn't acceptable. I said did R. T. Vanderbilt tell its customers what type of respirators should be used in any given situation?

A. Well, my answer to that was it would be a -- a NIOSH approved respirator, so they told them to that extent what type would be okay.

Q. And was that through the material safety data sheet that we went over earlier?

A. Not those that you showed me.

Q. Did -- later in time?

A. Later in time I believe we said that, yes, sir.

Q. Okay. And do you know when it was in the '80s or '90s when R. T. Vanderbilt advised customers about the type of respirator to use in specific situations?

A. Well, a NIOSH-approved respirator,

when that first appeared on the MSDS, I'd have to go back and look, but I'm pretty sure it was in the '90s.

Q. When you first went to visit the Gouverneur Talc Company when you were working for Hartford as the -- the Hartford Insurance Company, did Slim Thompson show you the film?

A. You know, I -- I don't recall. I really don't recall.

Q. Did -- did there -- was there a -- a point in time when you took samples for analysis and you decided not to send -- submit the samples to a laboratory for analysis when you worked for the insurance company?

MR. RADCLIFFE: Object to the form.

A. There was a time I took samples, and I did submit the samples to the laboratory.

Q. You didn't.

A. I did.

Q. Oh, you did.

A. I did.

Q. All right. Were there also times when you took samples and didn't submit the samples to a laboratory?

A. Not to my recollection.

(DEPOSITION EXHIBIT NO. 40 MARKED)

Q. Exhibit 40, is that a -- a -- an example of a call -- call report where in this situation DAP was concerned and -- about an issue and this report would be created?

MR. RADCLIFFE: Object to the form.

Q. I mean, that's an R. T. Vanderbilt call-in report, right?

MR. RADCLIFFE: Which question should he answer?

MR. SATTERLEY: That last question.

That's the R. T. Vanderbilt call-in report, right?

A. That's what it says, yes.

Q. Yeah. And you have -- and there's many of those in your files, right, as part of your customer inquiry files?

A. Some.

Q. Okay. And in this situation that's where Slim Thompson and Al Harvey were going to go out to convince DAP that it was asbestos free. That's what it says there, right?

MR. RADCLIFFE: Object to the form.

A. Yeah. It says Dr. Thompson, Al Harvey "to convince them that IT 3X is free of asbestos."

Q. And it references to an 18-minute movie there. That's that movie you called A Matter of Fact.

A. Yes.

Q. Okay. You can -- I'm finished with that exhibit.

A. Okay.

Q. Back to -- back to what I asked you earlier, I think you told me that Slim Thompson showed you that movie when you were working for the insurance company, Hartford Insurance Company, right?

A. Well, I said I didn't remember. He may have.

Q. And because of the conversations you had with Dr. Thompson, you decided that you weren't even going to try to analyze the fibers that you collect from -- from the facility.

A. That's correct. That was a decision that we made that we felt that the mineralogical issues and the identification issues were beyond the capabilities of Hartford in our lab. So the samples, when I took them, were analyzed for total dust, respirable dust, that's what the lab did. But they didn't analyze them for asbestos.

Q. But in the past you had done dust

sampling for asbestos and been able to find it, correct, the laboratory?

MR. RADCLIFFE: Object to the form.

A. I don't recall doing that for Vanderbilt. I have done it for -- I did it for other companies.

Q. For other companies the lab -- laboratory utilized at Hartford was able to analyze it and determine whether it was asbestos, correct?

MR. RADCLIFFE: Object to the form.

A. For other companies where the -- where the complexity wasn't that -- where you knew that that's what you were sampling for, and that's a material versus a complex environment like that talc mine where it's too complicated a mineral issue for that laboratory to handle.

Q. So you, as an insurer -- industrial hygienist for the insurer, talked to the employee, Dr. Thompson. And between you and he, you decided it was probably best that you not try to analyze the fibers for their chemical and structural makeup.

A. Well, I recommended that within the Hartford, and that was the general agreement, that the issues were too complicated and beyond the -- the range of the laboratory.

Q. And so did there come a point in time -- at any point in time when you remained at Hartford Insurance Company, did you take samples and have them analyzed in any laboratory at Gouverneur Talc for their structural makeup?

A. As -- oh, to determine whether they were --

Q. Asbestos, yeah.

A. -- asbestos or not?

Q. Yeah.

MR. RADCLIFFE: Object to the form.

A. At Hartford, I don't recall doing that. We did read the various reports. I remember reading the NIOSH data, so forth.

Q. I understand that. But as far as you actually taking samples, sending them to your laboratory, have them analyzed and say this is asbestos versus nonasbestos, you didn't do that when you were at Hartford Insurance Company.

A. No, we -- we would not do that.

Q. And these call-in reports was -- or these call reports, were they a part of -- what department were they a part of? Were they a part of the sales department, risk management department, or some other department?

A. Well, this form that you call it -- it says a call report, this is a typical report that would come from field sales. This is not something that I would complete.

Q. And the field sales would complete it and send it in because the customer had an inquiry or complaint or an issue?

A. That's correct.

Q. So, for example, is that someone J. F. McCarthy?

A. Yeah. I don't recognize his name.

Q. But it's listed right there, correct?

A. Correct.

Q. And it's got a distribution to sales manager and R & D?

A. Right.

Q. And the R & D is listed as Allan Harvey and Slim Thompson, right?

A. That's correct. So if the salesman was in the field talking to a customer, customer had an issue, say, with an application, that may be recorded by the salesman and sent to research and development to help the person with the application. In this case it was an issue because they were concerned about asbestos, so it would be routed to

someone who, you know, could respond to that inquiry.

(DEPOSITION EXHIBIT NO. 41 MARKED)

Q. I do I have one more call-in -- or call report.

MR. RADCLIFFE: I thought you were going to say one more exhibit. Just teasing.

Q. That's just another example of a call report from --

A. Same guy.

Q. DAP -- from McCarthy, the salesperson, about DAP?

MR. RADCLIFFE: Can you show me where it says --

MR. SATTERLEY: Well, that's the full name --

MR. RADCLIFFE: Okay.

MR. SATTERLEY: -- D-A-P.

MR. RADCLIFFE: Got it.

MR. SATTERLEY: I just can't pronounce all those words. Too big for me.

MR. BREETZ: I'm surprised he got DAP.

Q. That's another example of a call report?

A. Yes.

Q. And it says, (Reading) Decided no more

pussy footing on this, so I asked her if it pertains to OSHA asbestos dust standards to which she had to admit, qualifying that it is only a temporary stop -- stoppage in usage -- in use of IT 3X while they investigate for asbestos in our IT 3X.

And if we simply compare, that is -- that's the wrong one. Compare 39 to 41, this is dated November of '83 and this is February '84, right?

A. Yes.

Q. So what -- what happened was they -- they stopped buying -- or wanted to stop buying and -- until they tested it themselves. They tested it themselves, and according to their test confirmed 30 to 40 percent asbestos.

MR. RADCLIFFE: Object to the form.

Q. Right?

A. That's what their letter says.

Q. Now, you told me earlier that the International mine -- or excuse me, International Talc Company when it was purchased by R. T. Vanderbilt, that there was a mine in Talcville area?

A. Correct.

Q. And do you remember which mine that

was? Let me show you a map that I'm going to mark as 42.

(DEPOSITION EXHIBIT NO. 42 MARKED).

Q. And -- are you able to tell me -- that -- you recognize that that's generally the -- the region where the -- some of the mines are, right?

A. Yes.

Q. And I've highlighted the Arnold pit and -- do you see that?

A. Yes.

Q. And are you able to -- why don't you take my highlighter and highlight all the other mines or -- that R. T. Vanderbilt -- first of all, the ones they acquired from International Talc. Where are they located?

MR. RADCLIFFE: Just for the record, there's already some highlighting on this document.

Q. Yeah, I -- the Arnold -- the Arnold pit I highlighted.

A. Right here.

Q. That's right.

A. And I mentioned Talcville which is indicated here.

Q. All right. Highlight that.

A. And I told you that I wasn't sure

about any of the others, so that information I'm sure can be -- but these are the only mines that Vanderbilt mined, took ore from, was owned by International, to the best of my knowledge.

Q. Are there any other mines on this map that R. T. Vanderbilt or Gouverneur Talc had in the past?

A. And closed and walked away from?

Q. Sure.

A. No. Only the underground mine that we closed in 1995. And the Talcville mine that was closed in, I don't know when it was, '76, '77, something like that.

Q. Okay. The -- the reason why some of the other scientists, the mineralogists and -- have indicated that they are of the view that minerals from the Gouverneur Talc mine is not asbestos is because they're cleavage fragments, correct?

MR. RADCLIFFE: Object to the form.

A. That's usually the reason. There -- there's more than one reason. That's the typical one.

Q. Because -- is -- the minerals from the Gouverneur Talc Company, are they fibrous?

MR. RADCLIFFE: Object to the form.

A. Some mineral components like the mineral talc itself can form in a fi -- fibrous habit. And then to a lesser extent there's actually particles that are transitioning between one type of mineral to another. They're called transitionals, or mixed. Both of those, talc fiber and tran -- and transitionals, can be pretty -- can be highly fibrous, which means very long and -- and thin as opposed to typical cleavage fragments which also can be elongated, 3 to 1 and longer than 5, but they -- or very -- or most often blocky and prismatic.

Q. You will --

A. There's a range of types of minerals and there's a range of morphologies.

Q. You will agree that there's asbestiform talc present in the ore department in Gouverneur Talc?

MR. RADCLIFFE: Object to the form.

A. Well, it's my understanding that a trace amount of the -- some of the talc fiber, not all of it, but some of it can be improperly -- is properly described as asbestiform.

Q. Do you have documents regarding copies of -- of labels on bags of R. T. Vanderbilt or Gouverneur Talc products?

A. There are undoubtedly some. How extensive it is, how far back they go, I -- I don't know.

MR. SATTERLEY: I would request copies of any labels or photos of bags with any labels on the R. T. Vanderbilt products. And I'll follow that up with a letter ^(request No. 13)

Other than this map -- the color map I showed at the beginning that --

A. Yeah.

Q. -- counsel didn't know whether it was accurate or not and this map I've just shown you, do you have other maps of the mining locations in the Balmat, New York area?

A. There are other maps.

Q. And how many?

A. I don't know. They're in the -- in the minerals research, there are geological maps. There's maps --

Q. That --

A. -- in the literature, there's maps --

Q. No, that you hold. That you -- not just out there.

A. Oh, that I hold?

Q. Not -- I don't want to go to Mapquest.

I'm --

A. This is probably about as -- as detailed a map as I would need and that's about it.

Q. But -- okay. You don't have any additional maps regarding the various mines or anything like that?

A. In my office, my possession, no.

Q. I think I've already asked, but I just want to make sure. The underlying data pertaining to Honda study, we've talked about that already, correct?

A. Yes.

Q. Okay. And I've requested that.

Do you have any analytical reports pertaining to Gouverneur Talc Company's analysis of dust risk from the Nytal products?

MR. RADCLIFFE: Object to the form.

A. The answer to the question would be no.

Q. Do you have within your customer inquiry communications between U. S. Gypsum and R. T. Vanderbilt?

A. I believe. I would have to check, but if there was --

Q. I would re --

A. -- some during my time, they -- they certainly would be there.

MR. SATTERLEY: I would request any customer communication between U.S. Gypsum, Georgia-Pacific, Kaiser Gypsum, Bondex and National Gypsum. ^(request no. 14)

Now, Hugh Vanderbilt was the president of -- Hugh Vanderbilt, Sr., was the president of the company way back in 1975, correct?

A. Yes.

(DEPOSITION EXHIBIT NO. 43 MARKED)

Q. I just want to show you -- this is a letter from Johns Manville to Hugh Vanderbilt Exhibit 43. That is a -- a letter he -- that's part of your-all's files, correct?

MR. BREETZ: Objection to form.

A. Yes.

Q. Okay. And I'm not going to go through the content of it just in the interest of time.

(DEPOSITION EXHIBIT NO. 44 MARKED)

Q. One other article I want to show you -- we'll mark as 44 -- is the 1943 paper called The Dust Hazard in Tremolite Talc Mining, Including -- how do you say that word?

A. Boy, that is a mouthful.

Q. Mr. Radcliffe's better --
A. Rotogenological.
MR. RADCLIFFE: Roentgenological.
MR. LONG: Roentgenological.
Q. Okay.
A. Roentgen -- oh, okay. So it's x-rays.
Q. X -- I know it's x-rays, but I didn't want to say the big word. I knew it meant x-ray, but I didn't want to --
A. Well, I had the same problem.
Q. I didn't want to get -- stand corrected or get an objection to the --
MR. RADCLIFFE: So I was going to object because you couldn't pronounce it. Is that what you're saying?
A. Wouldn't be the only word I can't pronounce.
MR. RADCLIFFE: If you can't pronounce it, you can't ask questions about it?
Q. This -- okay. This is -- is -- that's -- is -- the author, is it -- who is that?
A. William Siegal.
Q. Is it Greenburg also?
A. It is, yeah.
Q. Leonard Greenburg?

A. Mm-hmm.

Q. And have -- you've seen this paper before, have you not?

A. I -- I have, yes.

Q. And I did want to just ask you about a couple of things. It says, "Tremolite, which is a calcium magnesium silicate, changes over to talc. It may be mined with it and subsequently ground and sold as talc."

You agree with that, right?

A. I don't know that I -- that I do. Again, that's a question you should save for a mineral expert.

Q. It says on this page, January 1943, "From a survey of the literature, it appears that while experimental studies have here to" -- "hitherto been inconclusive, clinical studies have tended to indicate that talc dust is capable of producing injurous" -- "injurious pulmonary changes."

Do you see that?

A. Yes.

Q. And you agree with that.

A. I do agree with that.

Q. It says, "Type of Talc Involved" on the next page. "The type of talc produced in

St. Lawrence County" -- is that the county that we've been talking about?

A. Yes.

Q. -- "is of the fibrous variety known as Asbestine."

Do you see that?

A. Yes.

Q. And you agree with that, right?

MR. RADCLIFFE: Object to the form.

Q. It's the fibrous variety known as Asbestine.

MR. RADCLIFFE: Object to the form.

A. Well, Asbestine is a -- is a product name.

Q. Okay.

A. It's not a mineral.

Q. "It is noted for its clear whiteness and is used chiefly as the ingredient in the manufacture of paint and tile. With it is found tremolite, calcium magnesium silicate, a similar appearing mineral occurring in a fibrous or asbestiform state which in the course of time changes over to talc."

Do you see that?

A. Mm-hmm.

Q. "Gardner" --
A. Yes.
Q. -- "reports that anthophyllite, another fibrous silicate, is present in the talc deposits of St. Lawrence County region."
Do you see that?
A. Yes.
Q. And you agree with that, correct?
MR. RADCLIFFE: Object to the form.
A. That's the transitional type phase that I was talking about, yes.
Q. That anthophyllite is present, correct?
A. Not asbestiform anthophyllite. And the -- and the transitionals are -- are believed to be more transitioning from anthophyllite to talc.
Q. Way back in 1943 the conclusion, I guess, or towards the end here -- let me see if I can find it. Oh, here it is. (Reading) Conclusions: The study identifies tremolite talc as a silicate dust capable, like asbestos, of causing a disabling pneumoconiosis. It reveals distinctive pathological findings associated with exposure to tremolite talc dust which -- something -- postulate a special etiology for resulting disease. There is also

evidence that tremolite talc fibrosis is associated with increased susceptibility to turcu -- tuberculosis.

A. Tuberculosis.

Q. "In the light of these findings, exposure to tremolite talc dust must be considered to constitute a definite industrial hazard requiring control of dust by suitable engineering methods."

Do you see that?

A. Yes.

Q. And that was 1943, right?

A. Yes.

MR. SATTERLEY: Do we need to change tapes?

THE VIDEOGRAPHER: Yeah.

MR. SATTERLEY: Yeah, let's change tapes.

THE VIDEOGRAPHER: This ends tape No. 5. We're off the record at 3:55.

(RECESS)

THE VIDEOGRAPHER: This begins tape No. 6 in the deposition of John Kelse. We're on the record at 4:07.

(CONTINUED EXAMINATION BY MR. SATTERLEY)

Q. I want to ask you about some payments

that you've made -- or R. T. Vanderbilt has made. You already told us about the Honda study was roughly $200,000. John Addison study. How much did R. T. Vanderbilt pay John Addison to advise R. T. Vanderbilt?

MR. RADCLIFFE: Object to the form.

Q. Have they -- have you guys hired John Addison in the past?

A. We have retained him.

Q. You have?

A. Yeah.

Q. And how much have -- have you guys paid him?

A. What would -- what's the project?

Q. Oh, I don't know. Just in general.

A. I don't know offhand what, you know, we paid him. I would -- you know, some records I could check that. Not a whole lot.

Q. Are you the person that would be a point of contact with John Addison for payment purposes from R. T. Vanderbilt?

A. Well, it depends on the -- you know, if it -- if it's a project, you know, to -- to advise us on -- on his impressions of the study or to do analytical work or something of that sort, I would

be -- more likely be the guy than anyone else to ask him to do that. And then I would get a bill and send it over to finance.

Q. And who in finance would -- would pay that? Would that be --

A. That would be whoever does it in finance.

Q. Denaro's people?

A. Denaro would oversee that.

Q. Cathy Skinner, I know R. T. Vanderbilt did engage her as a minerals researcher to support the Wylie-Mossman self-study, correct?

A. That's correct.

MR. RADCLIFFE: Object to the form.

Q. Has R. T. Vanderbilt engaged her to do any additional studies?

A. No, I -- I don't -- no, I don't believe we have. I think that was the last one. I believe that's true.

Q. Do you know how much R. T. Vanderbilt paid Cathy Skinner to do this research?

A. No, I would have to re -- research that.

Q. Ann Wylie, you've paid Ann Wylie, obviously.

A. Yeah.

Q. And I may go through some of the invoices with you in a little bit.

John Gamble study -- or John Gamble's research. Have you paid -- has R. T. Vanderbilt paid John Gamble?

A. The only thing that we paid John Gamble for was to participate in an NTP review. Certainly didn't pay -- we didn't -- were not involved in his case control study if that's what you're asking about.

Q. Well, the case control study occurred when? Was that when he was at OSHA?

A. I think he was still in NIOSH.

Q. Or NIOSH, I'm sorry. He was at NIOSH in Morgantown?

A. I believe so.

Q. And so the payment -- excuse me, the payment to John Gamble, you have paid for him to be -- serve as an expert witness, right?

A. I haven't.

Q. R. T. Vanderbilt?

A. I -- yeah, I think he is -- is being deposed.

Q. And so who would I talk -- should I

talk to Denaro about that, Mr. Denaro?

A. Yeah, I don't know how the finances work, you know, for the cases or ...

Q. Dennis Race, Mr. Reger, Al Harvey, all went down to see Dr. Gamble when he was in Morgantown back in the '80s, correct?

A. I believe so, yes, sir.

Q. And what -- there was a report on the ethical and legal investigation regarding that matter, correct?

A. That's right.

Q. And you've seen that report, right?

A. Yes.

Q. And do you know that -- what the conclusions of that investigation was?

A. Well, as I recall, they had several issues. One of them was whether or not the company had inappropriately influenced the researchers by, you know, giving them money or something. And the bottom -- bottom line was I think we bought them a -- lunch, a tuna sandwich, and I transported them in my car from the airport to the plant.

Q. Oh, you -- you -- you didn't go down there, but you took them to the plant?

A. Yeah. I drive by it, so I picked --

picked them up at the airport and took them up.

Q. And you wrote letters back at the time to John Gamble when he was with NIOSH?

A. Right.

Q. And so ultimately did they determine whether there was an ethical issue with regards to your-all's conduct -- contact with Dr. Gamble?

A. I think at the end of the day they -- they basically felt that the pro -- internal procedures that NIOSH had about notification and timelines and things of that sort had not been -- protocols that they had in place had not been followed. I know there's some debate about whether they were or they weren't, but that, I think, was the conclusion of the -- of the -- of the investigation.

Q. It says, "Based upon the inappropriate actions in the course of pursuing the studies of workers employed by R. T. Vanderbilt, appropriate disciplinary action is being taken."

Do you remember what that disciplinary action was?

MR. RADCLIFFE: Object to the form.

A. I don't.

Q. Did -- did R. T. Vanderbilt, you or anybody else, get disciplined at all by the

government for the inappropriate action?

MR. RADCLIFFE: Object to the form.

A. No, not at all. Well, there was -- I don't think there was any inappropriate action, but there was no discipline.

Q. Well, the -- the summary report dated August 11th, 1988 determined there was inappropriate action, right?

A. But I think you said --

MR. RADCLIFFE: Object to the form.

A. -- did you or Vanderbilt ever get.

Q. No, no, I understand that. So the inappropriate action was not Vanderbilt, it was Dr. Gamble?

MR. RADCLIFFE: Object to the form.

A. Well, it was whatever investigators were in Morgantown that they felt had not acted appropriately based on their protocols.

Q. And so it was an internal investigation about the -- Dr. Gamble, and he was determined -- it was determined that there was in -- some inappropriate action that -- that occurred.

MR. RADCLIFFE: Object to the form.

Q. Fair?

A. Well, I think that's what the general

conclusion was, something along that line.

Q. And Mr. Reger, he also traveled from Norwalk, Connecticut, down to Morgantown?

A. Well, it was before my time, but I -- I believe the report did say that.

MR. SATTERLEY: And is he the fellow I'm going to talk to tomorrow?

MR. RADCLIFFE: You're going to speak with Konrad Rieger tomorrow.

MR. SATTERLEY: Okay. I'll talk with him about that.

The agreement to fund the research that serves as the Honda study, is that the University of Alabama-Birmingham agreement?

A. Yes, it is.

MR. BREETZ: Joe, can I see 43?

MR. SATTERLEY: It's not marked as an exhibit to this deposition. That's from the Franklin trial.

MR. BREETZ: Oh, okay.

Q. And that was entered on May the 5th -- excuse me, May the 7th, 1991?

A. Yes.

Q. And who signed off for R. T. Vanderbilt?

A. That's Hugh Vanderbilt's signature.
Q. The CEO.
A. Yes.
Q. And John Walker, he's the vice president there at Alabama?
A. I don't know. Whatever the title said.
Q. So was the $200,000 paid to Alabama, to University of Alabama-Birmingham?
A. It was, and then, again, you know, there were several payments. There was a couple hundred thousand for the basic study, and then I -- I think there was some more later, a number of years later, you know, to -- to basically work on the manuscript for publication. That also cost some additional money.
Q. Allen Gibbs over there in the United Kingdom, you -- you've paid him money for working on the talc litigation, correct?
A. I have not.
Q. Really? Is that not your, "Okay to pay, bill is for work, review paper linked to project with Bob Nolan"?
A. Oh, okay. That was a review of the Hull paper, I think.

Q. Okay. And Bob Nolan, you paid money to him as well, right?

A. Yes.

Q. Do you know in the Franklin case whether Bob Nolan did a tissue digestion study?

A. I don't recall whether he did or didn't.

Q. Because Dr. Rubin testified that he sent the material off to be reviewed and he never got -- heard back from Bob Nolan.

Do you know whether Bob Nolan has buried the results of testing that he's done?

MR. RADCLIFFE: Object to the form.

A. I don't know that he's done any testing, so ...

Q. Do you continue to consult with Bob Nolan?

A. I speak to him periodically.

Q. And does he con -- continue to submit invoices and bills to R. T. Vanderbilt?

A. I don't think there are any outstanding.

Q. Does he continue to serve as an expert witness?

A. Not on my account. That's not my

decision.

Q. Here's another one. This Catherine Skinner, $17,000.

A. Mm-hmm, yeah. That's linked to the bioassay, that's the Wylie-Mossman study.

Q. And in addition you paid for a graduate student to receive $8,000 in monthly installments --

A. Right.

Q. -- correct?

A. To do the -- I think it was particle sizing in the laboratory.

Q. And miscellaneous cost of two to three thousand dollars, correct?

A. Whatever their bills were to get that work done.

Q. And -- and you -- when you wrote to Skinner, you carbon copied D. M. Race, that's Dennis Race, right?

A. That's correct.

Q. C. S. Thompson?

A. Yes.

Q. And Gus Fiederlein, right?

A. That's right.

Q. You've got to keep -- you've got to

keep Mr. Race involved in -- in what's going on with your experts, right?

A. Well, I've kept Dennis Race involved in whatever has gone on on the issue of talc, its mineralogy, health studies in general. Regulatory, scientific, all -- all areas, not just legal.

Q. And -- and he was involved and then participated and actually went down with all -- all of you down to the hearings, the 1990 hearings on the classification of minerals, correct?

A. On the issue of whether to regulate non-asbestiform minerals in the --

Q. Sure.

A. -- same standard --

Q. Sure.

A. -- he did.

Q. He testified, did he not?

A. Briefly, yes.

Q. John Gamble. This is a payment of $6,600 in 2000 for a presentation to the NTP subcommittee on carcinogens. What's that?

A. Right. That's what I mentioned to you before, the National Toxicology Program.

Q. Mm-hmm.

A. They evaluate various substances as to

their carcinogenic potential. It's -- it's like IARC, if you're familiar with them.

Q. Dr. Langer's Environmental Sciences Laboratory. R. T. Vanderbilt has paid money to him, true?

A. Yes. He's done analysis of the talc over the years.

Q. For example, August of 2004, $5,000; September 2004, $5,000; April 2005, $5,000; November 2004, $5,000. Those were all payments made to Environmental Sciences Laboratory, right?

A. Yes, if that's what the bills are for.

Q. And that would be Dr. Langer there in New York City, right?

A. He or the group that he's associated with.

Q. And there's a whole bunch of checks written to Ann Wylie. You've seen those in the past, correct?

A. Well, I know there would be checks written to her, yes.

Q. University of Maryland, $16,750. That's for work Ann Wylie was doing, right?

MR. RADCLIFFE: Object to the form.

A. Was either doing or overseeing.

Q. So, for example, here's the budget and -- and Ann Wylie, one month, $6,000; graduate student research, $2,500; fringe benefits; and then a whole bunch of supplies there, correct?

A. I'm sorry. Yeah, and then -- right. Then any analytical instrumentation costs probably per hour, something like that.

Q. And then overhead, 46 percent of direct cost, 7,406, total $23,506, right?

A. 1992 through 1994, yeah. That's probably the grad student project on talc fiber.

Q. R. J. Lee. You've okayed and -- many different invoices to R. J. Lee for work for R. T. Vanderbilt, correct?

A. Over the years, sure.

Q. This is just one example of one for $5,546.

MR. RADCLIFFE: Is this marked as an exhibit? I'm sorry to interrupt you.

MR. SATTERLEY: No.

MR. RADCLIFFE: Are you going to mark it as one?

MR. SATTERLEY: No.

"Okay to pay, John Kelse, 4-5-07."

A. Right.

MR. SATTERLEY: Just -- if you want to know what it is, this is John Kelse's affidavit in the Franklin case, just attachments.

MR. RADCLIFFE: Thank you.

MR. SATTERLEY: I just haven't had a chance to ask him about it, I don't think.

Here's another one, R. J. Lee, $16,412.

A. Right.

Q. That was for him to analyze the Donald Durham water putty and the Nytal 3X French.

Have you ever sat down to try to figure out -- well, here's one for $22,872 to R. J. Lee.

A. Yes.

Q. Okay. Have you ever sat down and tried to figure out how much money R. T. Vanderbilt has spent on all these scientists to assist them in litigation?

MR. RADCLIFFE: Object to the form.

A. I've made some general estimates, but I've never sat down and really rigorous -- rigorously gone through it, so it would be difficult to --

Q. What's your general estimate?

A. Oh, I have -- you know, I really

hesitate to speculate like that, but --

MR. RADCLIFFE: Don't speculate.

Q. Well, what's --

A. Okay, then I won't.

Q. -- your general estimate?

A. Over a span of 30, 40 years.

Q. Is that how long you've been paying experts to assist you with the asbestos talc issue --

MR. RADCLIFFE: Object to the form.

Q. -- 30 to 40 years?

MR. RADCLIFFE: Object to the form.

A. Well, we've -- we've paid for assorted studies, both in the health end of it as well as the mineralogic end of it. And both of those areas require high levels of expertise. Nobody does these things for free. If you know someone who does, let me know. And so the overall costs are probably -- with all of that work, with all the health studies, with all the mineral analysis, I wouldn't be surprised if it was probably half a million.

Q. Or more.

A. Or more.

MR. RADCLIFFE: Object to the form.

A. Or a little more.

Q. Who is Degenhart Environmental of

Manassas, Virginia?

A. He -- Manassas is a satellite office of R. J. Lee, and Tom Degenhart was the manager of that office.

Q. Do you -- does R. T. Vanderbilt keep track of how much money it spends on these projects, these talc asbestos projects?

A. Well, the data that I provided there would be my answer to that. I mean, that's what I know as far as the records. I tried to pull them together.

Q. When you pulled these records together, did you talk to Denaro, Mr. Denaro?

A. I believe I did, actually.

Q. Did he provide you with any documents?

A. I don't recall him providing me certainly with anything that was substantive in terms of more than what I already had a copy in my own file for it.

MR. SATTERLEY: Are we up to 45?

THE REPORTER: Mm-hmm.

(DEPOSITION EXHIBIT NO. 45 MARKED)

Q. Ralph J. Brown. Was he an employee of -- of R. T. Vanderbilt or Gouverneur Talc?

A. The name's not familiar to me.

Q. In 1974 -- I have his autopsy report. It says, (Reading) This patient is said to have worked for many years in a talc factory. This explains the ferruginous bodies and the asteroid bodies seen in large numbers in his lungs. The ferruginous bodies, also known as asbestos body, is not specific for asbestosis. Tremolite is known to form asbestos-like bodies and induce interstitial fibrosis.

And I would ask you once again, we would find out if Ralph Brown is an employee of your company through searching the records?

A. Yeah.

MR. RADCLIFFE: Object to the form.

Q. Now, you said earlier that you did not know whether R. T. Vanderbilt had a policy in place due to when they -- when they bought International Talc, whether to not hire people that already had dust-related diseases. That's -- you have no knowledge of that whatsoever.

A. Well, my -- you know, my recollection is that when they bought International Talc, everything -- everyone was let go. There was no, you know, just transfer. And then there was -- some people were hired who happened to have worked there

before, so there was -- they -- they split. It was -- it wasn't just a move from one thing to the other.

Q. And the -- do you recall seeing the documentation that R. T. Vanderbilt would not rehire anybody with a -- any type of dust-related disease?

MR. RADCLIFFE: Object to the form.

A. I do not recall seeing any documentation. I do know that the company had preemployment evaluations, that that was a standard practice for us and most of the industry.

Q. Do you know Joseph G. Medicus -- excuse me, no, this -- I apologize. I've already covered that one. It's a -- he's a referee. Strike that question.

Do you know Charles For -- Forsyth?

A. That name sounds familiar.

Q. Charles Forsyth is a -- a former Gouverneur employee, correct?

A. I would have to check it. The name sounds familiar.

Q. And I want to show you a 1997 autopsy report where he's diagnosed with asbestosis and talcosis, pleural plaques.

THE REPORTER: Is that 47?

MR. SATTERLEY: Is that 46 or 47? Forty-six.

MR. RADCLIFFE: This is 46.

MR. SATTERLEY: Forty-six.

(DEPOSITION EXHIBIT NO. 46 MARKED)

Q. And you said -- it says right there he's got asbestosis. Do you see that?

MR. RADCLIFFE: Object to the form.

A. Asbestosis and talcosis.

Q. Okay. And you -- you -- it's your understanding or belief that Charles Forsyth was an employee of Gouverneur Talc, correct?

MR. RADCLIFFE: Object to the form.

A. I would have to check, but the name is pretty familiar. I think he is.

Q. If you could check and let us know his employment history, that would be great. ^(request no. 15)

(DEPOSITION EXHIBIT NO. 47 MARKED)

Q. Forty-seven is Lester Merritt. Lester Merritt work in the talc -- talc -- the -- the company that you worked for, Gouverneur Talc Company?

MR. RADCLIFFE: Object to the form.

Q. Or R. T. Vanderbilt?

A. That name's not familiar to me, so I'd

have to -- that would be another you'd have to check.

MR. RADCLIFFE: I'm going to object to Exhibit 47. Appears to be more than one document.

Q. Let's see --

MR. RADCLIFFE: No foundation.

Q. Let's see, Lester Merritt. Yes, you're right. There is a -- there appears to be a discharge summary hospital record regarding Mr. Merritt. It says he works for 23 years in the talc mines at Gouverneur, New York.

A. Well, that -- that's not specific to Gouverneur Talc.

Q. What's the date of that document?

A. This document -- well, it says, "Discharged 7-26-82."

Q. And what was his diagnosis upon discharge?

A. "Discharge diagnosis, pulmonary asbestosis."

Q. And if you could flip it over, is there another highlighted section on the next page?

A. "Discharge diagnosis." It says "asbestosis."

Q. And flip it over to the next page and what's the diagnosis? Or what have I -- what have I

highlighted?

A. Right. (Reading) This revealed interstitial fibrosis with organizing ferruginous pleuritis and ferruginous bodies consistent with asbestosis.

Q. And like you said, we would have to go back to the personnel records to see if he worked at Gouverneur Talc or International Talc or --

A. Or what his old work history was.

Q. Okay, thank you. Let's see, we're going to 48. Murray Baker. You definitely know Murray Baker was a Gouverneur Talc employee, correct?

MR. RADCLIFFE: Object to the form.

A. That's another name that sounds familiar. But again, unless it says right on the -- in the documentation, that would have to be checked too.

(DEPOSITION EXHIBIT NO. 48 MARKED)

Q. Exhibit 48 is Murray Baker. I'll show it to your attorney first.

Does it indicate that he was diagnosed with asbestosis as well?

A. Asbestosis is listed along with talcosis, yes.

Q. And that's listed as an autopsy

report, correct?

A. Pathology department.

Q. Does it say "autopsy report" at the top?

A. At the top it does.

Q. And you could check to see if Murray Baker is an employee of Gouverneur Talc, correct? You could do that for us? ^(request no. 16)

A. Oh, we would. Sure, sure.

Q. All right.

A. Hopefully we'll have like a list of these names.

(DEPOSITION EXHIBIT NO. 49 MARKED).

Q. Forty-nine is Norman Palmer. Do you know Norman Palmer?

A. No.

Q. He spent 27 years exposed to talc?

A. Again, that's not a -- that name's not familiar to me.

Q. I'll show it to your counsel. Community General Hospital, Greater Syracuse. That's in upstate New York, right?

A. It's about 90 miles to the south of the Gouverneur region.

MR. RADCLIFFE: I'm going to object.

It's more than one document. No foundation.

Q. If you could, this 1977 document, does it indicate whether he has asbestosis as well?

A. "Ferruginous bodies consistent with asbestos fibers."

Q. Second page, does it indicate how many years he spent in the talc industry?

A. It says he has "at least 27 years of exposure to talc dust."

Q. Does it indicate whether or not he has asbestosis?

A. It says, "and has a lung biopsy which shows asbestos fibers."

Q. And what about the third page? Did it mention anything about asbestos?

A. "Respiratory insufficiency predicated on exposure to asbestos." So it sort of goes from consistent to it is.

Q. Okay. And that is -- I think I marked that as 49, correct?

A. That's right.

Q. And you can check to see if he was an employee of Gouverneur Talc? ^(request no. 17)

A. Right. We'll have some list or something with all these names?

Q. Sure, sure.
A. You're coming up with quite a few.
(DEPOSITION EXHIBIT NO. 50 MARKED)
Q. Fifty is a Frederick Weir. Do you know where Ogen -- Ogdenburg, New York is?
A. Ogdensburg.
MR. LONG: Ogdensburg.
Q. Ogdensburg, New York. Where is that at?
A. That's west and east along the St. Lawrence River of the Gouverneur area. It's roughly about 65 miles or so away.
Q. Do you remember Mr. Weir's name?
A. I don't.
Q. It indicates on this report -- what's the date of that, 19 --
A. 1980.
Q. '80. Did he have pulmon -- did he have carcinoma, lung cancer?
A. Yes. That's what's indicated --
Q. On the --
A. -- bronchial carcinoma.
Q. On the second page, does it indicate whether or not he had asbestos fibers or ferruginous bodies identified?

A. Yes, it does.
Q. And on the third page does it -- does it make a diagnosis of asbestosis and pleural plaques?
A. Fourth and fifth findings, yeah.
Q. In addition to the lung cancer, right?
A. Right.
Q. And you, once again, can check to see if he was an employee of Gouverneur Talc, right? ^(request no. 18)
A. Yes.
Q. Thomas Eugene McGuinness. Do you know him?
A. No.
(DEPOSITION EXHIBIT NO. 51 MARKED)
Q. This is a 1994 report. And by the way, there's many different doctors throughout these reports, correct? Not one single doctor.
A. Well, I'd have --
MR. RADCLIFFE: Object to the form.
A. -- to look, but ...
Q. Exhibit 51 indicates on the first page that he worked -- does it say that he worked in Gouverneur -- in the Gouverneur, New York area?
A. I haven't seen a reference to --

Q. I'm sorry. Maybe I -- does it say Gouverneur at the top?

A. Well, it says the funeral home in Gouverneur.

Q. Oh, okay, I'm sorry. He died. And what does it indicate on the first page? Does it indicate whether he had any pleural disease?

A. "Inspect the inner layer of the thoracic wall for pleural plaques." It says "not possible" to do that.

Q. Go over to the next page and tell me whether it identified any asbestos disease.

A. (Reading) No tumor is made out in the lung sections. So-called ferruginous or asbestos bodies are easily found within the lung sections and can be seen singly or in clusters within alveoli in many places and also within the interstitial framework of the lungs at some points.

Q. If you could flip over to the next page and tell me if there's any references.

A. Well, "diffuse pleural fibrosis, mainly in the left thoracic cavity."

Q. And you can check to see if Thomas McGuinness was an employee of either International Talc or -- or -- ^(request no. 19)

A. Yeah.
Q. -- Gouverneur Talc?
A. You know, I'm thinking -- that's a name that's a little familiar. I mean, I can't say for sure. We'd have to check, but several of these others were not at all.
Q. Okay.
(DEPOSITION EXHIBIT NO. 52 MARKED)
Q. Fifty-two we're up to. On this 52 there is a stamp that says something "Claims Services" at the bottom. Do you see that?
A. "Lake" -- looks like "Lake Effect."
Q. Do you know what that is?
A. I have no idea.
MR. RADCLIFFE: Lake effect?
THE WITNESS: Yeah. Look.
MR. RADCLIFFE: I know what lake effect is.
THE WITNESS: Yeah, I do too.
MR. LONG: So do I.
MR. RADCLIFFE: It says, "Lake Effect Claims Services."
MR. SATTERLEY: Lake Effect Claims Services, yeah.
MR. RADCLIFFE: Okay.

MR. SATTERLEY: What's -- I don't know -- what is --

MR. RADCLIFFE: He just said "lake effect."

THE WITNESS: Well, you --

MR. SATTERLEY: What's lake effect?

THE WITNESS: -- you asked me what was above Claims Service.

MR. LONG: Three feet of snow off Lake Ontario or Lake Erie.

MR. SATTERLEY: Oh, okay.

THE WITNESS: It's a place called Pulaski, actually.

MR. LONG: Pulaski.

THE WITNESS: Pulaski, that's right. Oh, you've been stuck there too?

MR. LONG: Been to Pulaski.

THE WITNESS: Okay.

MR. RADCLIFFE: That's why we're not going to upstate New York in February. That's what lake effect is.

MR. LONG: It means you'll be there till March.

Q. And those three individuals' names, do you recognize those names? Go ahead and tell me out

loud who they are.

A. Papineau, I don't recognize. Bracy sounds familiar. Gibson doesn't.

Q. And does it indicate whether these individuals have asbestosis?

A. The document says, "All three of these patients showed marked asbestosis plus talcosis."

Q. And you can check to see if those are Gouverneur Talc employees, correct? ^(request no. 20)

A. Yes.

Q. The Terry Jacobs, is he a personnel and safety manager?

A. He was, yes.

Q. And did he -- did you report to him on workers' compensation claims, talk to him about them?

A. I worked with him, yes.

Q. And did you write memorandums to him about various folks that had alleged diseases from exposure to dust?

A. A typical interface was asking for information from his medical surveillance files that were kept -- complete surveillance files were kept at the plant.

Q. The -- were you -- were you deposed recently, last, say, six or seven months on asbestos

issues?

A. I guess I block these things out. I don't think so.

Q. Did you go to California to get deposed out in Oakland?

A. I was. Was that in the last six months?

Q. I don't know. I just --

A. I don't remember. I think it was close to that.

Q. Okay. In -- in the -- California, you actually went out to California, traveled all the way out there to Oakland to testify in a case at a deposition?

A. It wasn't my choice.

Q. Okay. Somebody told you to go.

A. Yes.

Q. And if they tell you to go, you go.

A. Yes.

Q. Okay. Maybe you'll come down to Kentucky and visit me sometime.

A. I can't wait.

Q. Who is George Alvisio -- visio?

A. George Alvisio.

Q. Who is he?

A. He works for Marsh & Mack, the insurance agency. They -- they place our coverage. So he's an agent for them or a service representative.

Q. Who is Rollins Hud -- Hudig Hall? Rollins Hudig Hall --

A. That's a law --

Q. -- of New York?

A. -- law firm.

Q. Is that a law firm? Do they represent -- are they involved in representing some of the claimants?

A. I don't know.

Q. Was Dana Putman an employee of International Talc?

A. He was.

Q. Frederick, is it Kuehl, K-U-E-H-L? Do you know who that is?

A. No, I don't.

Q. And so Dana is no longer a management employee of R. T. Vanderbilt.

A. That's correct.

MR. SATTERLEY: Do you still represent him, Mr. Radcliffe?

MR. RADCLIFFE: I've never represented

Mr. Putman.

MR. SATTERLEY: So I can call him up and talk him?

MR. RADCLIFFE: The law of the state of New York governs whether you're allowed to talk to a former or current employee who was in a management position, not me.

MR. SATTERLEY: I think the law of Kentucky applies in this case, but we can address that. I mean, I just want to know whether you guys have an objection if I call Mr. Putman up.

MR. RADCLIFFE: Oh, I do object.

MR. SATTERLEY: Will you produce him voluntarily?

MR. RADCLIFFE: No. I don't have the ability to produce him voluntarily.

MR. SATTERLEY: I disagree with that.

MR. RADCLIFFE: Well, I can voluntarily go to upstate New York, but that's about all I can do. And I don't volun -- I won't voluntarily go to upstate New York in January or February.

MR. SATTERLEY: Let's take a break. Let's go off the record.

THE VIDEOGRAPHER: We're off the

record at 4:45.

(RECESS)

(THE FOLLOWING EXCHANGE WAS ON THE STENOGRAPH RECORD ONLY)

Q. You don't have any knowledge about these sales invoices to the various entities, do you?

A. No.

Q. That's better addressed to Paul or somebody else, right?

A. Yeah.

Q. Like H. H. Benner. There's all kinds of discussions of sales of these various talc products in the '80s and -- you don't have knowledge of that, right?

A. No.

MR. SATTERLEY: Okay. What I'd like to do, then, is reserve the right to ask additional questions once the documents that I've requested have been produced.

And also, I think we just got an expert witness list a couple of days ago. And if you're actually going to intend to offer him as an expert, I may have to come back and ask him about some of his expert opinions. That's on the expert witness list that I haven't already asked about.

MR. RADCLIFFE: Just for the record, we haven't agreed to produce any additional documents. What we've asked is that you send us a letter which we will consider and respond.

MR. SATTERLEY: Please let me -- give me -- give me a response in a week or so because -- you know, so that we can get the -- squarely before the court as quickly as possible.

MR. RADCLIFFE: We did agree to produce information after you signed the confidentiality order. I don't want to -- I'm not taking back from that, but we haven't yet agreed to produce any documents.

MR. SATTERLEY: And -- and also, to the extent that you claim that workers' compensation documents are somehow protected by the New York law, it's my understanding that that law only relates to when someone is attempting to get it from the board of claims, a subpoena from the board of claims, and that does not address -- specifically it doesn't address documents that have already previously been produced to other plaintiff's counsel in other jurisdictions and other situations.

And some workers' compensation records were produced to me in Franklin, but obviously not

all of them. I think it was only some mesothelioma claims and maybe one or two lung cancer claims, so -- and that was a big fight we had in that case.

But I would renew my request -- I requested it in the original discovery requests in this case, and I really would request counsel to go back and look at that. The law doesn't preclude them from producing documents. As a matter of fact, I think there's a waiver because they've produced them in other -- R. T. Vanderbilt has produced them in other cases, I believe.

And in addition, any claim of privilege or something like that, there could be redactions, if necessary, so I would request that you consider that.

MR. RADCLIFFE: Well, first of all, Vanderbilt -- R. T. Vanderbilt Company, Inc., is a New York company and is certainly subject to the laws of the state of New York.

MR. SATTERLEY: I thought you were in Connecticut.

MR. RADCLIFFE: As such, we have to comply with the law. I believe in all circumstances where we have produced workers' compensation documents, it's been in accordance with the court

order or we've produced redacted copies that did not violate any law.

Secondly, Vanderbilt also, I think, is in a position of having some fiduciary responsibility to its current or former employees, so it's not in a position to simply produce information that others might consider to be confidential.

MR. SATTERLEY: Let me just state that --

MR. RADCLIFFE: I'm sorry.

MR. SATTERLEY: I'm sorry.

MR. RADCLIFFE: And as far as waiver is concerned, I don't think we waive anything if we're ordered to produce something and we comply with the court order.

MR. SATTERLEY: Can you tell me what jurisdictions I've ordered you to turn it over? Kentucky, Tenn -- or Kentucky, Texas, who else?

MR. RADCLIFFE: I don't know about Texas. California.

MR. SATTERLEY: And California. I was involved in Texas, so I know it occurred in Texas.

MR. RADCLIFFE: That predates me. Franklin predates me, so ...

MR. LONG: How about New Jersey?

MR. SATTERLEY: What about New Jersey? Didn't judge --

MR. LONG: For Hirsch?

MR. RADCLIFFE: I don't think -- well, I don't know if it was or not.

MR. LONG: I don't know either.

MR. RADCLIFFE: I thought the stipulation was to avoid that, so ...

MR. LONG: I don't know. I just wanted him to ask for completeness purposes.

MR. BREETZ: If it what was disclosed in Franklin, obviously it predates me too, so ...

MR. SATTERLEY: Okay. Well, I think that any issues with regards to the individual employees, numbr one, if necessary, could be redacted.

Number two, when an individual employee files a claim, it's a matter of public record.

Number three, I believe many of the information was turned over to Manny Rubin, Dr. Rubin, without any order of the court.

So you guys -- if you guys really believe that's the law of New York, you violate the law of New York.

And so -- and also if to the extent those informations were turned over from R. T. Vanderbilt to attorneys throughout the country representing R. T. Vanderbilt, that would likewise, if you really believe that's the law, that would be a violation of the law that R. T. Vanderbilt has committed.

And so we can address that and litigate that if you want to, but I don't think that you guys have a snowball's chance to win that.

MR. BREETZ: Like I said, just follow up with correspondence in terms of the things that you're seeking so that we can address each of them. I know you've raised a lot of things here. There's a lot of folks' names you want to us take a look at. Just do it --

MR. RADCLIFFE: We'll be happy to provide you with the law that we think applies. I don't agree with what you've said, but we can disagree about it.

MR. SATTERLEY: All right. The final thing is we've only agreed to reschedule the deposition of Denaro with the understanding that it will definitely occur in February.

MR. RADCLIFFE: He has confirmed he's

available in February.

MR. SATTERLEY: Okay. See you tomorrow morning. Let's do nine --

MR. RADCLIFFE: I have some questions.

MR. SATTERLEY: Okay. On the record?

MR. RADCLIFFE: Yeah.

MR. SATTERLEY: Okay. Oh, you have some questions for this fellow.

MR. RADCLIFFE: Yeah, for this fellow.

(BOTH VIDEO AND STENOGRAPHIC RECORD RESUME)

THE VIDEOGRAPHER: We're back on the record at 4:55.

MR. RADCLIFFE: Mr. Satterley, were you done with your questions for this -- at this time?

MR. SATTERLEY: No.

MR. RADCLIFFE: Do you have more to ask?

MR. SATTERLEY: Yes.

MR. RADCLIFFE: Go ahead.

MR. SATTERLEY: I'm waiting to get the documents that we requested in the interrogatories, request for production of documents that were not produced to me, and so for that reason I cannot

finish. If you want me to -- I thought because we were getting close to 5:00 we were going to break for the day, but if you want me to continue on, I will.

MR. RADCLIFFE: If -- if you have further questions. If -- if you have further questions, you go ahead. We haven't agreed that we're coming back for Mr. Kelse.

MR. SATTERLEY: Oh, you haven't.

MR. RADCLIFFE: No.

MR. SATTERLEY: Well, I tell you what, we -- I would object to your questioning this witness at all, number one, until I'm permitted to finish my examination; number two, until the documents that should have been produced to me was actually produced to me.

I wrote -- I served interrogatories in this case, and after -- and after the responses were provided, I wrote a letter outlining all the deficiencies. And the responsive documents have not been produced. And it's my understanding that the documents that should have been responded to and produced to me were produced in other litigation, in California and such, I believe. I don't have -- but I understand from the public record that Mr. Kelse has given testimony and that there are other

documents that have been intentionally withheld from me. And so I would object to any examination of this witness until all those documents are produced.

MR. RADCLIFFE: I don't -- I don't agree that anything has been intentionally withheld from you.

MR. BREETZ: I will note, Joe, that in response to your letter of May 14th regarding your discovery responses, we followed up with a letter to Paul Kelley of your office on June 1st, 2009, providing documents and --

MR. SATTERLEY: I've got them right here.

MR. BREETZ: Yeah. And --

MR. SATTERLEY: It's less -- it's less than --

MR. BREETZ: Let me finish. I have not interrupted you, so let me finish.

MR. SATTERLEY: Are we on the video still?

THE VIDEOGRAPHER: We are.

MR. SATTERLEY: Let's go off the video.

MR. BREETZ: Yeah, let's go off the video.

MR. SATTERLEY: I mean, I'm paying for --

THE VIDEOGRAPHER: We're off the video record at 4:57.

(OFF THE VIDEO RECORD)

MR. BREETZ: We provided you discovery responses and then our responses to your objections back in June of 2009. Having received no further follow-up from you until Mr. Kelse's deposition here in January of 2010, that's a space of six or seven months to which I've not received any kind of note from you that you thought any of our responses or our supplements in terms of the correspondence was objectionable.

If you have problems, like I said, address them in a letter. But to the extent you claim that we somehow didn't do what we were required to do, we followed up on June 1st and haven't received a response from you.

MR. SATTERLEY: That's inaccurate and untrue. I've asked you at least on two occasions personally when you've been in my office, are you going to produce any additional documents in response to R. T. Vanderbilt and you said, "I don't know, I'll check it, I'm not in charge."

Let me just point out that what you produced on June the 1st was a protective order, proposed protective order. You produced a letter to Georgia-Pacific, which I've already had and it was evidence in Franklin. You produced a sales record document that appears to be about, I don't know, maybe 10 pages in length that this witness has already said he doesn't know anything about. You produced a letter to Mr. Benner in Louisville, Kentucky, and you produced a federal regulation.

I think that is woefully insufficient and not responsive to my discovery request. And for that reason, I object to you attempting to cross-examine this witness when I haven't had the ability to complete my direct examination.

MR. RADCLIFFE: So it's your position that you are unable to complete your direct examination at this time?

MR. SATTERLEY: I am because the time, it's 5:00, and we've -- and also because of the lack of all the documents that have not been produced that Mr. Kelse has freely admitted that he has files on.

MR. RADCLIFFE: Whether or not Mr. Kelse admits he has a file doesn't mean that you requested it or that it must be produced, but I

understand.

MR. SATTERLEY: I requested all internal documents relating to asbestos -- the asbestos talc issue. Those weren't produced. He admitted to that today with regards to the customer files, the call-in sheets. I've requested -- let's go through them one by one if you want.

All documents regarding or relating to each of the interrogatories. All documents relied upon in answering these interrogatories. All documents exchanged between this defendant and any other defendants. He's admitted, for example, that U.S. Gypsum was part of the call-in things. All warning --

MR. RADCLIFFE: My understanding is U.S. Gypsum is not a defendant in this case.

MR. SATTERLEY: All warning -- they are -- they are a party that has provided products.

All warning statements, caution --

MR. BREETZ: That's not what the document --

MR. SATTERLEY: Okay. Let me finish. Let me finish making my statement.

MR. BREETZ: Okay.

MR. RADCLIFFE: Well, you don't have

to read it. We can agree with what it says. You don't have to read it. If you want to, go ahead, but you don't have to. We know what it says. I'm not going to argue with what you asked. It's in black and white.

MR. LONG: Just attach it if you're worried about it, Joe.

MR. SATTERLEY: I'm not -- I'm not attaching it. I just -- I think that it's inappropriate for you to cross-examine when I haven't finished my direct examination.

MR. RADCLIFFE: I understand your point, and so we will end for the day. I think we've all agreed it's an incomplete record. And at a minimum we'll have to come back for -- or arrange for a continuation for my questions.

MR. SATTERLEY: And I'll be happy to talk to you today about rescheduling it very soon, next week or, you know.

MR. RADCLIFFE: If you need to send us a letter, we need to look at it and we'll go from there.

MR. SATTERLEY: I will e-mail you tomorrow a rough transcript of this transcript, and you can take it and you'll -- with a letter giving me

everything I asked for.

MR. RADCLIFFE: When we ask you for a letter, we want something akin to a formal discovery demand, not here's a basket, look through it and see what you can find.

MR. SATTERLEY: Let's go off the record.

(OFF THE RECORD)

(BOTH VIDEO AND STENOGRAPHIC RECORD RESUME)

THE VIDEOGRAPHER: We're back on the record at 5:02.

MR. RADCLIFFE: We're going to conclude the deposition for today. This is an incomplete record at this time.

THE VIDEOGRAPHER: This concludes today's proceedings. Total number of tapes used was six. We're off the record at 5:02.

(DEPOSITION CONCLUDED AT 5:02 P.M.)

* * *

STATE OF KENTUCKY)(
)(SS:
COUNTY OF JEFFERSON)(

I, ELLEN L. COULTER, Notary Public, State of Kentucky at Large, hereby certify that the foregoing deposition was taken at the time and place stated in the caption; that the appearances were as set forth in the caption; that prior to giving testimony the witness was first duly sworn by Youssef Khammouch; that said testimony was taken down by me in stenographic notes and thereafter reduced under my supervision to the foregoing typewritten pages and that said typewritten transcript is a true, accurate and complete record of my stenographic notes so taken.

I further certify that I am not related by blood or marriage to any of the parties hereto and that I have no interest in the outcome of captioned case.

Given under my hand this the

day of , , at

Louisville, Kentucky.

My commission as Notary Public expires November 5, 2011.

ELLEN L. COULTER
NOTARY PUBLIC

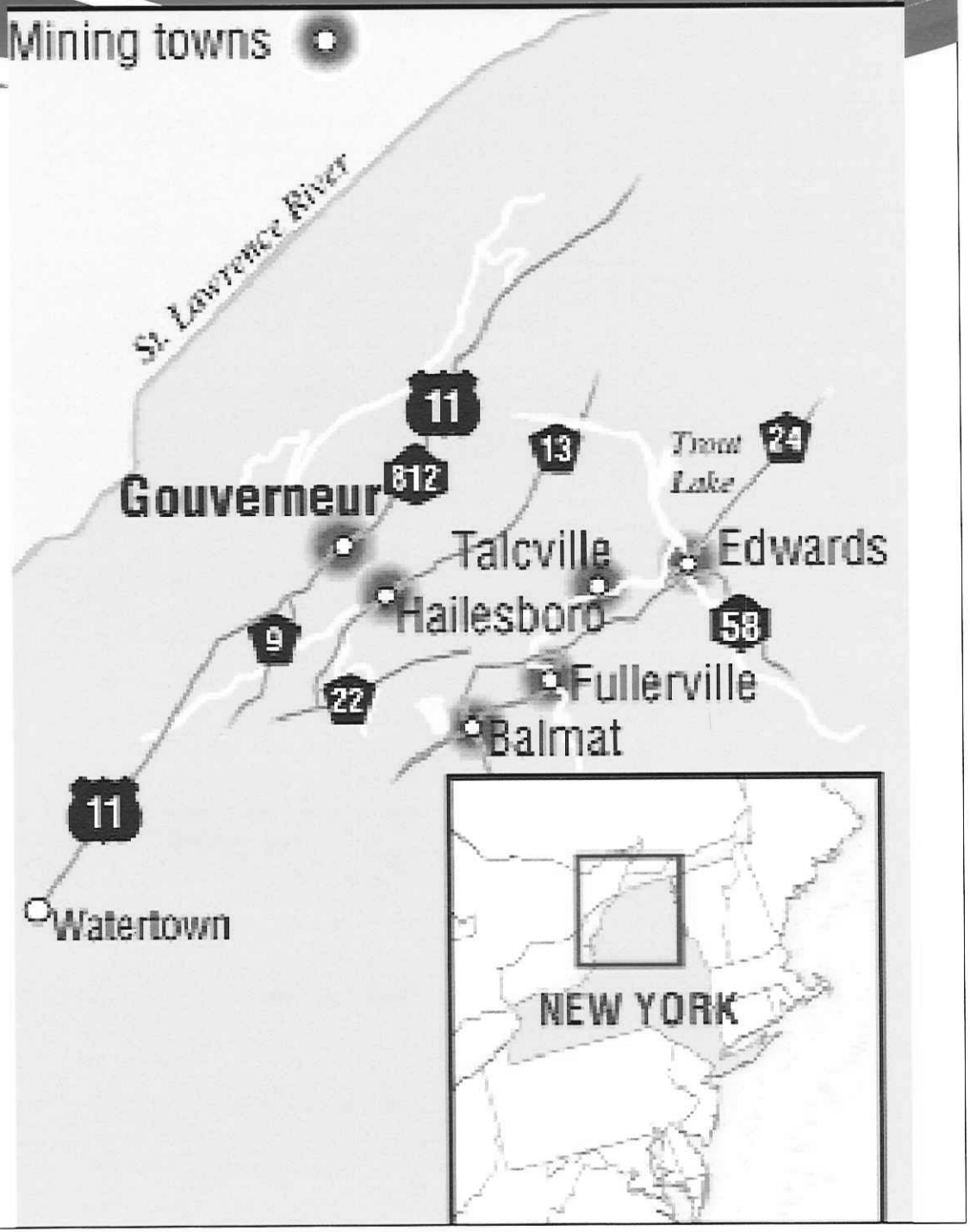
DEPOSITION EXHIBIT

1 KELSE 1/19/10

R T Vanderbilt mines were Located in Balmat, New York

Jefferson County, New York

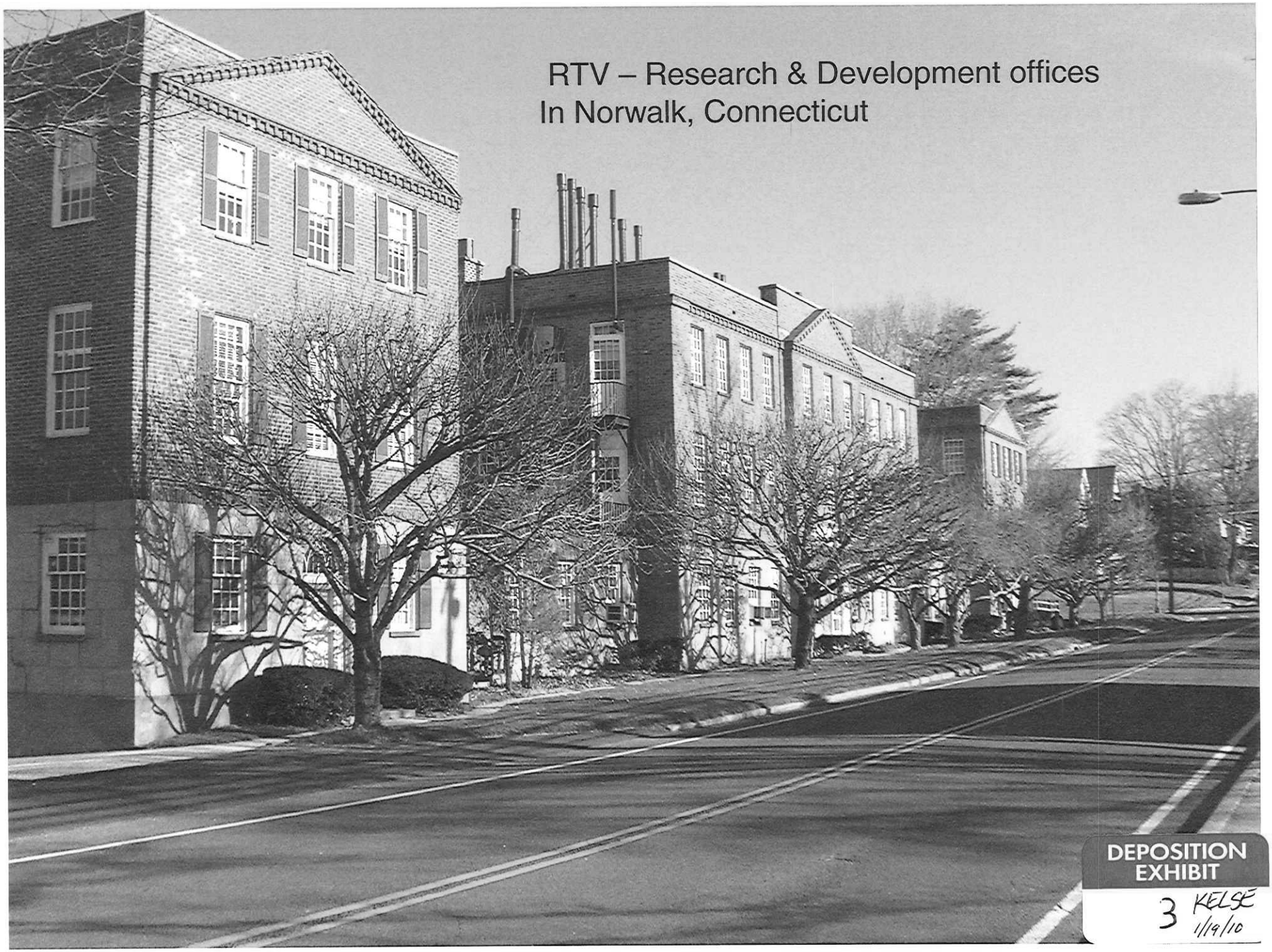
Along the St. Lawrence River



RTV – Corporate HQ - Connecticut

DEPOSITION EXHIBIT

2 KELSE 1/19/10



DEPOSITION EXHIBIT
3 KELSE
1/19/10

DEPOSITION EXHIBIT

4 KELSE 1/19/10

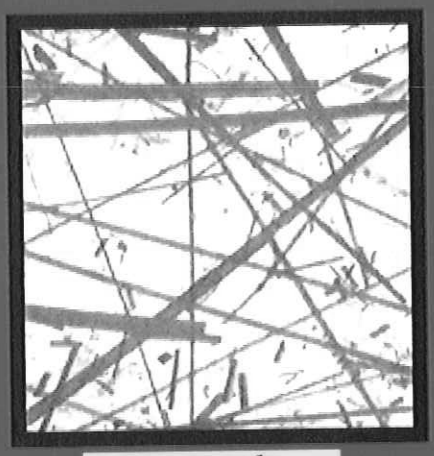
RT Vanderbilt is the Owner of the Gouverneur Talc Company

DEPOSITION EXHIBIT

5 KELSE 1/19/10

No. 2 Mine – Arnold Pit

Asbestos Types



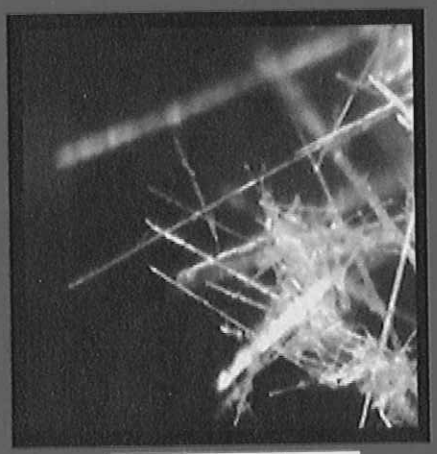
Tremolite

Anthophyllite

Crocidolite

Amosite

Chrysotile



Actinolite

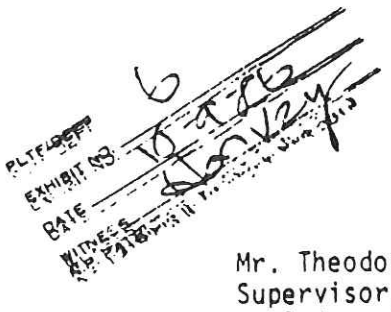
DEPOSITION EXHIBIT

6 KELSE 1/19/10

Mr. G. F. Driver

..NG R. TABERSHAW, M.D.
Consultant in Occupational Medicine
10215 Fernwood Road, Suite 307, Bethesda, Maryland 20034
Telephone: (301) 530-6992

SEP 30 1977



September 27, 1977

Mr. Theodore G. Esterguard
Supervisor, Workmen's Compensation Claims
Syracuse Branch Office
CNA Insurance
P. O. Box 1243
Syracuse, New York 13201

Re: 40-126992
R.T.Vanderbilt, Inc.
Francis Boney (deceased)

Dear Mr. Esterguard:

Dr. Lamm and I have reviewed the material you sent us. It shows the following:

1. Cancer diagnosis is not in question.

2. Cancer metastatic to adrenal glands as cause of death is not in question.

3. Remaining question is whether or not the worker's mining exposure may reasonably be responsible or partially responsible for his cancer.

   To wit, if the worker had 17 years' exposure beginning 25 years ago at concentrations of 2-5 fibers/cc, that exposure is probably sufficient to be at least partially responsible, particularly in a man with more than 20 pack years of cigarette consumption.

   If the concentration was < 1 fiber/cc, causation is increasingly doubtful, as risk appears to go down very markedly with drop in concentration. Likewise, latency appears to increase.

   Furthermore, the responsible fiber exposure would be that of more than 10-15 years ago, not the recent product exposure.

Neither Dr. Lamm nor I will be available to testify. If you feel medical-epidemiologic testimony is necessary, consider either Dr. Keith Morgan of West Virginia University or Dr. Hans Weill of Tulane University.

Sincerely,

Irving R. Tabershaw, M.D.

DEPOSITION EXHIBIT
KELSE 7
1/19/10

cc: Allen Harvey

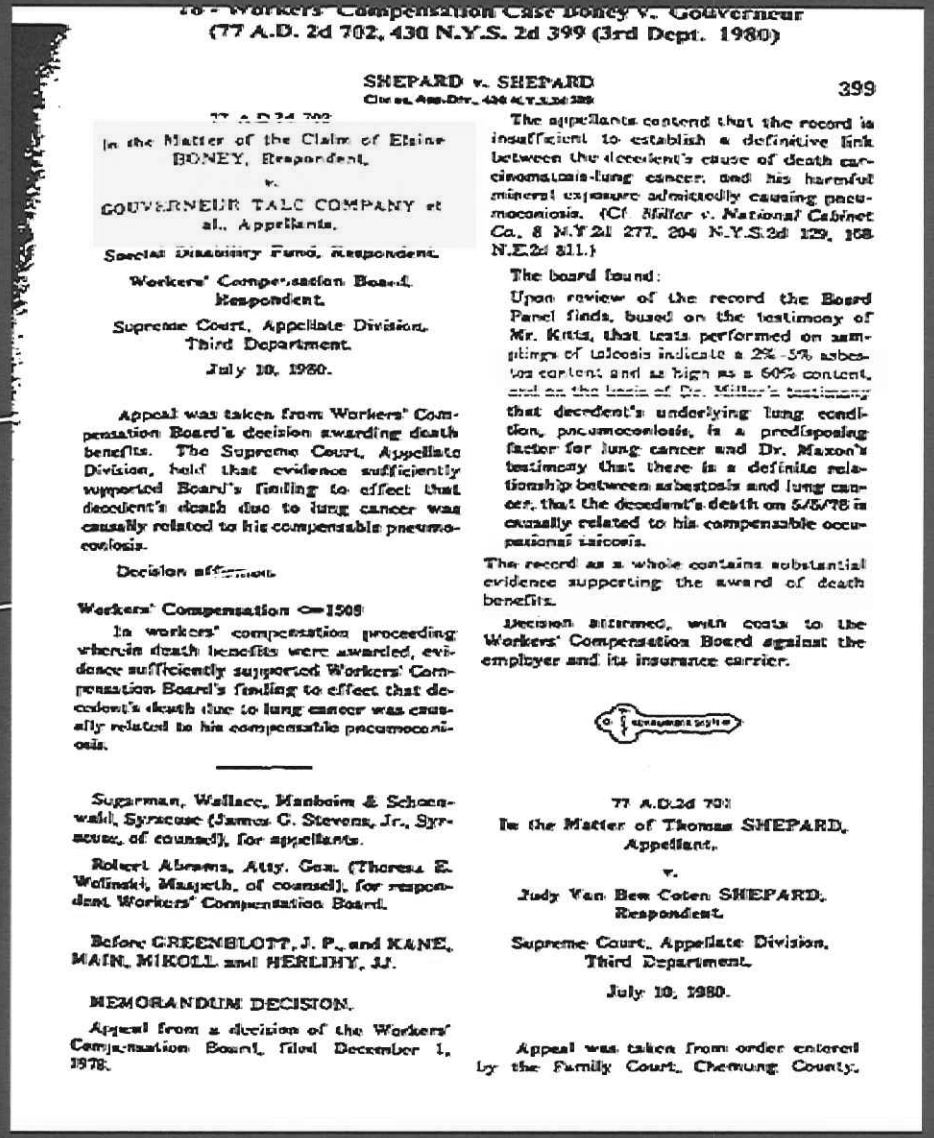
RECEIVED
OCT 3 1977
W, C, S & R

DEPOSITION EXHIBIT
KELSE 1/19/10 8

1980 Appellate Decision against RTV

- "The appellants contend that the record is insufficient to establish the decedent's cause of death carcinomatosis- lung cancer, and his harmful mineral exposure…"
- Asbestos content as high as 60%
- "The record as a whole contains substantial evidence supporting the award…"

27 YEARS AGO – SAME STORY



78 - Workers' Compensation Case Boney v. Gouverneur
(77 A.D. 2d 702, 430 N.Y.S. 2d 399 (3rd Dept. 1980)

SHEPARD v. SHEPARD 399

77 A.D.2d 702

In the Matter of the Claim of Elsine BONEY, Respondent,
v.
GOUVERNEUR TALC COMPANY et al., Appellants.
Special Disability Fund, Respondent.
Workers' Compensation Board, Respondent.

Supreme Court, Appellate Division, Third Department.
July 10, 1980.

Appeal was taken from Workers' Compensation Board's decision awarding death benefits. The Supreme Court, Appellate Division, held that evidence sufficiently supported Board's finding to effect that decedent's death due to lung cancer was causally related to his compensable pneumoconiosis.

Decision affirmed.

Workers' Compensation ⇐1509

In workers' compensation proceeding wherein death benefits were awarded, evidence sufficiently supported Workers' Compensation Board's finding to effect that decedent's death due to lung cancer was causally related to his compensable pneumoconiosis.

Sugarman, Wallace, Manheim & Schoenwald, Syracuse (James G. Stevens, Jr., Syracuse, of counsel), for appellants.

Robert Abrams, Atty. Gen. (Theresa E. Wolinski, Maspeth, of counsel), for respondent Workers' Compensation Board.

Before GREENBLOTT, J. P., and KANE, MAIN, MIKOLL and HERLIHY, JJ.

MEMORANDUM DECISION.

Appeal from a decision of the Workers' Compensation Board, filed December 1, 1978.

The appellants contend that the record is insufficient to establish a definitive link between the decedent's cause of death carcinomatosis-lung cancer, and his harmful mineral exposure admittedly causing pneumoconiosis. (Cf. *Miller v. National Cabinet Co.*, 8 N.Y.2d 277, 204 N.Y.S.2d 129, 168 N.E.2d 811.)

The board found:

Upon review of the record the Board Panel finds, based on the testimony of Mr. Kitts, that tests performed on samplings of talcosis indicate a 2%-5% asbestos content and as high as a 60% content, and on the basis of Dr. Miller's testimony that decedent's underlying lung condition, pneumoconiosis, is a predisposing factor for lung cancer and Dr. Maxon's testimony that there is a definite relationship between asbestosis and lung cancer, that the decedent's death on 5/5/78 is causally related to his compensable occupational talcosis.

The record as a whole contains substantial evidence supporting the award of death benefits.

Decision affirmed, with costs to the Workers' Compensation Board against the employer and its insurance carrier.

77 A.D.2d 701

In the Matter of Thomas SHEPARD, Appellant,
v.
Judy Van Bew Coten SHEPARD, Respondent.

Supreme Court, Appellate Division, Third Department.
July 10, 1980.

Appeal was taken from order entered by the Family Court, Chemung County,

The Albany Medical College of Union University

Albany, New York FOUNDED IN 1839

DEPARTMENT OF PATHOLOGY

April 28, 1975

DEPOSITION EXHIBIT
KELSE
1/19/10 9

Stuart De Vaul, Esq.
State of New York
Workmen's Compensation Board
State Office Building
Syracuse, N. Y. 13202

WCB #67408168
#67203967

Report Re
Elias Shipple, deceased
vs Gouverneur Talc

Examination and Consultation performed at request of Dr. Frank C. Maxon, Jr.

Appended and Examined 25 histologic section slides all marked 73-A-89 St. Lawrence County Laboratory"

The sections are those of an autopsy and disclose the presence of a squamous carcinoma, of rather variable morphology, from rather well differentiated squamous cells to rather anaplastic poorly differentiated cells. This carcinoma is present apparently as a primary carcinoma in a severely diseased lung, with metastases to the liver, kidney, and adrenal. There are very considerable calcium deposits in the kidneys suggesting the possibility of extensive bone involvement. There are sections which show only the cancer lying in masses of rather cellular very exuberant fibrous tissue and in one of these there is a mass of muscle which may be part of the diaphragm since in the adjoining tissue there are birefringent spiculate foreign bodies (see below). One section discloses a mass of malignant cells in the walls of a thin walled vessel full of thrombus and seemingly this is the pulmonary artery. In one section of the lungs there are pulmonary emboli present in vessels and these have been there for some time.

The heart shows massive hypertrophy of myocardial fibres and some fatty adiposity but no evidence of vascular disease. The liver shows cancerous metastasis both nodular and diffuse with some pigmentation and evidence of congestion of a chronic type.

The spleen is congested with hyaline changes in the blood vessel walls and some brown pigmentation in the vessel walls. The kidney shows cancerous deposits with calcific masses and many hyaline casts in the tubules, there is some arteriosclerotic changes and the changes of chronic congestion are also evident,

A few of the tubules contain old pus casts but there is no severe pyelonephritis.

The adrenal glands contain metastases but show no other significant lesion.

One lymph node, of central type, shows a cancerous deposit and oleogranulomas indicating past diagnostic lymphangiography. The pancreas shows some fatty infiltration, some acinar atrophy and some islet hyalinisation, compatible with but not diagnostic of diabetes mellitus.

The major damage is to the lungs and these show a variety of lesions, these include diffuse and nodular fibrosis which is massive in the lower lobes, focal bronchiectasis, focal abscess formation, squamous carcinoma, focal areas of bronchopneumonia, diffuse and nodular pigmentation and areas of chronic pneumonia with bronchoalveolar metaplasia. In the upper lobes there is diffuse fibrosis, pigmentation and emphysema together with exuberant perivascular fibrosis. The larger bronchus in one section shows surrounding squamous carcinoma plus subepithelial spread of carcinoma. Underlying these terminal changes are those of a fibrosing pneumoconiosis or dust pneumonia producing pigmentation, nodular fibrous and accumulations of pigment. The alveoli and the fibrous tissue contain large numbers of pigmented spiculate fibres, probably iron containing. Some are long band like and with pigment spots, others short and spiculate, some free in alveoli or in septae, others are in pigmented macrophages. They are accumulating in such numbers as to fill some alveoli, virtually all are birefringent. A prolonged search has shown only a very few typical asbestosis bodies and the appearances are not those of asbestosis. Whatever dust he has been exposed to has produced a softer more cellular fibroblastic proliferation than is usually seen with silicosis or asbestosis.

J. N. Davies, M.D., D.Sc., F.R.C. Path.

CERTIFICATION OF DEATH

STATE OF NEW YORK
DEPARTMENT OF HEALTH

No 266632

DISTRICT NUMBER	REGISTRATION NUMBER
4423	110

NAME: Elias H. Shippee

DATE OF DEATH	DATE OF FILING
October 13, 1973	October 15, 1973

PLACE OF DEATH (COUNTY)	(CITY, TOWN OR VILLAGE)
St. Lawence	Village of Gouverneur

This is to certify that the person named on this certificate died on the date and at the place shown. This record of death was filed with the Registrar of Vital Statistics of this Registration District.

Sheryl E. Simmons
REGISTRAR OF VITAL STATISTICS

4423
DISTRICT

February 10, 1998
DATE

WARNING: Any alteration invalidates this certificate

VS-58 (9-74) (7A2-107)

HOUSE OF THE GOOD SAMARITAN

Department of Laboratories
Watertown, NY 13601
315-785-4001

SURGICAL PATHOLOGY REPORT

Name	Harmer, Dale	Sex	M	Age	49	Room	ASU
Doctor	Loewen			Date Received	Feb. 14, 1990		
Clinical Diagnosis	Solitary pulmonary nodule RUL			Date Reported	Feb. 15, 1990		

GROSS DESCRIPTION:

A - Three right upper lobe biopsies, the larger 0.3 cm.

B - Bronchial washings submitted for cell block.

Gross & Microscopic Diagnosis: A - Mild chronic bronchitis and lung tissue with asbestos bodies, biopsies from right upper lobe. -2

B - Negative for malignant cells, cell block of bronchial washings. -2

DEPOSITION EXHIBIT
KELSE
1/19/10 10

Joven G. Kuan, MD, F.C.A.P.
Chief Pathologist

Record Room No. 203243 G00099432

Pathology Report No. S-90-990

State University of New York
Health Science Center
Syracuse

Central New York
Occupational Health Clinical Center

550 Harrison Center—Suite 300
Syracuse, New York 13202
(315) 473-6422

March 26, 1990

NOV 2 6

MEDICAL SUMMARY

PATIENT NAME: **Dale Harmer**
DATE SEEN: January 11, 1990

Dale Harmer was evaluated at the Central New York Occupational Health Clinical Center on January 11, 1990. Mr. Harmer is a 49-year-old talc miner from Gouverneur, New York. In the Spring of 1988 the patient underwent a company offered physical examination and was told at that time that he had a heart murmur and that his lungs "looked bad". According to the patient, he was evaluated further with an echocardiogram, more extensive pulmonary function testing, and a treadmill test. The pulmonary function testing included a spirometry which showed a reduced FVC and FEV 1 with a normal FEV1/FVC ratio. This suggests restrictive lung disease. Apparently no lung volumes or diffusion capacity were done at that time. The echo cardiogram showed minimal aortic sclerosis and "mild aortic regurgitation" without a significant outflow gradient. Flows across the mitral tricuspid and pulmonic valves were all normal. Left ventricular wall motion was normal as was the ejection fraction. The results of the treadmill tests are unavailable to me.

The patient has had complaints of shortness of breath for approximately the past year, especially when exerting himself at work or climbing stairs. He denies any shortness of breath while walking at his own pace on level ground and he thinks he is able to keep up with others his own age. However, he feels limited at work and is afraid that soon he will not be able to do his job because of his shortness of breath. He is able to ascend approximately 8 to 10 steps before become dyspneic. The patient has also had complaints of cough over the same time period which has become especially pronounced during the past month. It is productive of a significant amount of whitish sputum. He denies any wheezing.

Also, over approximately the past two years the patient has had symptoms of chest cramping that he describes as similar to a "charley horse". Initially this was occurring every two months but now is occurring almost daily. The pain is located in the mid-sternal area and radiates to the left shoulder. It usually lasts a few minutes. It seems to be brought on with certain turning motions and other activities such as when he blows hard during spirometric testing. The pain is sometimes exacerbated by pushing

on the chest wall. It is not consistently associated with exertion or emotional upset nor with shortness of breath, diaphoresis, or feelings of faintness. It has happened on a few occasions while the patient was resting in bed.

The patient denies any hemoptysis or fevers. He has had about a six pound weight loss over the past year. To the patient's knowledge there is no previous history of hypertension, increased cholesterol, or diabetes mellitus. His primary care physician prescribed sublingual nitroglycerin which the patient has not used for his chest pain.

The past medical history is significant only for an ulcer in 1985 which is not currently a problem and sinus problems which the patient experienced as a child and which he soon outgrew. The only previous surgery has been a tonsillectomy when the patient was around 8 years old. The patient is currently on no medications. He denies any known allergies. He was in a motor vehicle accident and suffered a fractured spine and broken ribs. In addition, in 1974 the patient's arm got caught in some moving machinery at the Gouverneur Talc mill causing permanent damage to his right upper arm. Apparently, this was a soft tissue injury without bony fracture.

The family history is not significant for coronary artery disease. The patient has one sister who has valvular heart disease. The patient denies any rheumatic fever when he was a child. He has 3 children, all of whom are in good health.

The patient has smoked for the past 27 years and up until a year ago was smoking between one-half to one and one-half packs per day. For the past year he has cut his tobacco intake to almost nothing. He drinks a few beers per month. Hobbies in the past have included hunting and fishing. Though he enjoys hunting he denies extensive shooting and did not usually shoot at all outside of the hunting season. He used a snowmobile many years ago on an occasional basis. He rarely cut wood using a chain saw. He denies any other significant potentially toxic non-occupational exposures.

The patient's occupational history began when he worked as a teenager and in his early twenties on a dairy farm. From 1963 until 1969 the patient had a variety of short-term jobs. He worked for two years in an Agway feed mill and was involved in most of the feed mill activities including grinding the feed, and feed delivery. He worked for two years at the Groveton Paper Mill running a perforating machine. He worked for a year at a Kraft foods plant processing cheese. For one year he was employed in a Lowville factory putting lacquer on bowling pins. The patient was also employed for six months at the St. Joe's zinc mine as an underground mucker.

In 1969 the patient went to work for International Talc, where he remained for five years. From 1974 until the present he has been employed by Gouverneur Talc. Initially the patient was employed as a driller in the open pit mine. He held several other relatively short term jobs including driving a truck, in the mill crushing department for two years, less than one year as a packer, and about five months on repairs. Since moving to Gouverneur Talc in 1974, the patient has worked as a milling operator at the No. 3 mill. This mill is an older mill with older machinery. The ore is brought up from underground and is then crushed, milled, packed, and shipped. The patient is responsible for supervising a variety of milling operations. He spends almost all of his time in the mill and is often actually running the milling machinery. He describes the work as continuously dusty and possibly worse over the last couple of years because of potentially inadequate maintenance. The patient routinely leaves work covered with dust. He describes "bad nights" when the dust is quite thick and covers him completely. Prior to leaving he blows off whatever dust he can with an air hose. He wears his work clothes home and they are laundered there. The patient estimates that he has worn a respirator approximately 75% of the time. The respirator is an air purifying half-face piece mask with dust cartridges. The cartridges are changed every 8 hour shift but when the dust is especially thick he is required to change the cartridges two or three times a shift. The respirator has never been formally fit-tested. The conditions are also noisy and the patient wears hearing protection approximately 50% of the time. The mine safety and health administration carries out inspections once or twice a year according to the patient but he does not know the results of these evaluations.

On physical examination the patient appeared older than his stated age but in no acute distress. His pulse was 72 and regular, respirations were 20, and blood pressure 108/80. The HEENT exam was remarkable for a right ear canal which was blocked with cerumen. The left tympanic membrane was normal. The patient was edentulous and his tongue was thickly coated. There was no cervical or supraclavicular lymphadenopathy. On auscultation of the lungs there were crackles in both bases on inspiration. In the left lung these disappeared about halfway up the chest, whereas on the right they disappeared about two-thirds of the way up the chest. On examination of the heart there was an extra heart sound which may have been an S4 or a systolic click. There was also a 1/6 systolic ejection murmur heard best at the apex. The abdominal exam revealed positive bowel sounds without organomegaly or tenderness. Rectal exam showed a prostate which was about 2+ enlarged and was diffuse, smooth, and non-tender. The testes were without masses or tenderness. There was no occult blood or masses noted on rectal examination. Examination of the skin was unremarkable. There was clubbing of the fingernails without cyanosis or edema. Neurological examination was within normal limits.

Additional testing included audiometry which revealed significant hearing loss in the left ear, mild in the lower frequencies and more severe in the 3k to 8k region. On the right hearing was normal in the lower frequencies with a mild degree loss in the 3k to 8k region. There was significant asymmetry between the ears.

On pulmonary function testing the patient's FVC was 3.38 L (78% of predicted), FEV1 was 2.77 L (78% of predicted), FEV1/FVC of 82%, and an FEF 25-75 of 3 L/S (81% of predicted). The chest x-ray, revealed diffuse interstitial markings in the mid and lower lung fields bilaterally. Bullae were identified in the right apex. An ill defined nodular density was identified in the right upper lung peripherally. It was non-calcified with ill defined borders. No definite pleural abnormalities were noted.

Because of the possibility of pulmonary malignancy the patient was referred to Dr. Gregory Loewen, a pulmonologist in Watertown, New York. On pulmonary function testing obtained by Dr. Loewen there was a diminished diffusion capacity with a normal total lung capacity. Obstructive disease was not demonstrated on PFT. Dr. Loewen also obtained a chest x-ray and a CT of the chest. The chest x-ray identified areas of pleural thickening along each lower lateral chest wall in addition to the findings noted on the previous chest film. On CT, the nodule in the right upper lobe was better defined as 2.5 cm. in size with ill defined borders. No definite calcification was noted and malignancy was suspected.

Dr. Loewen carried out endoscopy and according to his report the histology of the biopsies taken did not reveal malignancy. The biopsies and the bronchial alveolar lavage, however, was remarkable for numerous ferruginous bodies and inflammation. Dr. Gerald Abraham also reviewed the bronchial alveolar lavage at the SUNY Health Science Center in Syracuse and found very high numbers of ferruginous bodies in the lavage fluid.

IMPRESSION AND RECOMMENDATIONS:

Dale Harmer's symptoms, physical examination, chest x-ray, and pulmonary function testing are all consistent with pneumoconiosis which is most likely asbestosis or combined talcosis and asbestosis. The patient has worked for approximately 20 years as a talc miner and miller. During that time according to his history he was exposed to significant amounts of talc and other dusts which included Tremolite and Anthophyllite. He describes exposure to the fibrous forms of these minerals especially during the early years of his employment. Respiratory protection has been worn a significant amount of time but it is unclear whether the cartridges used were of the appropriate type, or whether they were appropriate for the exposure levels reached. The respirator has never been fit tested. On bronchoscopy the patient's bronchial alveolar lavage fluid and biopsy material was found to contain very high numbers

of ferruginous bodies which are consistent with asbestos fiber exposure. Consequently it is my opinion that Mr. Harmer,s pneumoconiosis is an occupational lung disease and has been contracted as a direct result of his exposures working as a talc miner and miller.

In addition the patient has a lung nodule which is suspicious for malignancy. The negative bronchoscopy reduces but does not rule out the possibility of a lung tumor. As recommended by Dr. Loewen the patient must be followed quite closely and if the nodule enlarges an open lung biopsy will be necessary to definitively evaluate it. If the nodule is not malignant it is most likely a pneumoconiotic nodule as noted by Dr. Loewen.

The patient is experiencing significant breathlessness with exertion. His dyspnea is making it very difficult for him to carry out his job duties. He has evidence of a reduced diffusion capacity on pulmonary function testing. Consequently it is likely that his symptoms are due to decreased oxygenation as a result of his occupational lung disease. The patient's pneumoconiosis puts him at increased risk of progression of his disease as well as of malignancy with any further exposure to dusts at the talc mine and mill. Because of his symptoms and the necessity of no further exposure I would consider Mr. Harmer to be totally disabled by his lung disease. The patient's lung disease is permanent and may be progressive.

Recommendations for future treatment of the patient's lung disease include the following:

1. No further exposure to talc, Tremolite, Anthophyllite or asbestos containing dust, or any other fibrosis causing dust.
2. Close evaluation as recommended by Dr. Loewen for the possibility of right upper lobe malignancy.
3. Aggressive treatment of possible respiratory infection and the patient should be vaccinated for both the influenza and pneumococcus.
4. The patient should locate a primary care physician in his local area who can be responsible for coordinating all of his medical care.

If there are any questions regarding this report, please call me at (315) 464-6422.

Sincerely,

Michael B. Lax, MD, MPH
Medical Director
CNYOHCC

ML:lm

SUPREME COURT
STATE OF NEW YORK ST. LAWRENCE COUNTY

LEONARD GAUMES, et al

Plaintiffs,

v.

R. T. VANDERBILT COMPANY, INC., GOUVERNEUR TALC COMPANY, INC., ST. JOE MINERALS CORP., and FLUOR CORP.,

Index No. ____

Defendants.

AFFIDAVIT

STATE OF NEW YORK)
COUNTY OF ONONDAGA) SS:

I, Dale Harmer, being duly sworn, deposes and says:

1. I am one of the plaintiffs in the lawsuits against R. T. Vanderbilt Company, Inc., Gouverneur Talc Company, Saint Joe Minerals Corp., and Fluor Corporation and I understand that R. T. Vanderbilt and Gouverneur Talc Company have made a motion to dismiss my action. I know that this affidavit will be used as a means of opposing that motion.

2. My lawyers tell me that R. T. Vanderbilt and Gouverneur Talc Company deny that they ever made any misrepresentations to me concerning my health and deny that they concealed from me the true condition of my health. I have also been told that they deny that there is asbestos in the mines, and deny that they concealed from us the fact that there is asbestos in the mines. Those denials are false and I will explain how I know that from my own personal experience.

3. I am fifty-two years old and went to work for International Talc Company on October 6, 1969 in the "open pit." Then, when Gouverneur Talc Company took over International Talc Company in 1974, Gouverneur Talc Company hired me. Therefore, since 1969, I have worked in and about the talc mines and pits owned first by International Talc Company and then by Gouverneur Talc Company, which in turn, I am told, is owned and controlled by R. T. Vanderbilt Company.

SETRIGHT, CIABOTTI & LONGSTREET · SYRACUSE, NEW YORK

4. With respect to the condition of my health, I want to say that every year the employees of International Talc Company and then Gouverneur Talc Company would undergo physical examinations by the plant doctor, which included chest x-rays. So for the approximately twenty years that I worked for International Talc Company and Gouverneur Talc Company, I had yearly chest x-rays and breathing tests performed by the plant doctors. Prior to 1989, I never once was told that there was anything wrong with my lungs or anything else.

5. Sometime after I filed a Workers Compensation claim, in November of 1989, my lawyers gave me copies of some medical reports they had received from Gouverneur Talc Company.

6. Included in the medical reports, there was a report by Dr. Dodd, the plant doctor back in 1979, dated October 10, 1979, which stated: "Comparison with the previous exam of October 11, 1978, now reveals an increase of pulmonary markings throughout both lung fields, somewhat more accentuated in the right base." I am not a doctor, but it reads to me like something was going on way back then. I was not told by Dr. Dodd or any other doctor at that time that I had any lung or respiratory problems at all. Even when I began to feel sick, I wasn't told that I shouldn't work there anymore.

7. During the last part of 1989, I got to a point where I got tired going up and down stairs. I was spitting up a lot, and my lungs were feeling bad. Somewhere around the spring of 1989, I had a physical examination by the plant doctor, who was then Dr. Fung. He talked to me after the physical examination. He told me that I had a heart murmur and he said that my lungs didn't look too good right then. Dr. Fung told me that I had a real small spot starting in my right upper lung, but it wasn't significant enough at the time to really do anything about it. He sent me down to the hospital for some tests and again said it wasn't serious enough to do anything about. He didn't tell me to stop working and I kept on working because I didn't know anything was wrong.

8. I kept getting worse and worse. Finally, my wife and I decided I better do something else and that is when I went to Dr. Lax, somewhere around January 1990. By that time, I was feeling pretty bad. Shortly after that, Dr. Lax diagnosed that I had lung cancer. I want to know why I wasn't told about Dr. Dodd's examination report of October 10, 1979, which said I had some trouble "somewhat more accentuated in the right base," especially since that is where the lung cancer started.

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9. My true physical condition was concealed from me, but, G. E. Erdman's Inter-Office Memorandum was placed on the bulletin board, put up there for all of us employees to see, and we all saw it. (A copy is attached to my statement, by my lawyer, and marked Exhibit A.) Please note the next to last sentence in the memorandum "Even though you shouldn't need to worry about getting cancer from our dust, you must respect the possibility of getting talcosis." My information is that, at that point, several of the miners had developed cancer and since then several more of them have developed cancer, but on this memorandum, we have the manager of Gouverneur Talc Company telling us we don't have to worry.

10. I think, concerning my medical condition, they kept from me the true nature of it and they even tried to tell me there was nothing wrong. The manager, Mr. Erdman, even told us not to worry about getting cancer from the dust. If I had know that I was going to get sick from being in the mines, I would have looked for other employment that was not so unsafe to my health. I relied on what the company was telling me and also what they were not telling me in making my determination to continue working in the mines.

11. Maybe the pay is not as good being a farmer or something like that, but at least you don't end up with lung cancer.

12. I have a few comments as far as this asbestos thing is concerned. Before OSHA came in, everybody talked about asbestos being in the mines and in some areas, there were more fibrous materials which we all called asbestos. After OSHA came in, we noticed that the word asbestos disappeared from management's vocabulary and they took a position with us, as well as with OSHA, as far as I know which is shown in Mr. Erdman's memorandum, attached as Exhibit A, in the first paragraph: "NIOSH knows these facts but is reluctant to recognize their earlier error in classing tremolite as an asbestos mineral that is not a cancer causing agent." and "but the weight of increasing evidence continues to indicate that our products are not causing abnormal amounts of cancer."

13. I am told by my lawyers, who have retained well known mineralogist, Dr. Arthur Rohl, who is familiar with our talc mines, and environmental pathologist, Dr. Jerrold Abraham, that there is no question that there is asbestos in the mines up here and it gets into the lungs of the miners and has been seen there by Dr. Abraham.

SETRIGHT, CIABOTTI & LONGSTREET · SYRACUSE, NEW YORK

14. Of course, I have read, over the last fifteen to twenty years, about the dangers of asbestos. All of us miners up here were interested in that because, all along, we have been calling some of the products coming out of the mines asbestos. Now, our employer and the company that owns our employer, are telling us that there isn't any asbestos up here. If anybody had ever told me what I have found out since we brought this lawsuit and my lawyers went out and hired experts, and if I had known then what they have said, I would have gotten out of those mines years ago. The only reason why I kept working was because Gouverneur Talc Company and R. T. Vanderbilt kept telling me that there wasn't any asbestos in the mines.

15. I remember, a few years ago, a gentlemen by the name of Hugh Vanderbilt, a big wheel with R. T. Vanderbilt, came up to the mines and talked to a lot of us at the mine head. He told us that the government was claiming that there was asbestos in the mines and he said that we didn't have asbestos. He said he had a senator in his back pocket and there weren't going to be any problems with our jobs because he could appeal any finding that we did have asbestos for years, so we wouldn't have to worry about our jobs and there wasn't any asbestos up here anyway.

16. We miners and ex-miners up here are a very close knit group. When we are working, we have to depend on each other so that each one does his job and everybody is safer and better off. I know that none of them would have worked in those mines if they had known it was going to harm their health and especially if they had known that they were being exposed to asbestos.

Dated: May 17, 1993

Dale D Harmer

Dale Harmer

Signed and Sworn to before me this

17th of May, 1993

Anne L Bennett

Notary Public

ANNE L. BENNETT
Notary Public, State of New York
Qualified in St. Lawrence County
Commission Expires June 30, 1993

SETRIGHT, CIABOTTI & LONGSTREET - SYRACUSE, NEW YORK

Riverfront Medical Services, P.C.

9996

444 EAST GENESEE STREET
SYRACUSE, NEW YORK 1320
(315) 472-250
FAX (315) 475-865

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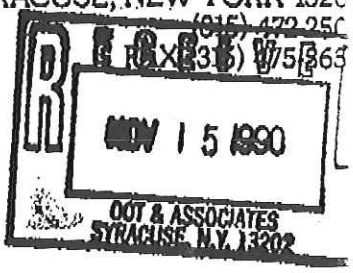
Emergency
Hearing



October 30, 1990

RE: HARMER, DALE
D.O.B.: 08/19/40
Emp.: R.T. Vanderbilt Company
Inj.: 11/01/89
Exam.: Pulmonology Consultation
10/26/90
Carrier #: 30999031-062
WCB #: 6891 5142

The State Insurance Fund
901 James Street
Syracuse, New York 13203

ATTN: Charmaine Hauff

Dear Ms. Hauff:

Thank you for referring Dale Harmer to Riverfront Medical Services. I spoke with and evaluated him on October 26, 1990.

HISTORY

As you know, he is a 50-year-old, white male who on 6/1/90 underwent right thoracotomy and upper lobectomy for adenocarcinoma of the lung. Pathologic examination of resected lung material revealed not only the carcinoma, but also numerous ferruginous materials and asbestos bodies as well.

Lung tissue was examined by Dr. Abraham who concluded that the lung showed focal interstitial fibrosis with associated asbestos and ferruginous bodies. In Dr. Abraham's opinion, these findings were "sufficient for a diagnosis of pulmonary talcosis and asbestosis."

PAST MEDICAL HISTORY

He has a history of having been a significant cigarette smoker for many years.

PHYSICAL EXAMINATION

Physical examination reveals a 5'8" tall, 152 1/2 pound male. Blood pressure is 130/88.

The examinee has a well-healed right thoracotomy incision with a moderate degree of hyperinflation bilaterally. There are no wheezes, rhonchi or rales. Expiratory phase is only mildly prolonged. The balance of the physical examination is unremarkable.

X-RAYS

An x-ray taken in January of 1990 showed chronic obstructive as well as interstitial change and a nodular density in the right upper lobe which turned out to be an adenocarcinoma.

A review of the examinee's chest x-ray supports the analysis provided above by Dr. Gerle in January of this year.

CONCLUSION

DIAGNOSIS: The question at hand is whether the patient suffers from occupational lung disease. This question must be answered in the affirmative. Not only does he have biopsy-proven pulmonary fibrosis associated with asbestos and talc particles, he also has a carcinoma of the lung occurring in this setting.

CAUSAL RELATIONSHIP: We may, therefore, conclude that the examinee's pneumoconiosis derives solely from his occupational dust exposures and that, given his smoking history, his carcinoma derives, in part, from his occupational exposure. As you may know, asbestos exposure and cigarette usage act synergistically to dramatically increase the risk of carcinoma. The risk of lung cancer in nonsmoking asbestos workers is not known for sure, but is felt to be very, very low. Indeed, finding a nonsmoking asbestos worker may be difficult as the classic studies in this area referred only to asbestos workers who "never regularly smoked". Additional studies have failed to take into account the presence of passive smoke and may be flawed by virtue of reliance on smoking histories which are notoriously misleading.

What we can say is that if asbestos in and of itself operates as a carcinogen, it is very weak. The combination of cigarette usage and asbestos exposure is, however, known to be a very strong risk factor for the development of lung carcinoma. In 1990 it is accepted that if a carcinoma develops against a background of clinically or pathologically proven asbestosis, it can be assumed that asbestos exposure played a role in the development of this cancer. Certainly this is the case with Mr. Harmer who has asbestosis as suggested by x-ray and proven by biopsy. The absence of crackles on his lung exam does not mitigate against the diagnosis of asbestosis. Because Mr. Harmer has asbestosis, it can be concluded that his lung cancer derives in large measure from his asbestos exposure and also from his long-term usage of cigarettes.

APPORTIONMENT: Apportionment of this contribution is very difficult but it is reasonable to conclude that 50% of the examinee's lung cancer risk derived from occupational exposure to asbestos.

Thank you again for this referral.

"I certify and affirm that the foregoing report is true to the best of my knowledge, under the penalties of perjury."

Sincerely,

David J. Davin, M.D.
Pulmonologist

DJD/ss

cc: Worker' Compensation Board
Atty. Michael Oot, 501 E. Washington St., Syracuse, NY 13202
Gregory Loewen, M.D., 830 Washington St., Watertown, NY 13601
Joseph Meyer, M.D., 826 Washingotn St., Suite 106, Watertown, NY 13601
Michael Lax, M.D., 550 Harrison Center, Suite 300, Syracuse, NY 13202

State University of New York
Health Science Center
Syracuse

College of Medicine

Department of Pathology
(315) 464-4750
FAX (315) 464-7130

June 27, 1990

Jovan G. Kuan, M.D.
Pathologist
The House of the Good Samaritan
830 Washington Street
P.O. Box 517
Watertown, New York 13601

Re: Dale Harmer, S90-3467
My # JA90-34

Dear Dr. Kuan:

Thank you very much for sending the right upper lobectomy specimen from Mr. Harmer for my study, as requested by Dr. Loewen and Dr. Lax. I have prepared several sections from the lung tissue, but apparently all of the tumor was removed for study in your lab. If possible, I would appreciate a few unstained sections of representative slides of tumor for my file. I am enclosing two unstained sections representative of the lung tissue in the remaining lung.

The lung shows focal honeycombing with mucus accumulation and epithelial metaplasia. There is focal interstitial fibrosis and marked accumulation of strongly birefringent dust consistent with talc and numerous asbestos bodies as well as larger ferruginous bodies which may be based on talc or other minerals. Mr. Harmer did relate verbally to me that he had worked in the Wollastonite processing mill for several years.

These findings are sufficient for a diagnosis of pulmonary talcosis and asbestosis. Studies to identify the types of fibers and other particles present in the lung tissue are underway and the results should be available within a few weeks I hope.

Looking forward to hearing from you.

Sincerely,

Jerrold L. Abraham, M.D.
Associate Professor and
Director of Environmental and
Occupational Pathology

JLA/cd
cc: Dr. Loewen
Dr. Lax

DEPOSITION EXHIBIT
11 KELSE
1/19/10

G.E.

NEW YORK STATE DEPARTMENT OF HEALTH
CERTIFICATE OF DEATH
STATE FILE NUMBER

4423
48

1. NAME: FIRST [redacted] MIDDLE I LAST
2. SEX: MALE X FEMALE
3A. DATE OF DEATH: Oct 19 95
3B. HOUR: 2040
4A. PLACE OF DEATH: INPATIENT (HOSPITAL, ER, OUTPATIENT, DOA, INPATIENT, NURSING HOME, RESIDENCE)
4B. IF FACILITY: DATE ADMITTED: 10 6 1995
4C. NAME OF FACILITY: E J Noble Hospital
4D. LOCALITY: CITY OF / VILLAGE OF / TOWN OF Gouverneur
4E. COUNTY OF DEATH: St. Lawrence
4F. MEDICAL RECORD NO.: 0080856
4G. WAS DECEDENT TRANSFERRED FROM ANOTHER INSTITUTION? NO X YES
5. DATE OF BIRTH: 12 31 23
6. AGE: 71
7A. CITY AND STATE OF BIRTH (Country if not U.S.A.): Gouverneur N.Y.
8. SERVED IN U.S. ARMED FORCES? NO X YES — 10. HISPANIC ORIGIN? NO X YES
9. RACE: White
11. DECEDENT'S EDUCATION: 12
12. MARITAL STATUS: NEVER MARRIED / MARRIED / SEPARATED / WIDOWED / DIVORCED X
13A. USUAL OCCUPATION: Supervisor
13B. KIND OF BUSINESS OR INDUSTRY: Talc Mining
13C. NAME AND LOCALITY OF COMPANY OR FIRM: Gouverneur Talc Co, Gouverneur
14A. RESIDENCE: STATE: NY
14B. COUNTY: St. Lawrence
14C. LOCALITY: CITY OF / VILLAGE OF / TOWN OF Gouverneur
14D. IF NOT RESIDENT WITHIN CITY OR VILLAGE, IS RESIDENCE WITHIN CITY OR VILLAGE LIMITS? NO X YES — IF NO, SPECIFY TOWN.
14E. STREET AND NUMBER OF RESIDENCE: [redacted]
14F. ZIP CODE:
15. NAME OF FATHER: [redacted]
16. MAIDEN NAME OF MOTHER: [redacted]
17. NAME OF INFORMANT: [redacted]
18. MAILING ADDRESS: [redacted]
19A. BURIAL, CREMATION, REMOVAL OR OTHER DISPOSITION: Cremation JUN 12 1995
19B. PLACE OF BURIAL, CREMATION, REMOVAL OR OTHER DISPOSITION: Frederick Brothers Cemetery, Theresa N.Y.
19C. LOCATION: CITY OR TOWN / STATE
20A. NAME AND ADDRESS OF FUNERAL HOME: Green Funeral Home, Inc. 33 Park St., Gouverneur, N.Y.
20B. REGISTRATION NUMBER: 00001
21A. NAME OF FUNERAL DIRECTOR: Martha Green Storrin
21B. SIGNATURE OF FUNERAL DIRECTOR: Martha Green Storrin
21C. REGISTRATION NUMBER: 04999
22A. SIGNATURE OF REGISTRAR: Sheryl E. Simmons
22B. DATE FILED: Jun 12 95
23A. BURIAL/CREMATION/REMOVAL PERMIT ISSUED BY: Sheryl E. Simmons
23B. DATE ISSUED: Jun 12 95

ITEMS 25 - 33 COMPLETED BY CERTIFYING PHYSICIAN — OR — ITEMS 25 - 34 COMPLETED BY CORONER OR MEDICAL EXAMINER

25A. TO THE BEST OF MY KNOWLEDGE, DEATH OCCURRED AT THE TIME, DATE AND PLACE AND DUE TO THE CAUSES STATED.
SIGNATURE: Indi Syed Cyhan — MONTH 10 DAY 6 YEAR 95
25B. THE PHYSICIAN IN CHARGE OF THE DECEASED — FROM 9/11/95 TO 10/6/95
25C. LAST SEEN ALIVE: MONTH 10 DAY 6 YEAR 95
25D. NAME OF ATTENDING PHYSICIAN (ENTER NUMBER): VIJAY [redacted] M.D
25E. ATTENDING PHYSICIAN'S OFFICE ADDRESS: [redacted]
25F. NAME AND ADDRESS OF CERTIFIER AND DATE SIGNED: [redacted] W. [redacted] GOUVERNEUR NY 13642
27. MANNER OF DEATH: NATURAL
28. WAS CASE REFERRED TO CORONER OR MEDICAL EXAMINER? NO X YES
29. AUTOPSY? NO X YES — 30. IF YES, WERE FINDINGS USED TO DETERMINE CAUSE OF DEATH? NO X YES

CONFIDENTIAL — SEE INSTRUCTION SHEET FOR COMPLETING CAUSE OF DEATH — CONFIDENTIAL

31. DEATH WAS CAUSED BY: (ENTER ONLY ONE CAUSE PER LINE FOR (a), (b), AND (c).)
PART I. IMMEDIATE CAUSE: CARDIO-PULMONARY ARREST
DUE TO OR AS A CONSEQUENCE OF: METASTATIC PRIMARY CANCER
DUE TO OR AS A CONSEQUENCE OF: MESOTHELIOMA (R) LUNG.
PART II. OTHER SIGNIFICANT CONDITIONS CONTRIBUTING TO DEATH BUT NOT RELATED TO CAUSE GIVEN IN PART I (a).
32A. IF INJURY, DATE: MONTH DAY YEAR — HOUR
32B. LOCALITY: (City or town and county and state)
32C. DESCRIBE HOW INJURY OCCURRED.

CC
DECEDENT
CERTIFIER
CAUSE OF DEATH

GOUVERNE[redacted]NC.
GOUVERNEUR, NEW YORK

RECORD OF JOBS HELD

NAME [redacted]

Date of Hire 3/19/54 * 3/29/54 ** 4/15/54 **

DATE From	To	JOB CLASSIFICATION	DEPT.	
3/19/54	3/23/54	Laborer	Mill	Job completed
3/29/54	3/31/54	Laborer	Mill	" "
4/15/54	5/9/54	Laborer	Mill	
5/10/54	7/25/54	2nd Miller	Mill	
7/26/54	9/19/65	Quality Control	Mill	
9/20/65	6/30/87	Supervisor, Property Control	Mill	

7/1/87 Normal early retirement under Pension Plan DA-325 (33 yrs. 3 months service)

DEPOSITION EXHIBIT

17 KELSE 1/19/10

L.M.

NEW YORK STATE DEPARTMENT OF HEALTH

CERTIFICATE OF DEATH

STATE FILE NUMBER

2201

431

[redacted]

Female

09 06 95 5:15 a.m.

09 05 95

Samaritan Medical Center

Watertown Jefferson

272431

Feb. 14 1931

64

1950-54

White

12

Laboratory Supervisor

Mining

Gouverneur Talc, Gouverneur, NY

New York

Lewis

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Burial Sept 9 1995 Hillside Cemetery Natural Bridge, New York

Bossuot Lundy Funeral Home 500 State St. Carthage, New York 13619 00195

Samuel P. Lundy 03038

Diana M. Hutton 9/13/95 Diana M. Hutton 9/13/95

Charles Romano 9/12/95

7/19/94 to 7/26/95 4/8/95

Charles Romano MD

[redacted] Washington St Watertown N.Y. 13601

Mesothelioma, Thoracic, R

CONFIDENTIAL — SEE INSTRUCTION SHEET FOR COMPLETING CAUSE OF DEATH — CONFIDENTIAL

DOH-1961 (1/95) VS-60

GOUVERNEUR TALC CO.
GOUVERNEUR, NEW YORK

RECORD OF JOBS HELD

NAME [redacted]

Date of Hire 8/4/54

DATE From	DATE To	JOB CLASSIFICATION	DEPT.
8/4/54	9/2/54	Laborer	Mill
9/3/54	10/24/54	1st Miller (SC)	Mill
10/25/54	1/16/55	2nd Miller	Mill
1/17/55	8/31/70	Quality Control	Mill
9/1/70	3/1/94	Supervisor Quality Control	Mill

Early retirement. age 63, under Pension Plan DA-32S.

L.M.

PULMONARY HEALTH PHYSICIANS, P.C.

Diplomates, American Board of Internal Medicine and Pulmonary Diseases

Dr. Thomas R. Aiello - 1
Dr. Edward T. Downing - 1, 2, 3
Dr. Sherif G. El Bayadi - 1
Dr. Michael J. Flintrop

Pulmonary Disease including Rehabilitation
Allergy/Immunology
Cardiopulmonary Exercise Testing
Sleep-Related Breathing Disorders

June 30, 1994

Mirza Ashraf, M.D.
West Street Road
Carthage, New York 13619

RE: [redacted]

Dear Dr. Ashraf:

Mr. [redacted] returned to my office today for follow-up. He has no symptoms after being discharged from the hospital and had a follow-up by Dr. Burke to evaluate a residual pneumothorax after removing a chest tube and was found to have resolved apparently and was discharged. He on examination appears to be alert, oriented, cooperative. His pupils are equal and reactive. Lung examination reveals inspiratory rales over the right base. There is no hyper-resonance to percussion and there is no tracheal shift. His heart is regular with a normal S1, S2. His abdomen is soft and nontender.

His pathology was very difficult to finally obtain and, as you know, he did have to have a thoracoscopic procedure with partial pleurectomy and biopsies. The initial reading was malignant mesothelioma, calcified pleural plaques, and pulmonary ferruginous bodies. That was also sent out for consultation to Dr. Anna Louise Katzenstein who agreed with the diagnosis of malignant mesothelioma.

I have discussed this diagnosis with Mr. [redacted] and his wife and have suggested, if okay with you and with Dr. Sherman, to have an oncologist evaluate the situation at this point. Multi-modality therapy for malignant mesothelioma is an option, but in conjunction with a prostate tumor, there may be variations or certain considerations that should be kept in mind. I will be happy to see Mr. [redacted] in follow-up if needed and will have a chest x-ray done today to follow-up his changes after being discharged from the hospital.

Again, thank you for letting me participate in caring for this very pleasant man with an unfortunate medical problem.

Sincerely,

Sherif G. El Bayadi, M.D., F.C.C.P.

SGE:ACCU\Med:cdm

cc: William Sherman, M.D.

1. Fellow, American College of Chest Physicians
2. Diplomate, American Board of Sleep Medicine
3. Diplomate, American Board

101 Union Avenue, Suite 701
Syracuse, New York 13202

5100 West Taft Road, Suite 3D
Liverpool, New York 13088

THE UNIVERSITY OF NORTH CAROLINA
AT
CHAPEL HILL

School of Medicine
Department of Medicine
Division of Pulmonary Diseases
& Critical Care Medicine

The University of North Carolina at Chapel Hill
CB# 7020, 124 Burnett-Womack Building
Chapel Hill, NC 27599-7020
Tel: (919) 966-2511
FAX: (919) 966-7013

January 17, 1996

John Kelse
Manager, Occupational Health & Safety
R.T. Vanderbilt Company, Inc.
30 Winfield Street
Norwalk, CT 06855

Dear John:

I reviewed the chest radiographs from June 1994 on Mr. [redacted] and showed them to our chest radiologist as well. After a large right pleural effusion was drained there was some residual pleural thickening along the right lateral chest wall but no definite pleural mass. I see nothing which specifically suggests a mesothelioma but there does appear to be a linear density along the right hemidiaphragm consistent with a calcified pleural plaque. I don't see any other plaques or calcifications. The chest radiograph is not very specific for ruling out a mesothelioma but I would say there is nothing other than the possible pleural plaque which raises that suspicion.

I hope this is helpful. Also, I would like to start planning for the trip to Gouveneur so let me know about the time frame. I hope you had a good holiday.

Sincerely yours,

Brian Boehlecke

Brian Boehlecke, M.D.
Associate Professor of Medicine

DEPOSITION EXHIBIT
13 KELSE 1/19/10

DEPOSITION EXHIBIT

KELSE 14
1/19/10

R.R.

STATE OF NEW YORK
WORKERS' COMPENSATION BOARD

PROOF OF DEATH
(By Physician Last in Attendance on Deceased)

This report must be signed by the physician last in attendance on the deceased in workers' compensation, volunteer firefighters' or volunteer ambulance workers' benefit cases. In hospital cases it may be signed by a licensed physician who is a member of the attending staff of the hospital to whom treatment of the case was assigned. File the signed original of this report directly with (1) CHAIR, WORKERS' COMPENSATION BOARD at the office of the district in which the accident occurred and (2a) a signed copy with (2) the INSURANCE CARRIER, if known, or the EMPLOYER.

ANSWER ALL QUESTIONS FULLY—TYPEWRITER PREPERATION IS STRONGLY RECOMMENDED

1. WCB Case Number (If Known)	2. Carrier Case Number (If Known)	3. Date of Accident or Injury and Time	4. Address Where Accident or Injury Occurred
60108425			

	NAME		ADDRESS	
5. DECEASED PERSON	[redacted]	Age 86	[redacted]	Soc. Sec. Number [redacted]
6. EMPLOYER*	Gouverneur Talc		Gouverneur, NY	
7. INSURANCE CARRIER	Zutich American		PO Box 4893, Syracuse, NY 13221-4893	
8. HOSPITAL (If any)				
9. NEAREST RELATIVE	[redacted]	Relationship wife	[redacted]	

* If claim is made that death resulted from injury sustained in the performance of assigned duty as a Volunteer Firefighter or Volunteer Ambulance Worker show as EMPLOYER the city, town, village or district or ambulance company against which claim is made and enter "X" here: VF/VAW

10. (a) Date of death 05/17/01 (b) Place of death. (Give street number, city, state) [redacted]

11. Decedent's marital status at time of death (Single, married, widowed, divorced): Married

12. (a) How long have you been medical advisor of deceased? _____ (b) Date of your first visit: _____

(c) Date of last visit: _____ (d) Was deceased attended by any other physician during last illness? _____ If so, give name and address of other physician: _____

13. State in patient's own words how the accident or injury occurred: Decedent worked at Gouverneur Talc for approximately 20 years until his retirement in October of 1976 and was exposed to talc and asbestos

14. Give complete and accurate description of nature and extent of injury, as you found it and subsequent examinations: Inhaled Talc + asbestos resulted in the development of malignant mesothelioma, which was extensive at time of autopsy

15. State the direct cause of death: malignant mesothelioma

(a) In your opinion was the accident or injury as above described a cause either directly or indirectly of the death? _____

SEE REVERSE SIDE

G64.001

SAMARITAN
Medical Center

NAME [redacted] I.D. # M.E.# M0360395 SMC01-05
DOB: 05/28/14 AGE: 86 SEX: Male RACE: Caucasian S.S.#: [redacted]
DATE/TIME OF DEATH: 05/17/01 7:05 AM DATE/TIME OF AUTOPSY: 05/17/01 4:00 PM
PROSECTOR: Shahandeh Raghir, MD ATTENDING PHYSICIAN: Frank Rhoda, MD

FINAL ANATOMICAL DIAGNOSIS

Asbestosis.
Malignant mesothelioma.
Pneumoconiosis (mixed dust deposition).
Atherosclerotic cardiovascular heart disease S/P bypass graft.

RECEIVED
JUL 23 2001

Shahandeh Raghir, MD
Pathologist

Autopsy report completed: 5/30/01 (SR:vlj)

80 Washington Street Watertown, New York 13601 Tel. 315. 785. 4000

PQ Exhibit A

DEPOSITION EXHIBIT
KELSE 15
1/19/10

But how does he know ?

January 10, 2005

Richard Evans M.D.
1 Park Avenue
P.O. Box 37
Auburn, New York 13021

RE: Zurich WC Case: Ray LaBow

Dear Dr. Evans:

In discussing the captioned case with Ms Ann Marie Mize, it was agreed that as the independent medical evaluator in this matter it would be wise for me to forward studies we feel are pertinent to the case. This is a particularly important case to Vanderbilt because the causal allegations presented in the medical records we have seen are simply in error (i.e. that asbestos exists in the talc or that talc itself causes mesothelioma).

Importantly, talc workers at our Gouverneur New York mine and mill are among the most studied miners in the world. A great deal is known about the mortality and morbidity experience of these workers. We feel strongly that this expansive record not be overlooked when discussions of "causality" in a matter of this nature arise.

Accordingly, I have enclosed the most recently published human health studies of these talc workers, animal studies (involving rodent pleural injection and implantation of the talc) and a cell study involving a concentrate of talc fiber. Enclosed as well are several documents that speak to the mineral composition of this talc from a variety of sources (including the Mine Safety and Health Administration) and a couple study review documents.

I believe this material reflects why Vanderbilt talc workers have undergone such scrutiny and why there remains considerable confusion over the mineral composition of this talc as well as the actual health experience of the workers. This talc exposure played (and continues to play) a pivotal role in helping define what is and what is not asbestos and has been referenced internationally on issues as broad as general fiber risk. We cannot speak for the exposures of other miners in this region, only for our own.

In the event Mr. LaBow's illness is confirmed as a mesothelioma, his employment/exposure history would understandably be of interest. We can report that Mr. LaBow worked predominantly as a "wheeler operator" in the mill (employment record enclosed). I have collected samples of insulation material throughout the plant some years ago and did find a number of asbestos containing pads used on the wheeler mill due to extreme heat conditions associated with that equipment. That report is enclosed. In addition, I note from his employment application that he worked as a gas station/garage attendant from 1955 to 1964 (a latency span of from 40 – 50 years). I have appended his employment application. I do not know whether he worked on brakes or not.

I am aware that while mesothelioma is linked strongly to asbestos exposure there appears to be strong medical consensus that 20-30% are likely not linked. I've learned that many physicians and epidemiologists believe mesothelioma has historically been under reported. In dust exposures where asbestos is correctly or incorrectly assumed, however, others believe it may be over reported. In more recent years I understand diagnostic tools and accuracy has improved.

In your review of this case I hope you find the appended materials pertinent and helpful in regard to the causal association issue. If you have any questions regarding any of these studies, please feel free to contact me at any time.

Very truly yours

R. T. VANDERBILT COMPANY, INC.

John Kelse, Corporate Industrial Hygienist
Manager, Corporate Risk Management Dept.

CC: Ann Marie Mize, Zurich American
Anthony Postigone, Marsh USA Inc.
Betty-Lynn White

Lose - Appeal

DEPOSITION EXHIBIT
KELSE 16
1/19/10

David P. Weiner
Chairman

LEGAL APPEALS UNIT
WORKERS' COMPENSATION BOARD
20 PARK ST
ALBANY, NY 12207
www.wcb.state.ny.us

C95285-01
JPB

RECEIVED
APR 26 2006

State of New York - Workers' Compensation Board

In regard to Ray LaBow, (Est. of), WCB Case #6970 9782

MEMORANDUM OF BOARD PANEL DECISION

keep for your records

Opinion By: Mona A. Bargnesi
Karl A. Henry
Michael T. Berns

In an application filed October 28, 2005, the Special Funds Conservation Committee ("Special Funds") requests review of the Workers' Compensation Law Judge ("WCLJ") reserve decision filed October 17, 2005. This matter involves the controverted death claim based on a previously established case involving an occupational disease of the decedent's lungs (WCB file #60511064). In the October 17, 2005 reserve decision, the WCLJ, *inter alia*, amended occupational disease, notice and causal relationship to include mesotheolima; resolved form C-8.1 issues in favor of the medical providers; and found that WCL § 15-8(ee) applies. Special Funds objects to the finding that § 15-8(ee) applies, contending that the section cannot apply because the case is not established for a pneumoconiosis type disease. Special Funds cites *Smith v. Certain Teed Products Corp., et al.*, 85 A.D.2d 820, for the precedence that mesotheolima is not a dust disease within the meaning of § 15-8(ee).

By its own application filed November 16, 2005, the carrier objects to the decision in its entirety, maintaining that the record does not show that the decedent was exposed to asbestos while working for the employer or that there was any contamination of the dust at the employer's talc mine with asbestiform tremolite. The carrier argues that the testimony from the decedent's treating physician, Dr. Inhaber, was not that of an authority on the talc's content. The carrier argues that Dr. Inhaber did not have any actual knowledge about the talc's composition and did not cite any studies or analysis of the employer's mined talc to show that the talc contained either asbestos or asbestiform tremolite. The carrier adds testimony showed that Dr. Inhaber did not obtain any history of the decedent's jobs prior to the employer in this file, and expressed that he did not know whether the claimant had been exposed to asbestos or talc prior to working for the employer.

By rebuttal filed December 16, 2005, the claimant's attorney highlights that a pulmonologist, a specialist in occupational medicine and an oncologist all testified that the decedent's disease process related to his exposure through his thirty-three years of employment with the employer talc mining establishment, and only the carrier's paid consultant opined otherwise. The claimant's attorney argues that the record well supports the WCLJ's findings.

*** Continued on next page ***

Claimant -	Ray LaBow, (Est. of)	Employer -	Gouverneur Talc
Social Security No. -		Carrier -	Zurich American Insurance Co.
WCB Case No. -	6970 9782	Carrier ID No. -	W228001
Date of Accident -	05/07/2002	Carrier Case No. -	2670002112
District Office -	Syracuse	Date of Filing of this Decision -	04/25/2006

ATENCION:
Puede llamar a la oficina de la Junta de Compensación Obrera, en su area correspondiente, cuyo numero de teléfono aparece al principio de la pagina y pida información acerca de su reclamación(caso).

C95285-01

The Board Panel does not accept the carrier's argument that the decedent's treating doctors did not reference in their testimony their respective sources for the premise that the employer's talc contained either asbestos or asbestiform tremolite. If the carrier desired to challenge the doctors' authorities, the opportunity for cross-examination was amply available in the course of the depositions. Without such challenge, the trier of fact could look to the conviction, credentials and training of the medical witnesses and infer that each competently and credibly testified with sufficient knowledge about the subject matter at issue. *See, Matter of Billings v. Dime Savings Bank of New York, FSB*, 236 A.D.2d 649, 650, 653 N.Y.S.2d 190, 191 (3rd Dept. 1997). It is well settled that questions of credibility, reasonableness, and weight of medical evidence are for the Workers' Compensation Board to decide, and it is within the province of the Board to resolve conflicts in the medical testimony as well as to determine the reasonableness of, weight, and credibility to be given to that testimony. *Forrest v. Grossman's Lumber*, 175 A.D.2d 498, 572 N.Y.S.2d 774 (3rd Dept. 1991); *Gonzales v. Ozalid Corporation* 235 A.D.2d 859, 652 N.Y.S.2d 425, 426 (3rd Dept. 1997). The Board Panel has reviewed the entire record and has considered the testimony of the claimant's medical witnesses and the carrier's consultant. The Board Panel has also reviewed the reports of the doctors. With the exception of the WCLJ's finding that WCL § 15-8(ee) applies, the record fully supports the findings of fact and the opinion of the WCLJ that are noted in the reserve decision filed October 17, 2005. No errors of fact or law have been made. Aside from the § 15-8(ee) issue, the Board Panel adopts the findings of fact and the opinion of the WCLJ as the findings of fact and the opinion of the Board Panel. With respect to the application of § 15-8(ee), the Board Panel concurs with Special Funds that § 15-8(ee) only applies to silicosis and other dust diseases, and the record amply documents that mesotheolima is not such a disease.

Accordingly, the reserved decision filed October 17, 2005 is MODIFIED. To the extent the WCLJ found that WCL § 15-8(ee) applies, the decision is rescinded. The reserve decision filed October 17, 2005 is in all other respects affirmed. The case is returned to the trial calendar for further development of the record on applicable benefits available to the claimant by virtue of the decedent's work related demise.

All concur.

Mona A. Bargnesi
Mona A. Bargnesi

Karl A. Henry
Karl A. Henry

Michael T. Berns
Michael T. Berns

RECEIVED
2006

Claimant -	Ray LaBow, (Est. of)	Employer -	Gouverneur Talc
Social Security No. -		Carrier -	Zurich American Insurance Co.
WCB Case No. -	6970 9782	Carrier ID No. -	W228001
Date of Accident -	05/07/2002	Carrier Case No. -	2670002112
District Office -	Syracuse	Date of Filing of this Decision -	04/25/2006

ATENCION:
Puede llamar a la oficina de la Junta de Compensación Obrera, en su area correspondiente, cuyo numero de teléfono aparece al principio de la pagina y pida información acerca de su reclamación(caso).

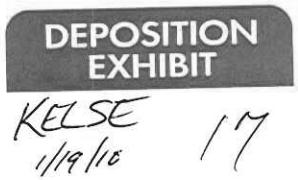
RTV MESOS NOT COUNTED BY HONDA

- **ABRAHAM**

1)	DOB:	1931
	DOD:	1989
	Yrs:	1952-74
2)	DOB:	1937
	DOD:	1990
	Yrs:	1955-59
3)	DOB:	1912
	DOD:	1984
	Yrs:	2 Years
4)	DOB:	1923
	DOD:	1981
	Yrs:	1953-75
5)	DOB:	1925
	DOD:	1994
	Yrs:	1949-74

- **STIPULATION**

1)	DOB:	April 4, 1925
	DOD:	**JUNE 4, 1994**
	Yrs:	1949-54
2)	DOB:	December 31, 1923
	DOD:	**JUNE 10, 1995**
	Yrs:	1954-87
3)	DOB:	February 14, 1931
	DOD:	**SEPTEMBER 6, 1995**
	Yrs:	1954-94
4)	DOB:	May 28, 1914
	DOD:	**MAY 17, 2001**
	Yrs:	1956-75
5)	DOB:	September 8, 1931
	DOD:	**NOVEMBER 10, 2005**
	Yrs:	**1964-97**



November 4, 1976

A. M. Harve
C. S. Thompson

cc: Mr. H. B. Vanderbil
Mr. T. T. Noland
Mr. G. L. Fiederlein
Dr. C. S. Thompson
Mr. V. O. Streitmatter
Mr. G. E. Erdman
Mr. P. B. Gibney, Jr.
Dr. K. S. Karsten

CNA Insurance
Syracuse, New York
Mr. Ted Estergard
Mr. Roy Orr
Mr. Alan Goldberg-Attorney

PLTF/DEFT EXHIBIT NO. 5
DATE 10-9-08
WITNESS MR. PATRICIA W. YARNELL CSR#2019

Report of Call at Syracuse:

Dr. C. S. Thompson and I discussed the Workmans Compensation hearing scheduled for November 17, 1976 dealing with former GTC worker Francis Boney.

Mr. Boney died in May 1976 while his compensation case was in progress. The diagnosis was death due to bronchogenic cancer. Prior to death, Mr. Boney was claiming complete disability due to talcosis. Mr. Boney's widow is now claiming that the cancer was a result of talcosis, brought on by exposure to talc, and CNA is faced with a sizeable claim that must be handled separately from the W. C. proceedings that were taking place before Mr. Boney's death.

In this type of case, unlike the W. C. cases of disability of living claimants, there is no settlement out of court. CNA either pays the stipulated sum to the widow or is freed from any responsibility, depending upon what the court rules was the cause of death.

CNA believes that if the W. C. court referee rules that death was caused by cancer which in turn was caused by talcosis, there will be a rash of similar claims from many other GTC workers. This may be especially the case since the Boney widow's lawyer is apparently making a career out of handling talc worker cases. He has handled some ITC worker cases, and is now adding the GTC workers to his list of clients.

Mr. Goldberg said that the Boney attorney had mentioned that Mr. Kitts would be at the hearing, and it is believed that Kitts also gave testimony at other hearings involving former ITC workers. Accordingly, CNA is quite anxious to counteract any Kitts testimony that asbestos might be involved in the Boney case. Otherwise, they believe they can expect many more similar claims from former GTC workers.

It was agreed that Mr. Harvey would attend the hearing scheduled for November 17th in Syracuse, for the purpose of observation and advising Mr. Goldberg in any way that might help counteract Kitts testimony. Mr. Goldberg will leave the hearing open until we have had a chance to study the transcript of the Kitts testimony with Dr. Thompson, then another date will be set for Dr. Thompson to present rebuttal as well new testimony of his own. They felt that this procedure was as good or possibly better than having Dr. Thompson at the hearing on the same day as Kitts.

5.

PLAINTIFF'S EXHIBIT #23

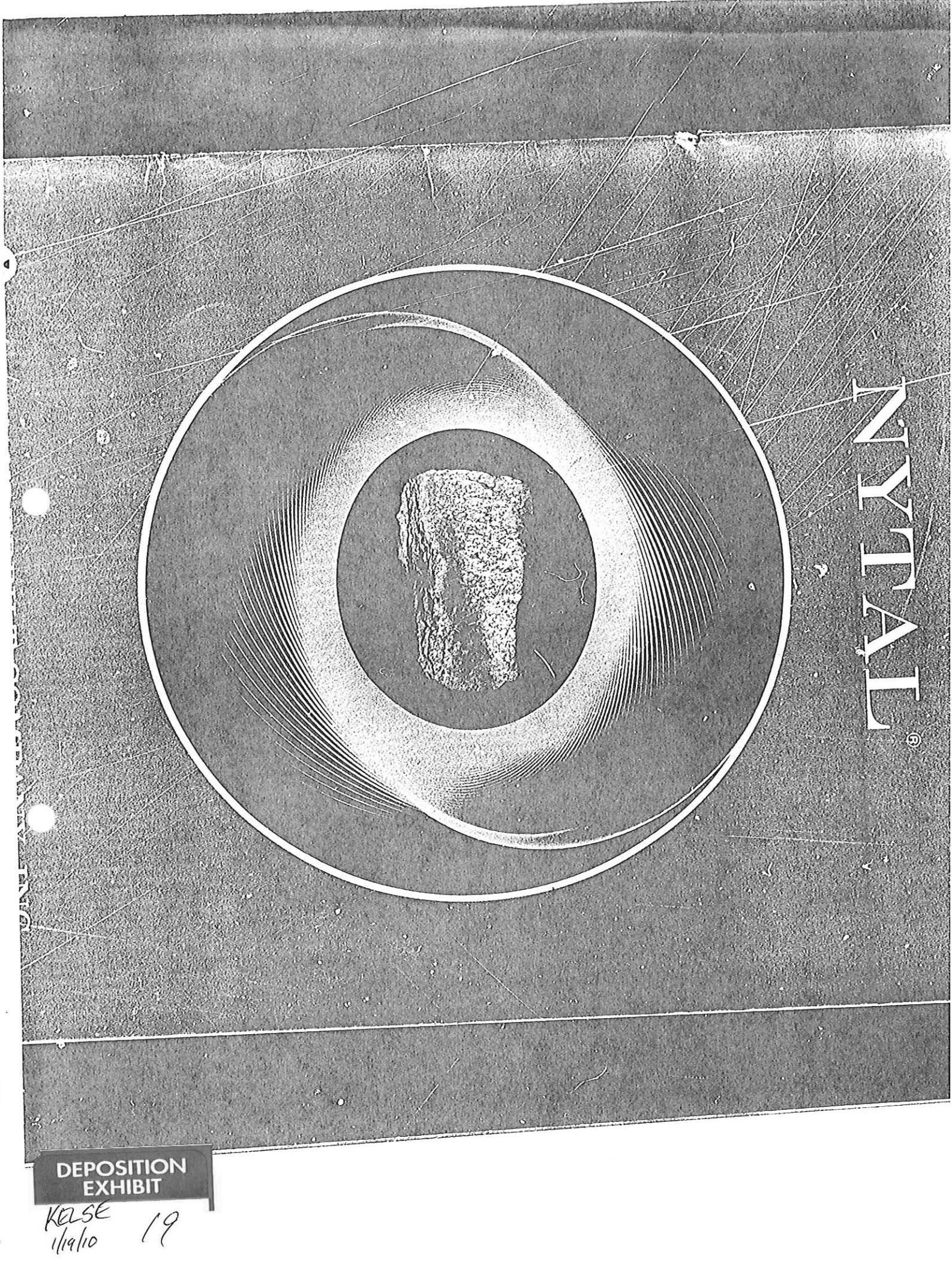
ANDERSON CIRCUIT COURT
JAN D. ROGERS, CLERK
FILED: 8/21/07
BY:

DEPOSITION EXHIBIT
KELSE 1/19/10 18

We discussed at length the medical aspects of the case. CNA is now relying on a pathologist from Albany who may or may not know much about the talc-asbestos problem. We suggested that CNA contact Dr. Tabershaw for advice on this whole situation, and they seemed quite receptive. We would not be surprised if CNA brings him in on the case as a consultant.

In summary, CNA is mainly interested in disassociating talcosis from lung cancer and, by inference, exposure to New York State talcs from carcinogenicity. To do this they need to establish that little or no asbestos was normally found in the ores mined at the time Mr. Boney was working for GTC. This is where they need our assistance.

AMH:slb



DEPOSITION EXHIBIT

KELSE
1/19/10 19

FOREWORD

With talc now being recognized as a major component of ceramic whiteware bodies and paint formulations and finding increased use in other industries, we have decided, during this our 50th anniversary year, to put in book form our accumulated knowledge of this valuable and versatile raw material.

Although some of the information in this book emphasizes Vanderbilt materials, there is much that is of general interest to those who are concerned with the use of New York State talcs.

R. T. VANDERBILT COMPANY, INC.

June 1, 1966

The following are registered trademarks, U.S. Patent Office:

AGERITE	ETHYL ZIMATE	NYTAL	SULFADS	VANSTAY
CAPTAX	METHYL TUADS	PEERLESS	TRUODOR	VEEGUM
DARVAN	METHYL ZIMATE	PYRAX	VANCIDE	ZETAX

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I INTRODUCTION

It is the purpose of this booklet to cover the talcs of the Gouverneur district of New York State. Talc is the common term used for this product but it must not be confused with the pure mineral talc. NYTAL[10] is the trade name of the talc as produced by the Gouverneur Talc Company, Inc., subsidiary of the R. T. Vanderbilt Company, Inc., New York, N. Y.

II HISTORY

The State of New York ranks first in the United States in the production of talc and as far as is known, St. Lawrence County, or more specifically the Gouverneur area, is the largest producer of commercial talc in the world.

Talc mining in New York dates back to the last century. The first discovery of today's producing talc deposits is believed to have been made by a Colonel Henry Palmer, a participant in the California Gold Rush of 1849. Colonel Palmer[1] tells of his finding a white rock which he found suitable for paper making. In 1878 he and associates opened up the first commercial talc mine in New York State on the Nelson Freeman farm near Talcville.

From this humble beginning grew what is now considered to be the most productive talc area in the world. In the fall of 1948, Gouverneur Talc Company, Inc., began producing talc from a new, completely modern plant at Balmat, New York. With only two producers of talc in the State, government figures do not reveal the actual tonnage produced. However, it is reliably estimated that several hundred thousand tons of talc are shipped annually from this area, approximately half of this amount going to the ceramic industry and half to the paint industry. A small amount goes into the rubber, paper and miscellaneous industries.

Figure No. 1 shows the location of this Gouverneur district.

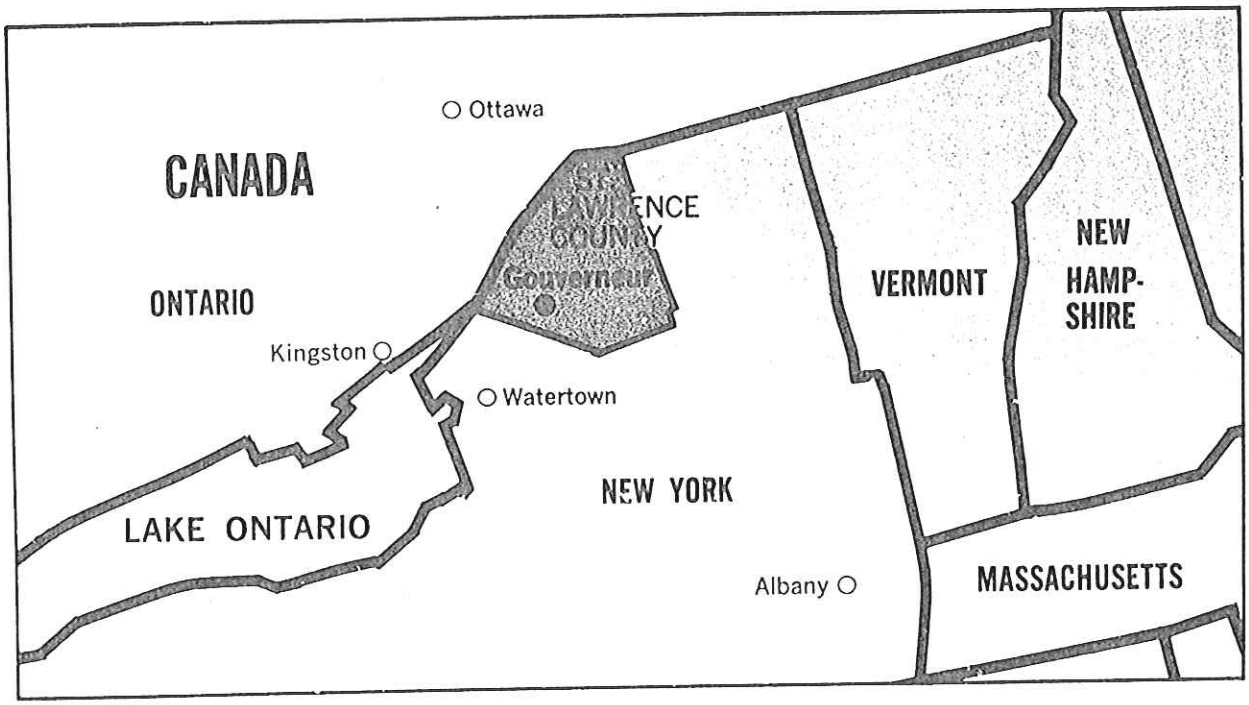

Figure 1—New York Talc Area

III GEOLOGY & MINERALOGY

Talc is usually thought of as a soft material, and pure talc is the starting point on Mohs' scale where it is indicated as having the hardness of one. However, New York tremolitic talcs — meaning talcs containing appreciable amounts of combined lime — are quite hard, running as high as six on the Mohs' scale.

Ries, Tarr and Lindgren[2] have pointed out that these talc deposits occur in schistose layers of enstatite and tremolite gradually merging into the surrounding crystalline limestone. The most abundant country rocks of this area are pre-Cambrian gneisses, the greater portion of which are impure. The limestones have been replaced locally by enstatite and tremolite which later were altered to talc, this change being represented by the following equations:

Enstatite → **Talc**

$$4MgO \cdot SiO_2 + H_2O + CO_2 \longrightarrow 3MgO\ 4SiO_2\ H_2O + MgCO_3$$

Tremolite → **Talc**

$$CaO\ 3MgO\ 4SiO_2 + H_2O + CO_2 \longrightarrow 3MgO\ 4SiO_2\ H_2O + CaCO_3$$

Petrographic and X-ray examinations of ores of these deposits have shown them to contain three principal minerals:

Talc	$3MgO\ 4SiO_2\ H_2O$	SiO_2	63.5%
		MgO	31.7
		H_2O	4.8
Tremolite	$CaO\ 3MgO\ 4SiO_2$	SiO_2	57.7%
		MgO	28.9
		CaO	13.4
Antigorite (Serpentine)	$3MgO\ 2SiO_2\ 2H_2O$	SiO_2	43.5%
		MgO	43.5
		H_2O	13.0

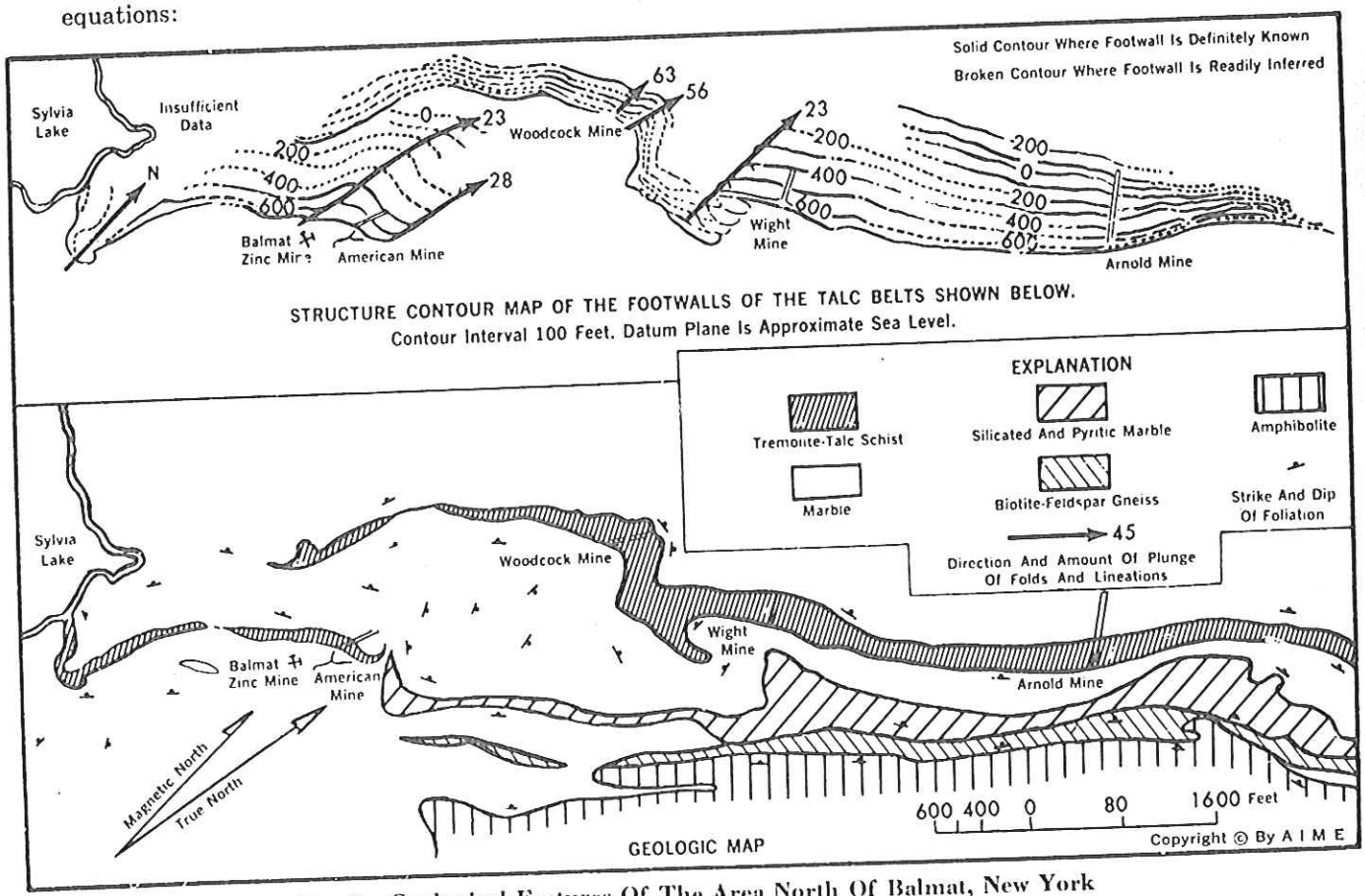

Fig. 2—Geological Features Of The Area North Of Balmat, New York

In addition to the above, many calcium and magnesium bearing minerals may be present in small amounts such as calcite, dolomite, magnesite, brucite, apatite, gypsum, phlogopite, periclase, and hexagonite. Therefore, it is quite evident that these talc deposits may easily contain two or more minerals in greatly varying amounts, depending upon the extent to which the above reactions have taken place. Extreme care in blending is, therefore, essential in producing a satisfactory commercial product.

Mineral Composition of NYTAL 100

Early in the development of the "NYTAL" ore body, samples were submitted to the Department of Geology, Columbia University and they reported the following mineral composition:

Talc	— On the order of one-third
Tremolite	— On the order of one-third
Antigorite	— Less than one-third
Magnesite	— About 5 per cent
Apatite	— Minor constituent
Periclase	— Minor constituent
Brucite	— Minor constituent
Phlogopite	— Minor constituent

At a later date Dolomite, Calcite, Hexagonite, Rhodonite and Gypsum were also found to be present in minor amounts.

Engel[4] states that the zones of commercial talc pinch and swell, and curve in sinuous to complexly folded patterns, as shown in Figure No. 2, but are rudely conformable with adjoining marble layers. The talc zones have a composite strike length of more than five miles, a probable extent down dip in excess of 2,000 feet, and widths of as much as 400 feet. Dips along the talc belts are quite variable, ranging from the horizontal through the vertical, but averaging about 45 degrees to the northwest.

Variations in thickness of the talc belts or of any included zone may be either abrupt or gradual. The belt near Talcville, which contains one producing mine, varies up to 300 feet or more in thickness, averaging perhaps 135 feet thick in the mines. Much of this thickness is commercial talc. A talc belt north of Balmat and southeast and east of Fowler, along which are 2 active mines, varies up to at least 425 feet in thickness, and averages possibly 125 feet, figure 2. In this belt, however, one of several zones of commercial talc 6 to 25 feet thick, or rarely as much as 75 feet thick, are interlayered with impure or discolored non-commercial zones within the belt. Within these two belts are talc reserves sufficient to last several generations at the present rate of production, under resourceful mining methods.

IV PROPERTIES

Composition

Talc has the theoretical formula of

$3MgO$	$4SiO_2$	H_2O
31.7%	63.5%	4.8%

1. Chemical Analyses

NYTAL, being a tremolitic talc, has the average chemical analyses as follows:

PER CENT	NYTAL 99	NYTAL 100	NYTAL 100HR	NYTAL 200	NYTAL 300	NYTAL 400
SiO_2	57.3	56.6	56.6	57.5	56.5	57.5
MgO	28.4	29.4	29.2	28.3	29.0	28.4
CaO	8.0	7.6	8.0	7.2	7.8	6.8
Fe_2O_3	0.3	0.3	0.3	1.5	.2	1.6
Al_2O_3	0.6	0.5	0.5		.7	
MnO	0.3	0.3	0.3	0.3	0.2	0.2
Na_2O	0.3	0.2	—	0.2	—	0.2
Ignition Loss	4.8	5.1	5.1	5.0	5.6	5.3
	100.0	100.0	100.0	100.0	100.0	100.0

General Appearance

1. Raw Ore

As previously stated there are many types of ore blended to produce the usable commercial talc. The two most distinctive types are a hard, grey, massive type mined for the ceramic industry (Figure No. 3) and the soft, shiny, foliated type mined for the paint industry (Figure No. 4).

There is a great difference in the chemical composition of the three major minerals. There is also a vast difference in their physical and pyro-physical properties. Rogers and Kerr[1] give the following description of these three minerals when viewed under the microscope.

> "*TALC* occurs in coarse to fine platy or fibrous aggregates. Talc greatly resembles muscovite (mica) and pyrophyllite. It may be necessary to make a chemical test in order to prove the identity of talc."
>
> "*Tremolite* occurs in long prismatic crystals and columnar to fibrous aggregates. Asbesti-

RAW ORES

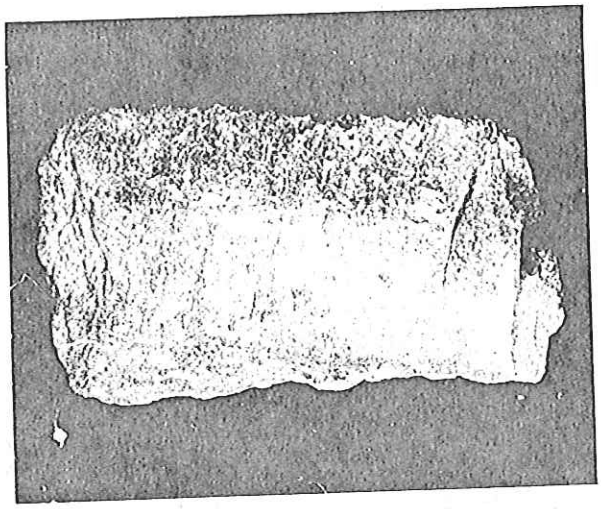

Figure 3—Hard Ore

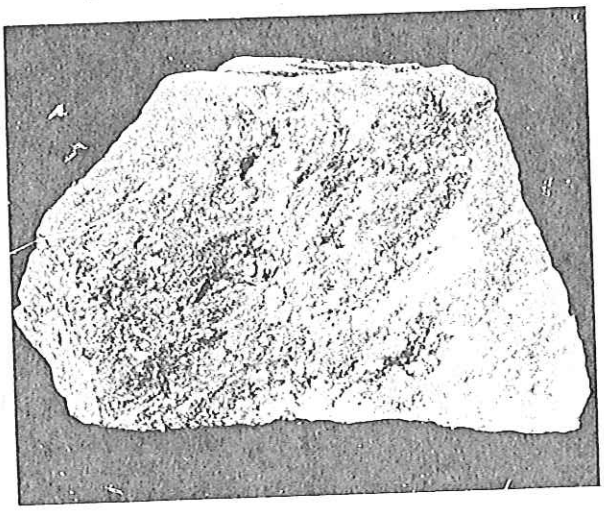

Figure 4—Soft Ore

form varieties are common. Tremolite has the same general appearance as wollastonite."

Antigorite occurs in anhedral crystals or aggregates of fibrolamellar structure. It often occurs as pseudomorphs after pyroxene, olivine. etc."

A wide variation in the unctuousness of these minerals has proven to be the physical property hardest to control and one of the most important as it greatly affects both pressing and casting properties of ceramic bodies.

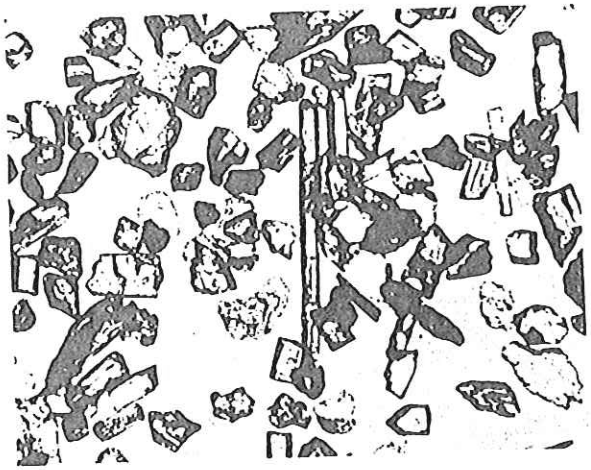

Figure 5—Nytal 99

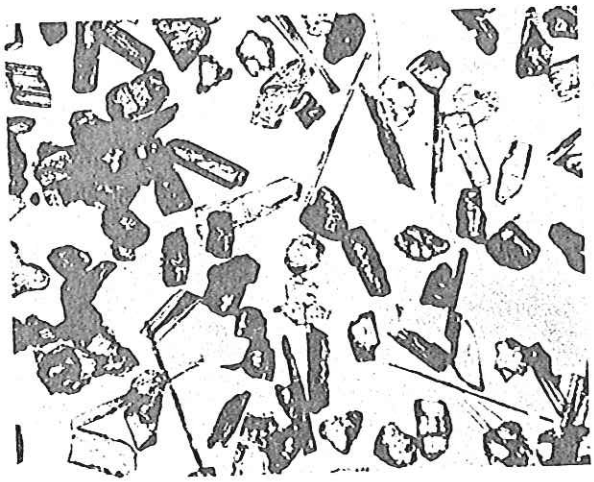

Figure 6—Nytal 100

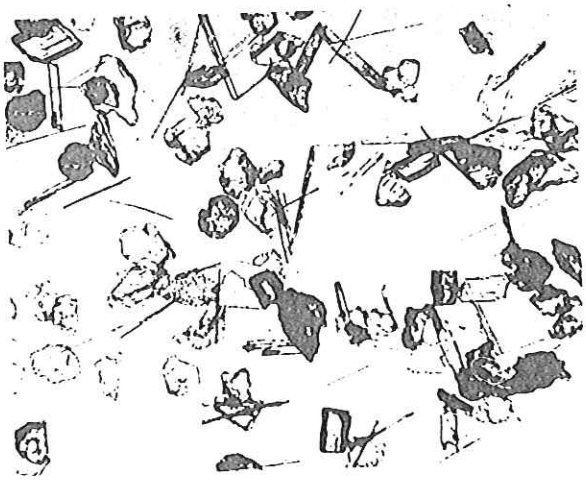

Figure 7—Nytal 300

2. Ground Talc

Figures No. 5, 6 and 7 show photomicrographs of 325 mesh residues of NYTAL 99, 100 and 300 respectively. Print magnification = 90X.

In their study of Gouverneur talcs, Stemple & Brindley[5] state:

> "Electron Micrographs have shown that talc particles exhibit a variety of platy forms and fibrous forms also exist. Single crystal electron diffraction patterns have proven that the fibrous particles consist of a close association of talc and tremolite with a simple orientational relation between the components. It is shown that this relation can be interpreted in terms of a simple structural transformation from tremolite to talc."

Grades Of Nytal Talc

NYTAL 99	Coarse Fraction of NYTAL 100
NYTAL 100	Present Standard for ceramic tile
NYTAL 100 HR	Special for Casting Slips
NYTAL 200	Coarse ground Paint grade
NYTAL 300	Fluid-energy ground Paint grade
NYTAL 400	Super-fine Paint grade

Physical Properties

1. Hardness	1 to 6 on Mohs' scale
2. pH	9.2 to 9.8

3 & 4. The Specific Gravity And Bulking Data on Grades of Nytal Talc

GRADES	SPECIFIC GRAVITY	BULK LBS. PER CU. FT.	
		LOOSE	COMPACTED
NYTAL 99	2.89	65.	79.
NYTAL 100	2.84	50.	71.
NYTAL 100HR	2.86	51.	73.
NYTAL 200	2.85	28.	53.
NYTAL 300	2.85	22.	50.
NYTAL 400	2.85	12.	36.

5. Screen Analyses

% RESIDUE	NYTAL 99	NYTAL 100	NYTAL 100HR	NYTAL 200	NYTAL 300	NYTAL 400
On 200 Mesh	2.0- 3.7	2.1- 2.8	1.7- 3.0	0.2 Max	0.00 Max	0.00 Max
On 325 Mesh	19.0-26.0	15.0-25.0	15.0-26.0	2.0	0.06	0.01

6. Particle Size by Sedimentation

	NYTAL 99	NYTAL 100
Finer Than 49 Microns, %	67	81
Finer Than 28 Microns, %	46	63
Finer Than 22 Microns, %	39	52
Finer Than 15 Microns, %	24	43
Finer Than 11 Microns, %	19	35
Finer Than 7.7 Microns, %	16	31
Finer Than 6.3 Microns, %	15	26
Finer Than 5.1 Microns, %	13	23
Finer Than 4.4 Microns, %	13	21
Finer Than 3.6 Microns, %	13	20
Finer Than 3.1 Microns, %	13	18
Finer Than 2.8 Microns, %	—	18
Finer Than 2.6 Microns, %	—	18
Finer Than 2.2 Microns, %	—	13
Finer Than 1.3 Microns, %	—	12

	NYTAL 200	NYTAL 300	NYTAL 400
Finer Than 20 Microns, %	86	95	....
Finer Than 10 Microns, %	62	73	93
Finer Than 7 Microns, %	49	58	81
Finer Than 5 Microns, %	39	46	66
Finer Than 3 Microns, %	29	32	46
Finer Than 2 Microns, %	25	25	35
Finer Than 1 Micron, %	....	....	24

Figure No. 8 shows particle size distribution of all NYTAL grades.

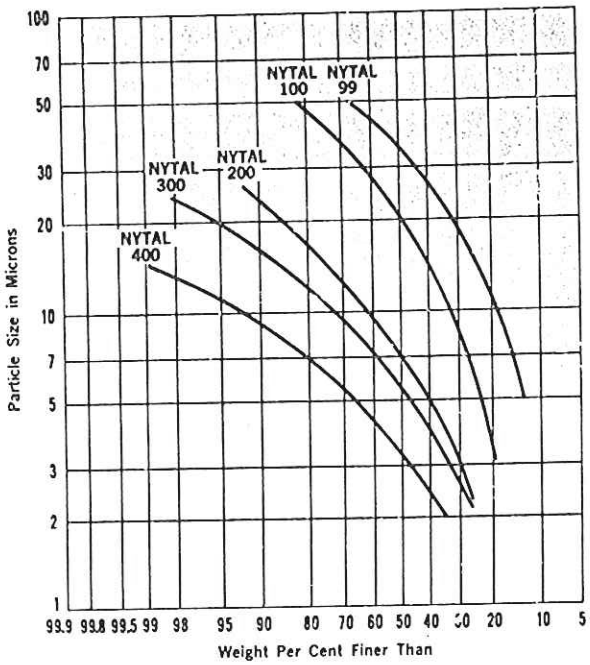

Figure 8—Particle Size Distribution. Determined by Hydrometer Sedimentation.

7. Optical Properties[1]

PURE TALC

$Mg_3(OH)_2(Si_2O_5)_2$ — Monoclinic, $\angle\beta = (?)$

$n_\alpha = 1.538$ to 1.545

$n_\beta = 1.575$ to 1.590

$n_\gamma = 1.575$ to 1.590

$2V = 6$ to 30 ; Opt. (—)

$a = \beta$ or Y, $b = \gamma$ or Z, $c = \alpha$ or X

Color—Colorless in thin sections.

Form—Talc occurs in coarse to fine platy or fibrous aggregates that often have a more or less parallel arrangement. Shreds and plates are often bent. Euhedral crystals of talc are unknown.

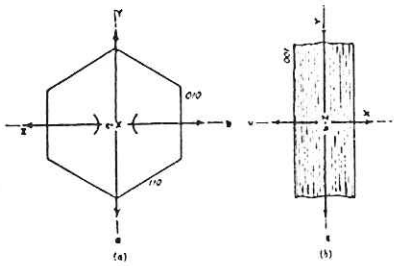

Figure 9—Orientation Diagrams of Talc. Sections Parallel to (a) (001) and (b) (010)

Cleavage perfect in one direction [001].

Relief fair, n > balsam.

Birefringence very strong, $n_\gamma - n_c = 0.030$ to 0.050; the maximum interference colors are upper third order. Sections parallel to the cleavage give very low first-order gray colors since $n_\gamma - n_\alpha$ is almost nil (0.000x).

Extinction—The extinction is parallel to the cleavage traces in most sections; in a few sections the extinction is 2 or 3°; hence talc is probably monoclinic.

Orientation — Cleavage traces and shreds are length-slow as in muscovite.

Interference Figure—Cleavage flakes give a biaxial negative figure with a small axial angle. Dispersion, $r > v$ distinct.

Distinguishing Features—Talc greatly resembles muscovite and pyrophyllite, but may often be distinguished by the smaller axial angle provided an interference figure can be obtained.

It may be necessary to make a chemical or microchemical test in order to prove the identity of talc. The association with other magnesium minerals indicates the presence of talc rather than muscovite or sericite.

Occurrence—Talc is the principal constituent of talc schists and soapstones. It is often a hydrothermal mineral formed at the expense of antigorite and tremolite in shear zones of serpentines. Dolomite and magnesite are frequent associates.

TREMOLITE-ACTINOLITE

$Ca_2(Mg,Fe)_5(OH)_2(Si_4O_{11})_2$ — Monoclinic, $\angle\beta = 74°48'$

$n_\alpha = 1.600$ to 1.628

$n_\beta = 1.613$ to 1.644

$n_\gamma = 1.625$ to 1.655

$2V = 79$ to $85°$; Opt. (—)

$b = \beta$ or Y, c γ or Z $= -10$ to $-20°$

Color—Colorless to pale green in thin sections. The green varieties show faint pleochroism. Green ferriferous tremolite is known as *actinolite*.

Form—Tremolite-actinolite occurs in long prismatic crystals and columnar to fibrous aggregates. Asbestiform varieties are common. The typical cross section is rhombic with (110 110) = 56°.

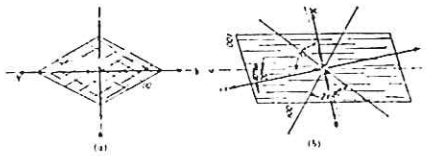

Figure 10—Orientation Diagrams of Tremolite-Actinolite. Sections (a) Normal to the c-Axis and (b) Parallel to (010)

Cleavage [110] in two directions at angles of about 56 and 124°. Longitudinal sections show cleavage traces parallel to the length. There may be parting parallel to (100).

Relief fairly high, $n >$ balsam.

Birefringence moderate to rather strong, $n_\gamma - n_\alpha = 0.022$ to 0.027; so the interference colors range up to low or middle second order. Narrow longitudinal sections show the highest colors. Cross sections have white to yellow interference colors.

Extinction—The maximum extinction in longitudinal sections varies from 10 to 20°. A few longitudinal sections have parallel or nearly parallel extinction. Cross sections have symmetrical extinction.

Orientation—Elongated crystals are length-slow. In cross sections the long diagonal is the slower ray.

Twinning—Twins with [100] as twin-plane are frequent. Fine polysynthetic twinning with [001] as twin plane is occasionally encountered.

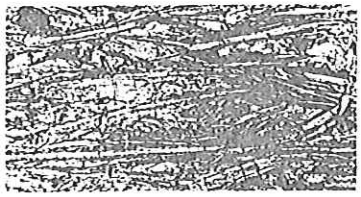

Figure 11—(X17) Tremolite

Interference Figure — Tremolite-actinolite gives a biaxial negative figure with very large axial angle. The axial plane is [010]. Dispersion, $r < v$ weak. Broad elongate sections with low interference colors give the best figure.

Distinguishing Features — The extinction angle and amphibole cross sections are characteristic. Wollastonite has the same general appearance as tremolite, but the trace of the optic axial plane is normal to the cleavage instead of parallel to it as in tremolite.

Related Minerals—A colorless amphibole, edenite, greatly resembles tremolite but has larger extinction angles.

Alteration — Tremolite-actinolite is sometimes found altered to talc.

Occurrence—Tremolite-actinolite occurs in contact-metamorphic deposits, in schists and gneisses, and in metamorphic limestones. It is also found as a replacement of pyroxene in igneous rocks.

ANTIGORITE

(Serpentine in part)

$H_4Mg_3Si_2O_9$ — Orthorhombic

$n_\alpha = 1.555$ to 1.564

$n_\beta = 1.562$ to 1.573

$n_\gamma = 1.562$ to 1.573

$2V = 20$ to $90°$; Opt. (—)

$a = \beta$ or Y, $b = \alpha$ or X, $c = \gamma$ or Z

Color—Colorless to pale green in thin sections.

Form—Antigorite occurs in anhedral crystals or aggregates of fibrolamellar structure. It often occurs as pseudomorphs after pyroxene (bastite), olivine, etc.

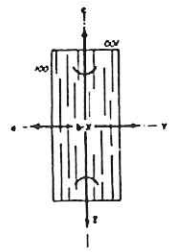

Figure 12—Orientation Diagram of Antigorite. Section Parallel to (010)

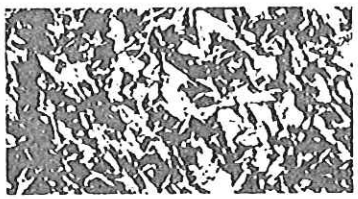

Figure 13—(X20) Antigorite in Serpentine (X Nicols)

Relief rather low, $n >$ balsam.

Birefringence weak, $n_\gamma - n_\alpha = 0.007$ to 0.009; the maximum interference color is first-order yellow. This yellow is slightly anomalous since it has a greenish tinge.

Extinction parallel.

Orientation—The crystals are length-slow.

Interference Figure—The figure is biaxial negative with variable axial angle. The axial plane is [100]. Dispersion, $r > v$ weak.

Distinguishing features — Chrysotile is distinguished from its dimorph antigorite by the fine fibrous structure. Antigorite usually shows aggregate structure and is in practically all cases an alteration product of some other silicate mineral. Serpophite has lower birefringence than antigorite and shows little or no form or structure.

Occurrence—Antigorite is the main constituent of serpentine, a metamorphic rock. It has been formed from olivine, enstatite, augite, etc., by hydrothermal alteration. Common associates are chrysotile, talc, magnetite, chromite, and picotite.

SERPOPHITE

(Serpentine in part)

$H_4Mg_3Si_2O_9$ — Amorphous (Mineraloid)

$n = 1.50$-1.57

Color—Colorless to very pale green in thin sections.

Form—Massive, almost structureless, often occurring in cores surrounded by antigorite.

Cleavage absent.

Relief very low, $n >$ balsam, $n <$ antigorite.

Birefringence nil to very weak, not over 0.003. Interference colors: either none or very low first-order gray.

Extinction—The extinction of serpophite is more

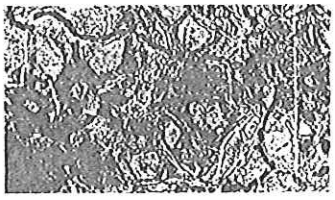

Figure 14—(X25) Serpophite (Clear Smooth Areas) and Antigorite (Rough Gray) With Secondary Magnetite in Serpentine

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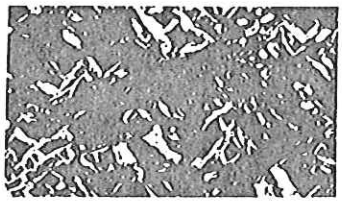

Figure 15 — Serpophite (Black or Dark Gray) With Lenticular Antigorite in Serpentine. (The Same Spot as Figure 14.) (X Nicols)

or less wavy and usually rather indefinite.

Distinguishing Features — Serpophite is distinguished from the other serpentine minerals by its very weak birefringence and its lack of structure.

Occurrence—Serpophite is one of the constituents of serpentine (used here as a rock name). It is usually intimately associated with antigorite.

◇◇◇◇◇

CHRYSOTILE

$H_4Mg_3Si_2O_9$ Orthorhombic

n_α = 1.493 to 1.546

n_β = 1.504 to 1.550

n_γ = 1.517 to 1.557

$2V_\gamma$ = 0 to 50°; Opt. (+)

Color—Colorless in thin sections.

Form—Chrysotile occurs in cross-fiber veinlets.

Relief low, *n* slightly greater than balsam.

Birefringence moderate, $n_\gamma - n_\alpha$ = 0.011 to 0.014; the maximum interference color is bright yellow of the first order.

Extinction parallel.

Orientation—The fibers are length-slow.

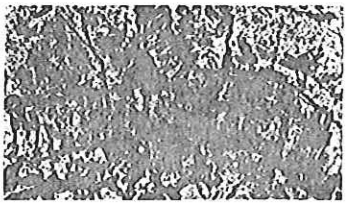

Figure 16 — (X30) Chrysotile Veinlets in Serpentine With Secondary Magnetite

Distinguishing Features — The other forms of asbestos (tremolite, anthophyllite, and crocidolite) all have higher indices of refraction than chrysotile. Tremolite has oblique extinction.

Occurrence—Chrysotile usually occurs in veinlets in serpentine that consists largely of the mineral antigorite.

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Studying New York talc from Fullerville, Wright[13] disagrees with published optical data on talc. He also states where talc and tremolite occur there is no transition zone. Rather sharp boundaries of each are apparent.

8. X-Ray Diffraction

Dr. Ralph J. Holmes[9] furnished the NYTAL 99 and NYTAL 100 curves shown in Figure 17 along with standards.

NYTAL 99 is lower in Antigorite and higher in Tremolite than NYTAL 100. This is confirmed by their chemical analyses shown previously.

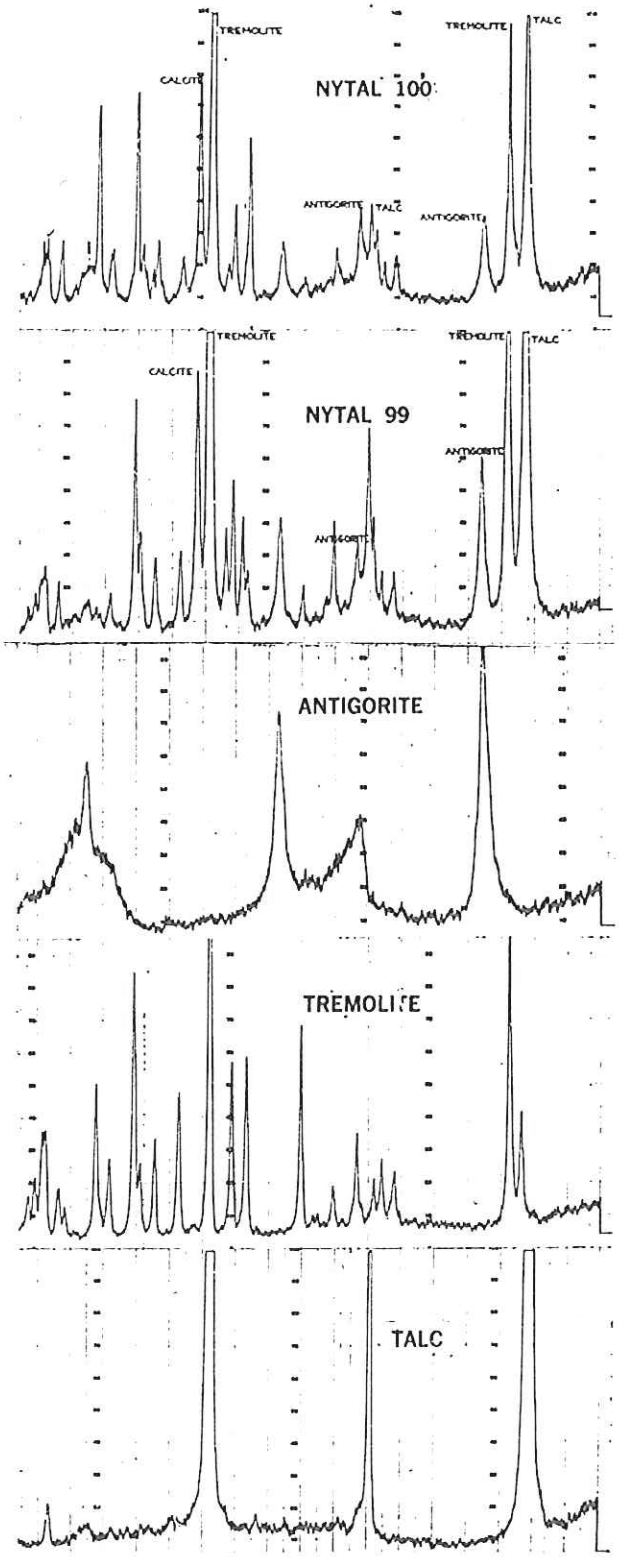


Figure 17—X-Ray Diffraction

V CERAMIC SECTION

INTRODUCTION

Talc is one of the most versatile raw materials used in ceramics today. By proper compounding very low or very high thermal expansion bodies can result, depending on one's need. By other compounding excellent electrical insulators result. During the past forty years talc has changed from a minor constituent to one of the most widely used materials in the whiteware field.

Pyro-Physical Properties

1. **P. C. E. of NYTAL 100 — Cone 16**
2. **Loss on Ignition**—Figure No. 18 shows relatively low ignition loss of N. Y. talc compared to that of Texas talcs.
3. **Thermal Expansion**

New York talc, due to its mode of formation contains little or no free silica. This condition results in a thermal expansion far more uniform than that of other ceramic materials such as clays, feldspars and pyrophyllites which contain varying amounts of free silica.

See Figure No. 19.

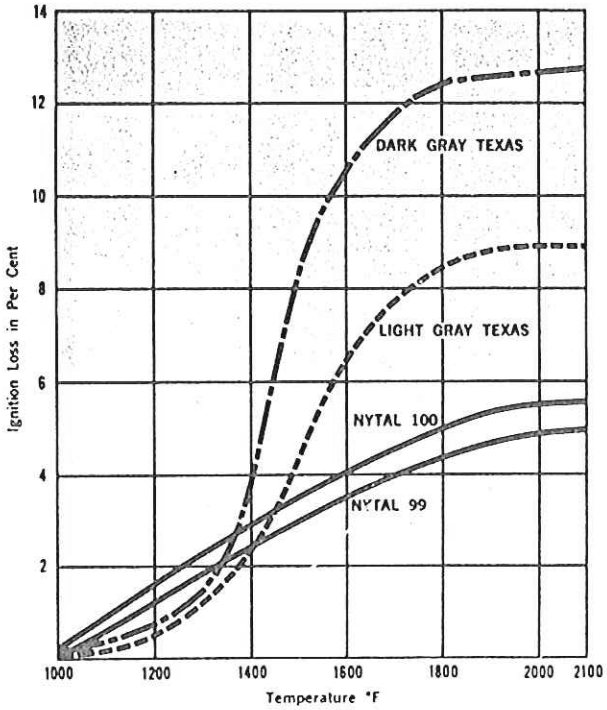


Figure 18—Ignition Loss on Texas Tales and Nytal Tales

4. **Eutectic with Feldspar and Nepheline Syenite**[3]

Figure No. 20 shows the effect of NYTAL 100 on the fusibility of North Carolina feldspar and Canadian nepheline syenite. Four parts of feldspar or syenite to one part of talc form the eutectic point.

5. **Effect of Particle Size on Absorption of Electrical Porcelain Body.**

Flint	22%
C-6 Conn. Feldspar	30
OM #4 Ball Clay	15
Bell's Dark Ball Clay	10
PEERLESS S. C. Kaolin	10
Lunday N. C. Kaolin	10
NYTAL Talc	3

Emrich & Hannon[6] show that the finer the grind of talc the more vitreous the body becomes. This effect is shown in Figure No. 21.

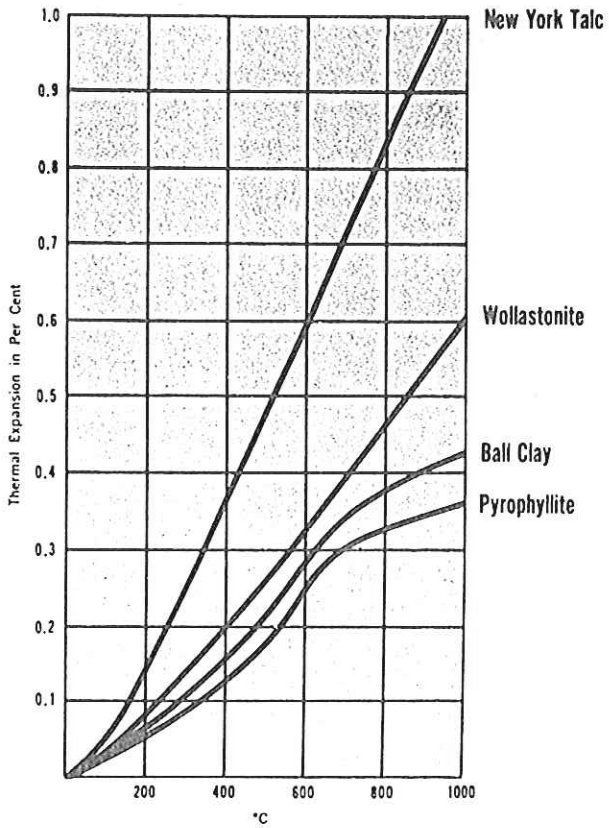


Figure 19—Thermal Expansion of Raw Materials

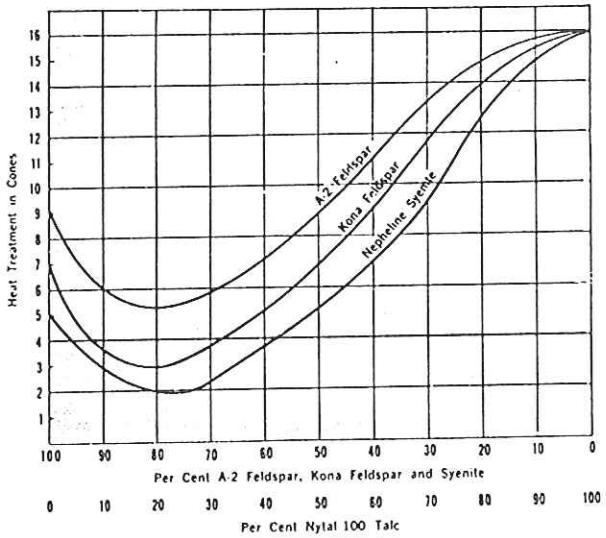


Figure 20—Fusion Behavior of Nytal 100 with A-2 Feldspar, Kona Feldspar, and Syenite

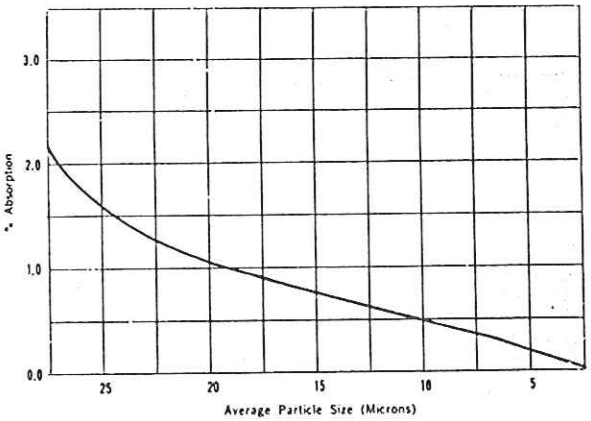


Figure 21—Effect of Particle Size of New York Talc on Absorption of Electrical Porcelain Body Fired to Cone 6

6. Differential Thermal Analysis—NYTAL 99 and NYTAL 100.

Dr. Robert L. Stone[7] reports:

"The legend on the thermogram (Figure No. 22) will serve to give the mineralogical compositions. The main difference in the two samples is that NYTAL 100 contains considerably more anthophyllite than NYTAL 99 plus, possibly, additional species of amphiboles.

The amphibole-serpentine suites that are possible in a talc rock are almost endless, and this renders interpretation very difficult. For example, anthophyllite and tremolite which are constituents of the talc, are both amphiboles; and I think there is another amphibole in these two samples. The reasoning is this: (1) anthophyllite has the exotherm at about 300° plus a doublet endotherm at about 1000° but none at 650°; (2) tremolite has a weak reaction (endo) at 700° plus a strong endo at 1100°; (3) some amphiboles show a moderate endo at 650° plus the endo at 1100°; (4) serpentines, particularly chrysotile, show the 650° endo plus a strong exo at 830°C, the intensity of which varies with crystallite size; (5) the 650-700° endo in the present samples is larger than would be accounted for by the small amount of calcite plus the chrysotile; and (6) the endo at 1100° is a doublet. I might add that the unlabelled endo at 750° may be attributed to either an amphibole or to a serpentine—it doesn't coincide with a peak of any mineral in my collection which would occur in talc ore."

Pask and Warner[8] state that DTA is the most informative method for determining the composition of talcs because of the sensitivity of the samples to thermal effects and lack of complete dependence on regularity of structure.

7. Thermal Decomposition of Pure Talc

Ewell, Bunting & Geller[10] summarized their investigation as follows:

"A sample of a nearly pure talc was investigated both unheated and after heating at 18 temperatures from 340° to 1,435° C. The studies included the determination of heat effects, weight losses, and changes in true specific gravity occurring on heating talc. X-ray and microscopical examinations were made of the heated samples.

Water in excess of 1 molecule was mostly driven off between 380 and 500°C. This water loss was accompanied by a small endothermic heat effect, but not by any change in crystal structure or optical properties.

The molecule of combined water was driven off between 800° and 840°C. This water loss was accompanied by a large endothermic heat effect and an increase in true specific gravity from 2.83 to 2.91, and by breakdown of the talc into enstatite and amorphous silica.

Inversion of the enstatite to clinoenstatite took place gradually, both phases being observed in material heated at 1,200°C, and only clinoenstatite in material heated at 1,300° C. The material heated at 1,300°C also showed conversion of the amorphous silica to cristobalite. Thus, the final products of the thermal decomposition of talc are clinoensta-

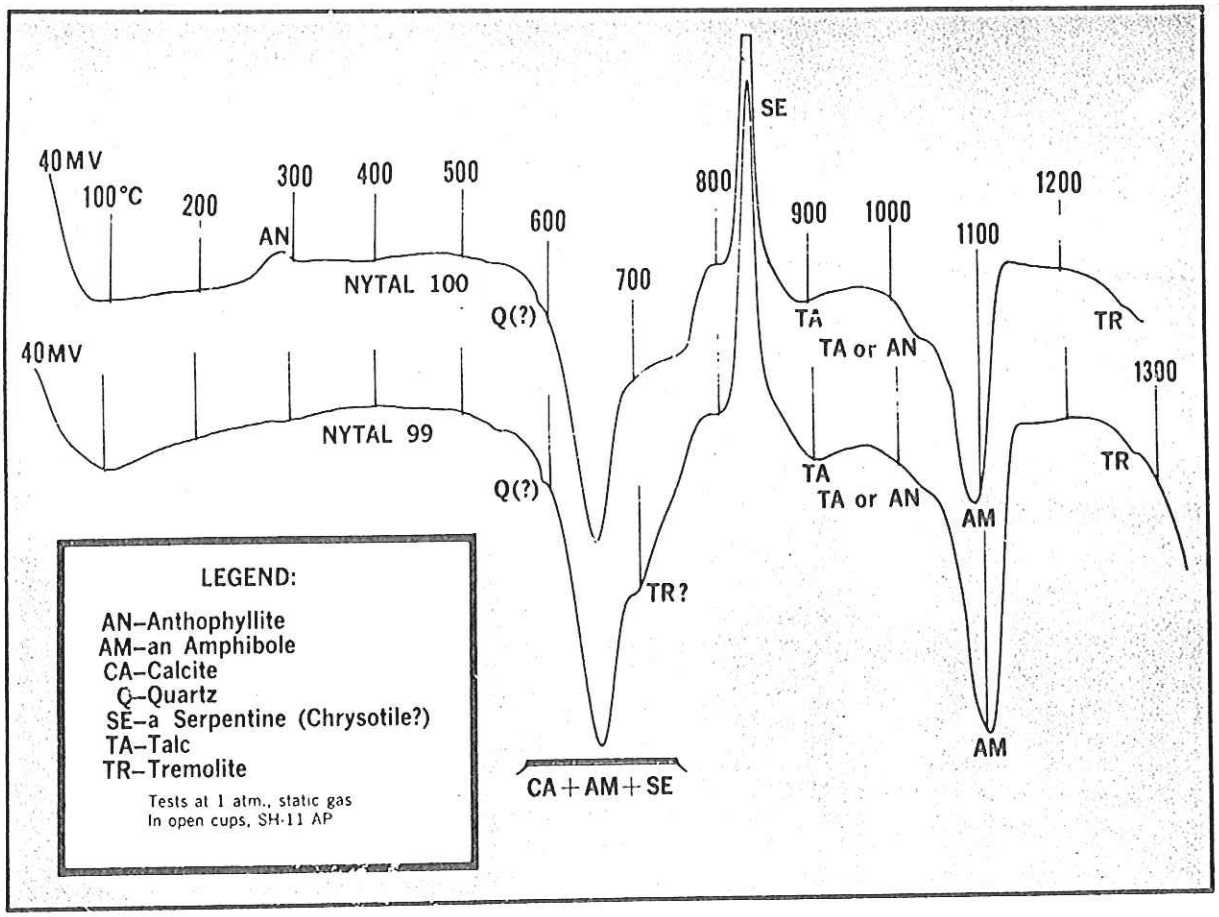


Figure 22—Differential Thermal Analysis

tite and cristobalite. There was a further gradual increase in the true specific gravity from 2.91 to 3.01 on heating from 840° up to the highest temperature, 1,435°C.

The data support the hypothesis of Foshag and Wherry that water in talc in excess of 1 molecule is not constitutional and may be held electrostatically between basal cleavage planes."

Paul Eno[11] reports from his study of NYTAL 100 that

> "The principal phase present in the fired talc is clinoenstatite. This polymorph of enstatite is found to form pseudomorphically from the talc with the original form and grain size of the talc remaining essentially unchanged."

An unusual phenomenon occurs in the heating up of New York talc which aids in it being used as a reliable ceramic raw material. As stated previously when talc is heated above Cone 06 it inverts to clinoenstatite and cristobalite. Tremolite inverts to clinoenstatite, diopside and cristobalite[12]. No information has been published on the action of Antigorite under heat but thermal expansion curves indicate it also inverts to clinoenstatite.

Therefore, it is to be noted that although one starts with three different minerals, upon heating above Cone 06, only one principal mineral phase remains, namely clinoenstatite.

This is graphically shown in Figure No. 23 where the moisture expansion is affected considerably by firing a high talc body to Cone 06 and 05 with little or no change in shrinkage and absorption.

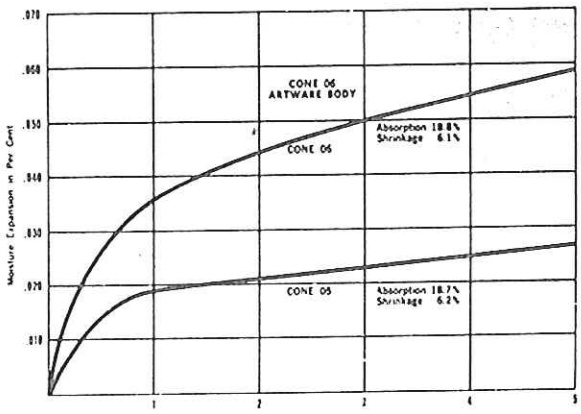
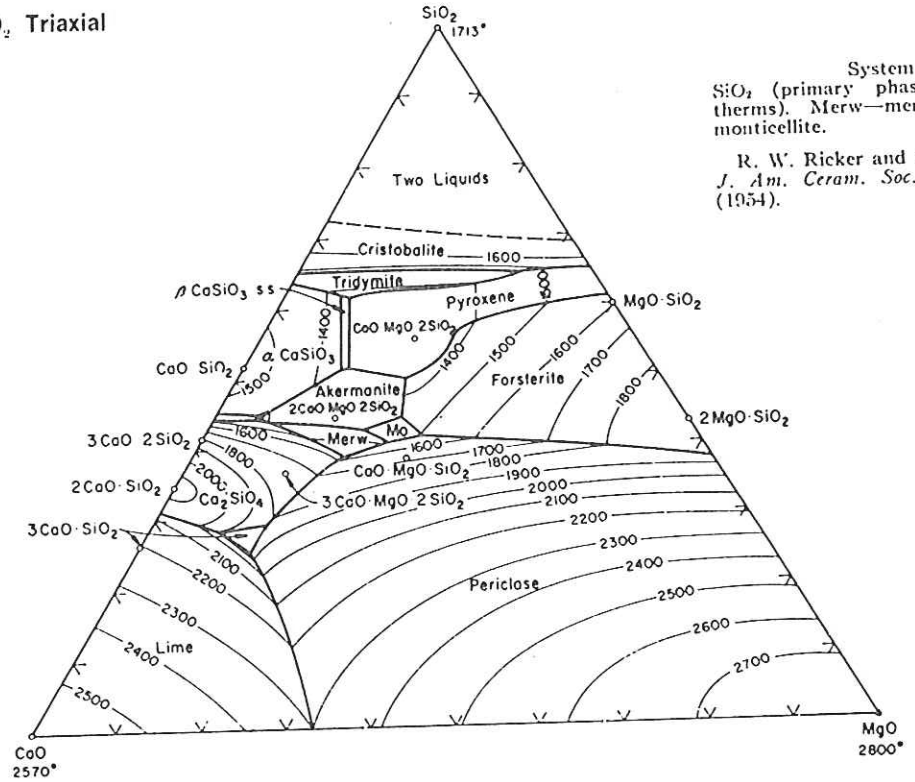


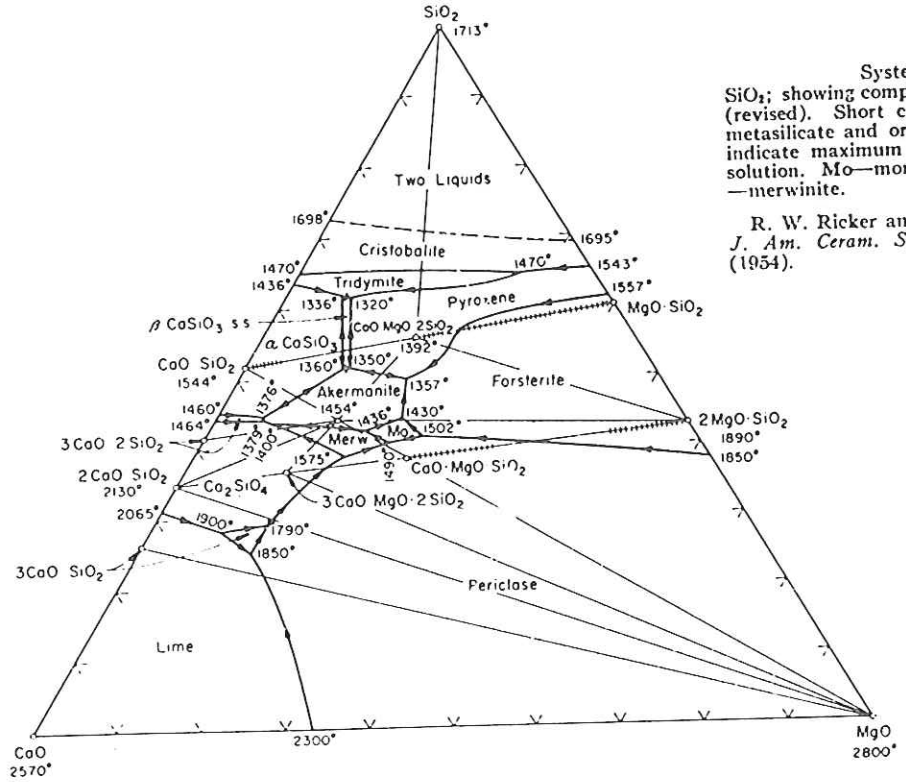
Figure 23

8. CaO-MgO-SiO_2 Triaxial



System CaO–MgO–SiO_2 (primary phases and isotherms). Merw—merwinite; Mo—monticellite.

R. W. Ricker and E. F. Osborn, *J. Am. Ceram. Soc.*, **37** [3] 134 (1954).



System CaO–MgO–SiO_2; showing composition triangles (revised). Short cross lines along metasilicate and orthosilicate joins indicate maximum extent of solid solution. Mo—monticellite. Merw—merwinite.

R. W. Ricker and E. F. Osborn, *J. Am. Ceram. Soc.*, **37** [3] 134 (1954).

Figure 24

Use in Whiteware

1. Semi-Vitreous Ware

Emrich[11] reports that the greatest amount of ceramic grade New York talc goes into the semi-vitreous whiteware field, especially wall tile. It has been found to be an ideal raw material for the following reasons:

1. The formation of enstatite produces high thermal expansion bodies resulting in glazes being put in compression which in turn tends to prevent crazing.
2. Low moisture expansion bodies are produced resulting in good resistance to delayed crazing.
3. The hard, massive nature of the ore aids in either dry-pressing or in the making of good casting slips.
4. Low firing temperatures are possible.
5. Fast firing schedules are possible—as fast as one hour cold to cold.
6. Shrinkage and absorption of bodies are fairly constant over a long temperature range.
7. Good white fired bodies are possible.
8. Glazes of unusual brilliance and attractiveness can readily be fitted to high talc bodies.

As far back as 1936 Hagar[15] reported the improved craze-resistance of semi-vitreous bodies when New York talc was used.

A minor use of talc is as an addition to the clay-flint-feldspar type of dinnerware bodies. It is added up to 6% of the body resulting in greatly improved craze resistance.

TYPICAL SEMI-VITREOUS BODIES

	Wall Tile	Wall Tile	Wall Tile	Art Pottery	Art Pottery	Dinner-ware
Flint	17			5		33
NYTAL 99	35	70	67			
NYTAL 100HR				43	64	4
Ball Clay	24	30	28	30	32	32
HS PYRAX Pyrophyllite	16				4	
Whiting	8		5			
Wollastonite				12		10
PEERLESS Kaolin				10		11
Feldspar						10
Georgia Kaolin						
Firing Range-Cones	3-5	03-1	03-1	02-1	06-04	7-8
% Shrinkage	0.0	1.0	0.7	8.5	6.2	11.0
% Absorption	16.5	13.0	13.4	10.0	18.7	8.5

2. Vitreous Ware

Another minor use of talc is as an auxiliary flux. Emrich and Hannon[6] state there are two factors which influence the effect of talc:

(1) Its eutectic point with the principal fluxing agent

(2) The fineness of grind of the talc

Both of the above factors were taken up earlier in this booklet.

TYPICAL VITREOUS BODIES

	High Alumina	High Alumina	Electrical Porcelain	Vitreous China	Sanitary Ware	Translucent Artware
Dolomite	3					
Al_2O_3	85	90				
Flint			22	36	18	5
Feldspar	3		30	17	27	
Nepheline Syenite						46
Ball Clay			25	8	25	15
PEERLESS Kaolin	6	5.5	10		16	25
N. Carolina Kaolin			10	10	8	
Florida Kaolin				10		
English China Clay				11		
NYTAL 100	3	4.5	3	8	6	9
Firing-Cone	18	27	9	10	10	4
% Shrinkage	18.5	13.0	13.3	14.8	12.0	14.7
% Absorption	0.0	0.0	0.0	0.0	0.0	0.0

3. Preparation of Cone 06-04 Artware Casting Slip

Batch:	
NYTAL 100 HR Talc	64.0 lbs.
Tenn. #5 Ball Clay	16.0
Kentucky OM #4 Ball Clay	16.0
Imported Whiting	4.0
	100.0
Water	44.0 lbs.
DARVAN #7 dispersing agent	0.0 lbs. 14 oz.
Sp. Gr. 1.800 Oz./Pint	29.98

Mix 4 oz. of DARVAN with all the water. Due to the slower wetting property of talc, it should be soaked prior to making up the complete slip. Slowly add the NYTAL to the water while stirring and then allow the talc to soak for at least ½ hour.

After soaking, the remainder of the DARVAN is added. Then the ball clays and whiting are added while stirring and the batch is thoroughly mixed until a smooth slip is produced.

The amount of DARVAN may vary due to differences in local waters.

When made up in this way, an excellent, stable casting slip for both drain and solid cast is produced.

Figure No. 25 shows the effect of soaking of talc on the amount of dispersing agent required.

Figure No. 26 shows the effect on the viscosity of sanitaryware slip when talc is added to the body.

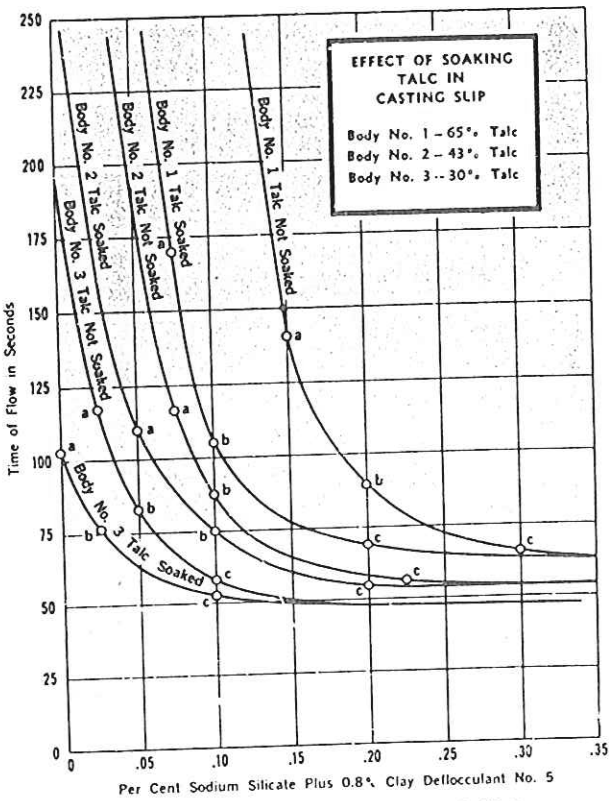


Figure 25—Effect of Soaking of Talc on the Amount of Dispersing Agent Required

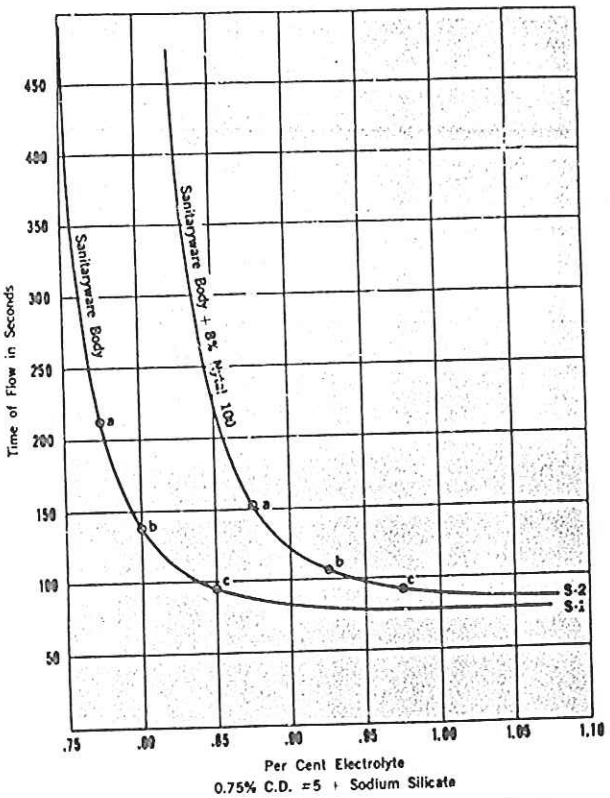


Figure 26—Effect on the Viscosity of the Sanitaryware Slip When Talc Is Added to the Body

	S-1	S-2
"Jasper" Flint	18.0%	18.0%
A-2 Feldspar	33.0	25.0
Ky. Tenn. Clay Co. #4 Ball	10.0	10.0
Victoria Ball Clay	8.0	8.0
Martin #5 Ball Clay	7.0	7.0
Lunday N. C. Kaolin	8.0	8.0
"PEERLESS" Kaolin	16.0	16.0
"NYTAL" 100 Talc		8.0

4. Glaze Ingredient

Talc is used in glazes as a cheap source of MgO whenever magnesia is called for in the formulation.

5. Mold Dusting Compound

To help mold release of large castware pieces finely ground talc is used to dust the plaster molds before pouring of the slip.

Use in Refractories

1. Theory Of Cordierite Bodies

Whereas high talc bodies give the high thermal

expansion characteristic of enstatite, these are undesirable where a material is exposed to frequent temperature changes. Thurnauer[16] has this to say on the formation of low expansion cordierite bodies:

> "Strangely enough, talc again comes to the aid of the ceramist and ceramic materials with extremely low coefficients of thermal expansion are made by using talc in correct proportions and in combination with other raw materials.

For a better understanding and explanation of this fact, let us look at the three component system $Al_2O_3 \cdot MgO \cdot SiO_2$, shown in Figure 27. We have drawn a straight line between two points, "A" and "B". Point "A", situated on the $MgO \cdot SiO_2$ axis, represents the position of pure fired talc and point "B", on the $Al_2O_3 \cdot SiO_2$ axis, shows the position of fired kaolin in the triaxial system. All possible combinations of mixtures talc-kaolinite fall on the line connecting the two points "A" and "B". It can be seen that bodies high in talc fall into the field of clinoenstatite crystallization and it is a known fact that clinoenstatite crystals are prominent in steatite bodies and their interlocking structure gives the high mechanical strength peculiar to this type of ceramic material. The high thermal expansion of steatite bodies is also due to clinoenstatite formation.

If the magnesium silicate content is decreased and aluminum silicate increased correspondingly, we come into the field of solid solutions of cordierite crystals, which is surrounded by the five eutectic points of the three component system. Mixtures within this field have a very short firing range and, therefore, are extremely hard to fire to vitrification. It is a generally known fact that ceramic bodies whose chemical composition are close to a eutectic mixture are commercially not practicable. Accordingly, in order to get workable bodies, it is necessary to move down the line further until we get into the field of mullite crystallization. Bodies within this field and with a talc content of 30 to 40 per cent can be fired satisfactorily. The optimum proportions of magnesium silicate and aluminum silicate vary, depending upon purity, crystalline structure, fineness of raw materials, etc. Bodies containing talc up to 40 per cent and fired to approximately 1300 deg. C. contain cordierite crystals in appreciable quantities. Cordierite is known for its low coefficent of thermal expansion and such so-called "Cordierite materials" have indeed very low coefficients of thermal expansion. They can be heated to red

2. MgO-Al_2O_3-SiO_2

System MgO–Al_2O_3–SiO_2; revised. Based on the original work of G. A. Rankin and H. E. Merwin, *Am. J. Sci.*, 4th Ser., **45**, 322 (1918); modified by N. L. Bowen and J. W. Grieg, *J. Am. Ceram. Soc.*, **7**, 238 (1924); modified by J. W. Grieg, *ibid.*, **13**, 12 (1927); modified by J. F. Schairer, *ibid.*, **25**, 241 (1942); modified by W. R. Foster, *ibid.*, **33**, 73 (1950); and by Keith and Schairer (below). Recent studies by W. R. Foster, *ibid.*, **34**, 255 (1951) indicate that the field labeled "Clinoenstatite" should read "protoenstatite."

M. L. Keith and J. F. Schairer, *J. Geol.*, **60** [2] 182 (1952).

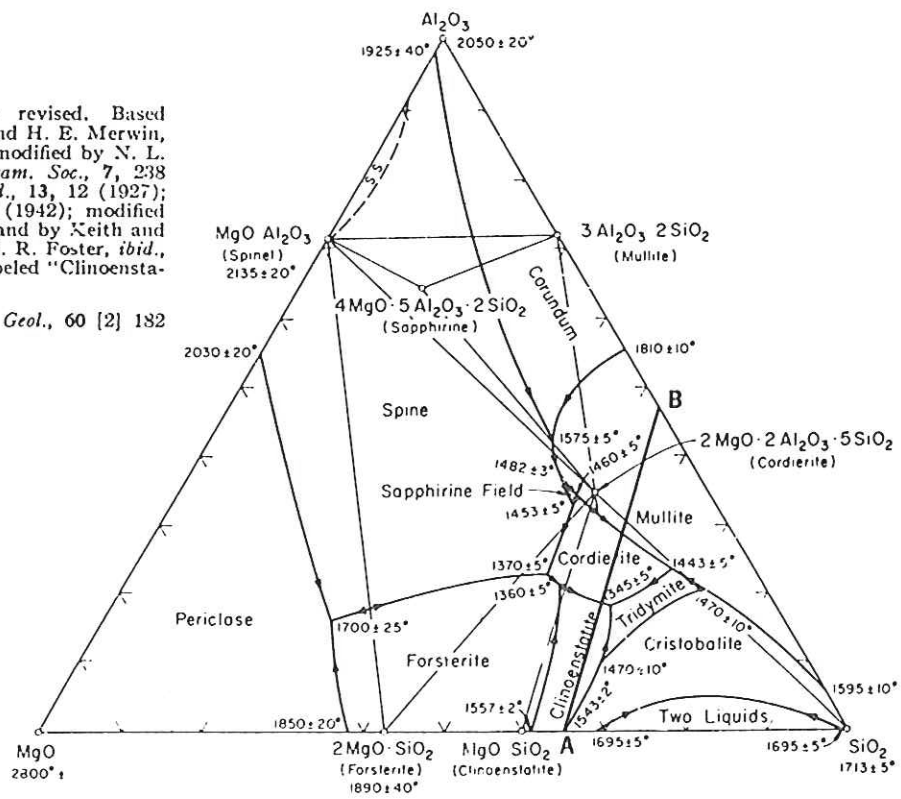


Figure 27

dropped into cold water with-
cracking.
s of firing ceramic products,
even nearly complete, equilib-
to the phase diagram, is never
sually certain crystal forma-
back to the raw materials, re-
l in the fired article and have
ffect upon the properties and
e of the fired product. Fur-
aw materials used for ceramic
o means chemically pure, but
ies such as iron oxides, alka-
nium dioxides, etc. These im-
t as fluxes, lowering the firing
the ceramic material and in-
nount of glassy matter in the
r they may act as mineralizers
rystalline phase. In our case,
three-phase diagram, MgO·
ves only as a guide for what
l in a ceramic body consisting
xtures. In actual practice, re-
ng in a ceramic body during
h more complicated and it is
al methods that the most suit-

able composition of a ceramic body can be determined."

Hagar & Thiemecke[1] both showed in early investigations the longer service life resulting when New York talc was added to saggers.

TYPICAL REFRACTORY BODIES

	Heater Plate	Radiant	Sagger	Lab Sagger
Low CaO Talc	35	30	9	8
Ball Clay	20	15		21
PEERLESS Kaolin	30	20		
HS PYRAX Pyrophyllite	10	10		
Calcined Al_2O_3	5			
Calcined Georgia Clay		10		
Saw Dust		15		
PEERLESS Sagger Clay			29	13
Oak Hill Fire Clay			20	
Medium Grog			21	26
Coarse Grog			21	16
PYRAX Granules				16
Firing Cone	11	10	6	8

VI PAINT SECTION

means different things to different
many materials that are like talc
feel, or other properties. Among
yllite, asbestos, diatomaceous sil-
ium silicate, and some forms of
to the paint chemist and paint
is hydrous magnesium silicate.
is so defined in the four popular
ich will be mentioned later in this

t Properties of Talc

emically inert in paint systems.
xcellent suspension in paint, rarely
than a soft pigment layer that is
ated.
obably the easiest pigment to dis-
grades wet down and disperse to
ineness by simply stirring or low
th the vehicle.

rades of NYTAL

200 is a relatively coarse grade of
d by its screen analysis which runs between 1 and 2% retained on a 325 mesh sieve. It produces medium consistency in paints. This is an inexpensive NYTAL for use where paint fineness and film smoothness are relatively unimportant.

2—NYTAL 300 is a smooth talc giving medium paint consistency. It stirs in to a 4 Hegman fineness. It is the popular talc for house paint, flat paint, emulsion paint, and all coatings where paint fineness and film smoothness are important considerations.

3—NYTAL 400 is a superfine talc with an average particle size of about 3 microns. It stirs in to a 5 Hegman fineness. This talc is generally used by a mix-in process to increase body or to decrease luster without hurting film smoothness.

D. Functions and Uses of NYTAL in Paint

1—NYTAL has many functions in paint. The formulator uses it as an extender pigment to build proper consistency and application properties—to give desired flow and leveling without sagging. NYTAL literally gives paint the "painty" feel under the brush. It disperses so easily it may be stirred into an otherwise finished paint for the pur-

pose of raising the consistency a few points—or to adjust gloss and sheen.

2—NYTAL has a variety of desirable characteristics. The dry brightness is high, color in oil is good, color in water is good, tinting strength is very low—thus it does not impart muddiness or grayness to whites or light tints. NYTAL wets very easily in all paint liquids such as organic solvents, varnishes, alkyds, water. It disperses readily in paint systems, frequently requiring no more than moderate stirring. NYTAL is chemically inert in paint systems. It has excellent suspension and helps suspend other pigments, thus retarding their possible tendency to settle hard.

3—NYTAL is used in nearly all types and kinds of paint — primers, undercoaters, flats, eggshell, semigloss — interior and exterior — lacquer, floor paint, traffic paint, roof paint, house paint, trim and trellis, patio—paints for all surfaces—organic solvent thinned paints; water thinned paints.

4—NYTAL 200 is used in coatings where paint fineness and film smoothness are either not important or where some film roughness or "tooth" is most desirable such as, for example, interior wall primers, undercoaters, and texture paints. Large quantities of these tales go into traffic paints as specified by the various states.

5—NYTAL 300 is the general-purpose extender for all kinds of paints. Its popularity is due as much to its uniformity of quality as to its ease of dispersion, good film smoothness, and all-around talc properties. Probably, the largest single use of NYTAL 300 is in linseed oil house paint. Most white house paints contain a substantial amount of talc—on the dry film basis about 15% talc by volume and 25% by weight. Yet this amounts to only 4% of the raw material cost. There is usually more talc than titanium dioxide, or lead, or zinc, or any other pigment in the film. Only the binder is present in greater amount. What does all this NYTAL do in paint? Well, first, as noted before though not necessarily of prime importance, it helps pigment suspension in the can and provides the desirable consistency for good application properties. Further, in combination with the other pigments present, the NYTAL promotes excellent durability; the film weathers slowly and uniformly by gentle erosion or chalking, and eventually provides a most desirable repaint surface. Also, whiteness is maintained throughout the long film life because NYTAL is not discolored by wash-down from iron or copper screens or hardware.

Many white exterior latex and emulsion paints contain NYTAL as the extender pigment. The reasons are the same as for the linseed oil paints, namely, good pigment suspension in the can, proper application consistency and feel under the brush, good white color throughout the life of the paint film, and desirable repaint surface.

6—NYTAL 400 is used wherever high paint fineness and a smooth paint film is required. This stir-in pigment can be incorporated as the last ingredient, if desired, by simply mixing into the otherwise finished paint. In this way it serves as a formulating tool to adjust a batch of paint to the desired consistency, sheen, or other special property. A popular use is in semi-gloss paints, enameis, and lacquers where it functions as a dulling agent to provide the desired level of sheen or gloss. Since NYTAL 400 may be stirred into the finished paint, it is very handy as a means of adjusting the batch to the requisite gloss level. At the same time, it contributes to good brushing and sag resistance as well as aids suspension of all pigments. Table 1 shows the dulling effects of increasing amounts of NYTAL 400 when added to a high-gloss alkyd

Table 1
NYTAL 400 Reduces the Gloss of Oleoresinous Enamels

Pounds of NYTAL 400 per Gallon	60° Gloss
None	85
0.4	80
0.6	54
0.8	37
1.0	24
1.2	14

enamel. Note that about a half-pound of the NYTAL produces a semi-gloss, and one pound or so dulls the paint into the flat range. Furthermore, the film smoothness is maintained because the NYTAL 400 has a high stir-in Hegman fineness.

7—Another popular use of NYTAL 400 is to adjust consistency of finished paint. NYTAL 400 has high binder demand, or oil absorption, so a few tenths of a pound per gallon stirred into the paint will raise the consistency appreciably. This scheme is becoming more and more popular in the manufacture of linseed oil house paints.

Table 2 gives an example of such a paint to which were added increasing amounts of NYTAL

Table 2
NYTAL 400 Increases the Consistency of Linseed Oil House Paint

Pounds of NYTAL 400 per Gallon	Consistency KU
None	76
0.2	79
0.4	83
0.6	87
0.8	91

400. Each two-tenths of a pound of talc caused a consistency increase of about 4 KU.

8—NYTAL 400 is gaining attention as an extender pigment. It is being used in high loadings—in several cases as high as four pounds per gallon. Here the paint chemist is taking advantage of the easy dispersion of NYTAL. He can grind his prime pigment and then simply stir in the NYTAL 400 to give a fineness of 5 Hegman. Or he can easily push the fineness up a Hegman unit by normal milling on roller, pebble, or high speed stone equipment. These paints have outstanding properties of suspension, brushability, leveling, controlled sag, and uniformity of film sheen or semi-gloss.

E. Production of Paint Grades of NYTAL

1—The production of NYTAL is carefully controlled with regard to color, screen residue, paint fineness, dulling efficiency, and paint consistency or binder demand. The minerals are processed in several steps—by crushers, pebble mills, fluid energy mills, separators, classifiers—all are used in our modern talc plant. At regular intervals, automatic sampling devices withdraw portions for laboratory testing. Each step of the process is carefully controlled so that the NYTAL entering the finished product silos is uniform within narrow specification limits.

2—Our plant engineers have developed a novel procedure for filling these silos in such a way that the incoming NYTAL is intimately mixed with the talc already present in the silo. Anyone who has tried to mix two dry powders will appreciate the importance of this discovery. What does this do for uniformity? Let us consider the consistency control test we use at our plant. A complete linseed oil house paint is prepared with each mill sample. The titanium and zinc pigments are predispersed in some of the oil to form what we call "white base." The mineral spirits, the drier, and the balance of the oil are mixed together. The NYTAL sample is simply stirred into this vehicle. Then the "white base" is stirred in to finish the paint. After adjusting the paint to proper temperature, the Stormer consistency is determined. Our specification limits for our NYTAL 300 grade are plus or minus three Krebs Units from our standard NYTAL. This means that the consistency of the NYTAL entering the finished product silo is within three Krebs Units of standard. As it enters the silo, it is blended with similar material. The net result is that the NYTAL 300 coming out of the silo for bagging and shipment is even more uniform—its consistency spread is now only plus or minus one Krebs Unit.

F. Uniformity of NYTAL

1—This uniformity of NYTAL is of utmost importance to both paint chemists and paint manufacturers. The zincless linseed oil primer TT-P-25a is a good paint to illustrate the importance of uniformity of a raw material such as NYTAL 300. A typical formula meeting the requirements of this specification contains almost three and a half pounds of talc per gallon. This formula was prepared with seven samples of NYTAL 300 representing the allowable deviations from our standard. Table 3 shows these listed as A through G. The

Table 3

NYTAL 300 in TT-P-25a Linseed Oil Primer

NYTAL 300	Relative NYTAL Consistency	TT-P-25a Formula Consistency KU	Critical PVC
A	Plus 3 KU	85	48.3
B	Plus 2 KU	83	49.7
C	Plus 1 KU	82	50.3
D	Standard	80	51.4
E	Minus 1 KU	79	52.2
F	Minus 2 KU	77	53.5
G	Minus 3 KU	76	54.5

second column shows that these samples deviate by one, two, or three KU from our standard by our consistency control test. The consistencies of the TT-P-25a Specification formula made with these talcs are given in the third column. Note that the increments of consistency are very much like those listed in column two. But the last column might be of most interest to the paint chemist. This shows that a NYTAL 300 uniformity of plus or minus one KU (samples C and E) will be equivalent to a variation of only plus or minus 1% critical pigment volume concentration. Even at plus or minus 3 KU spread (samples A and G) the NYTAL 300 produces a variation of only plus or minus 3% critical PVC. It should be noted in passing that TT-P-25a allows a consistency spread of 75 to 90 KU.

2—Another example to illustrate the importance of this uniformity is given in Table 4. The same seven samples of NYTAL 300 were used to make an acrylic emulsion paint. The formulation con-

Table 4

NYTAL 300 in Acrylic Emulsion Paint

NYTAL 300	Relative NYTAL Consistency	Consistency KU	Critical PVC
A	Plus 3 KU	79	52.6
B	Plus 2 KU	79	53.0
C	Plus 1 KU	79	53.5
D	Standard	78	54.0
E	Minus 1 KU	78	54.6
F	Minus 2 KU	78	55.2
G	Minus 3 KU	78	55.6

tained two pounds of titanium dioxide and two and one-quarter pounds of NYTAL 300 per gallon at a pigment volume concentration somewhat below the critical level. The data show that these seven paints had essentially the same consistency —the maximum difference being just one KU. Of even more importance was the narrow range of critical pigment volume concentration—only three per cent. Furthermore, where the NYTAL 300 uniformity is plus or minus one KU (samples C and E) the variation in critical PVC is little more than plus or minus one-half of one per cent.

G. NYTAL Meets Talc Specifications

1—Many federal, state, and municipal paint specifications require or allow the use of magnesium silicate talc pigments. Frequently the type of talc is specified. Usually these paint specifications allow the paint chemist reasonable latitude in the selection of the talc. Since most of the paint specifications have fineness requirements, it is usually advantageous for the paint chemist to choose the talc that has a stir-in fineness similar to that required by the paint specification. In fact, one of the reasons for the development of smooth talcs and superfine talcs was for the use in specification paints having high Hegman fineness requirements.

2—NYTAL meets the four popular talc specifications as follows:

ASTM D605	NYTAL 200, 300, 400	
Federal TT-P-403a	NYTAL 200, 300, 400	
Maritime 52-MA-523a	Type I	NYTAL 200, 300
	Type II	NYTAL 400
Military MIL-P-15173A	Type A	NYTAL 300, 400
	Type B	NYTAL 200, 300

H. Particle Size

1—There are various methods for measuring particle size, such as air-permeation, gas adsorption, microscope count, and sedimentation. Actually the first two named measure merely total pigment surface area and provide no information on size distribution. Pigment surface area, or specific surface, is a useful figure because it indicates relative binder demand, or oil absorption, and therefore consistency. Microscope counting is so intricate and difficult as to be impractical. Under the microscope, one can see the individual particles and count them according to size. But the observer must be sure he is examining a representative field. We know that talc pigments are made up of particles of many shapes and an infinity of sizes; therefore, perhaps as many as a dozen different fields would have to be counted to assure an average distribution. This would be an extremely tedious and time-consuming job. Furthermore, it is most difficult to relate microscope count data to per cent distribution by weight, or volume, or to specific surface. Another drawback is the infinitesimal sample used in the microscope count. What assurance is there that the sample is representative of a pound, much less a bag, of the talc? The same objection applies to both air permeation and gas adsorption methods — only a very few grams of sample are used per test.

2—Probably water sedimentation is the best of the available methods. For one thing, a sizeable sample is used per test. Secondly, it is rather simple to run. And most important, the measured data indicate particle size distribution. The word indicate is used here because the sedimentation method assumes that all particles are spheres. However, we are dealing with anything but spherical particles as Figure No. 28 shows. Note the dominant shapes are fibres, rods, plates, and irregular nodules. You could probably count on the fingers of one hand the total number of truly spherical particles in a 50-pound bag of talc. It should be pointed out that Figure No. 28 does not necessarily indicate either the size or the frequency of the particles—only their various shapes.

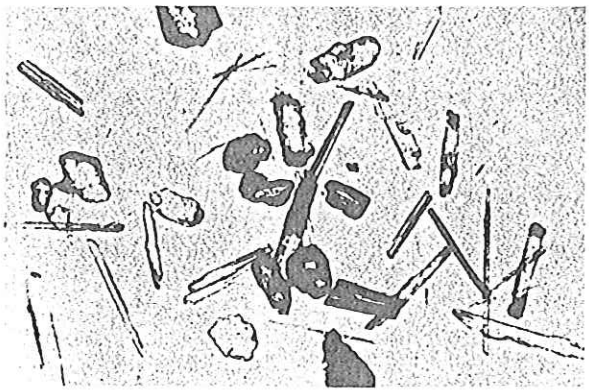


Figure 28—**Shapes of Nytal Particles**

3—A deficiency of the water sedimentation method is that it does not accurately indicate the size of particles much smaller than two microns. After all, there is Brownian movement at that particle size and smaller, and this behavior upsets the settling laws upon which the sedimentation test is based. Now the smaller the particles the greater is their percentage of specific surface. For example, let us assume that 10% by weight of a talc consists of particles less than one micron and that there is a gradual decrease in size to almost zero. It can be demonstrated by rather simple calculation that *that* 10% would account for a larger percentage of specific surface than the 90% larger than one micron. And yet the sedimentation method does not measure this important 10% of the talc. The effects of relative specific surface are manifest as oil absorption, liquid demand, and paint consist-

ency and these properties are more easily, directly, and quickly measured by actually making a paint with the talc sample. Finally, the coarse end of the particle size distribution can be measured more easily and directly by screen tests of the talc and/or Hegman fineness of the talc stirred into vehicle or paint.

4—The purpose of this brief discussion on particle size distribution of talc is to bring out three points with regard to production and use of these pigments. First, such data as can be measured do frequently indicate similarity, or differences, among various talcs as materials but all too seldom are the data relatable to pigment and paint properties. Second, in the production of talc, particle size distribution is an impractical control test because it requires hours for one determination whereas control tests must be run in minutes. Third, we rely on more direct pigment tests to control production so as to supply our customers with NYTAL pigments that give uniform performance in the coatings made by those customers.

VII RUBBER SECTION

Uses In Rubber And Vinyl

Talcs are used by the Rubber Industry as dusting agents to permit easy factory handling of normally tacky compounds in process, and as fillers in compound design. Vinyl formulations also list talc as a filler in such applications as insulations, extruded gaskets, calendered films and tile.

In handling uncured stocks in process, the talc may be spread over the rubber by brushing or other suitable means. It may also be applied by dipping in a water suspension of the dry powder. In making up talc slurries for dip tank use, a small quantity of DARVAN No. 1 (1% by weight in the talc) is recommended as the wetting agent. Mechanical agitation is generally used to hold the talc in suspension.

Butyl rubber insulation and latex foam are typical applications for talc in commercial compounding. The following are representative formulas:

HEAT and MOISTURE RESISTANT INSULATION

Butyl 035	100
Stearic Acid	1
Zinc Oxide	5
Paraffin	2
NYTAL 400	50
Calcined Clay	100
Litharge	5
SULFADS	3
METHYL ZIMATE	3
CAPTAX	1.5
	270.5

LATEX FOAM CUSHIONING

Rubber (50/50 Natural/SBR)	100
Potassium Oleate	1.4
Zinc Oxide	5
Sulfur	2
AGERITE WHITE	.25
AGERITE SPAR	1
ETHYL ZIMATE	1
ZETAX	1
Sodium Silicofluoride	.6
NYTAL 200	50
	162.25

Talc filler applications in Vinyls are as listed:

INSULATION

PVC (Electrical Grade)	100
Phthalate Plasticizer	55
Whiting	15
NYTAL 200	15
VANSTAY Stabilizer	1.5
Color	q.s.

VINYL-ASBESTOS TILE

PVC Copolymer Resin	100
Phthalate Plasticizer	25
Epoxy Plasticizer	10
Stearic Acid	1
Whiting	125
NYTAL 100	100
7R Asbestos	100
Titanium Dioxide	15
VANSTAY Stabilizer	4

REFRIGERATOR GASKET

PVC Resin (Extrusion Type)	100
Polymeric Plasticizer	80
Epoxy Plasticizer	10
Whiting	25
NYTAL 200	50
Color	q.s.
VANSTAY Stabilizer	2

SHEETING

PVC Resin	100
Phthalate Plasticizer	30
Polymeric Plasticizer	5
Epoxy Plasticizer	5
Fatty Acid Phthalate	4
Calcium Stearate	.5
NYTAL 200	20
Whiting	15
VANSTAY Stabilizer	2

VIII PAPER SECTION

The Use Of Nytal In The Paper Industry

NYTAL is used as a filler in some grades of paperboard and molded pulp products because of its good retention, chemical inertness, white color, and TAPPI Brightness of 88 to 90.

NYTAL 200 is the most common grade of talc that is used for this filler application. Since NYTAL tends to be abrasive in nature, the amount used is limited to small percentages. Generally, about 5% NYTAL (based on the weight of the fiber) is considered maximum in board mill applications.

IX SPECIALTIES SECTION

The ultrafine, airmilled grades, NYTAL 300 and NYTAL 400, are suggested for pharmaceutical and cosmetic applications. Their excellent white color and fine particle size permit these talcs to be readily and uniformly mixed with pigments and modifiers for use in cosmetic and pharmaceutical formulas. They are easily suspended in liquid media and dispersed in creams and pastes. Specialties Department Technical Literature contains many product formulas illustrating the use of NYTAL 300 and NYTAL 400 such as Liquid Matte Make-Up Base, Cream Eye Shadow, Pre-Shave Talc Stick, Acne Cream and Aerosol Foot Powder.

CREAM EYESHADOW #128

		% by wt.
A	VEEGUM (Vanderbilt)	1.75
	Water	33.45
B	Sodium carboxy-methylcellulose (low visc.)	0.10
	Water	9.90
C	DARVAN #1 (Vanderbilt)	0.30
	Propylene glycol	5.00
	Triethanolamine	0.40
	Water	6.00
D	NYTAL 400 (Vanderbilt)	18.00
	Kaolin	2.00
	Titanium dioxide	5.50
	Iron oxides	4.50
E	Stearic acid	0.80
	Glycerol monostearate	2.00
	Lanolin	4.00
	Sesame Oil	2.00
	Olive Oil	1.00
	Isopropyl myristate	3.00
F	TRUODOR Jasmin #6 (Vanderbilt)	0.30
	Preservative	q.s.

Procedure:

I. Add the VEEGUM to the water slowly, agitating continually until smooth.
II. Disperse the CMC in water.
III. Add I and II to C.
IV. Micropulverize D.
V. Heat E to 70°C.
VI. Add IV to III. Homogenize. Heat to 60-65°C. Maintain temperature for 10 minutes to allow air to escape.
VII. Add V to VI and mix until 45°C.
VIII. Add F and mix until cool.

R. T. Vanderbilt Bulletin #44, p. 17, 1964

ACNE CREAM #137

		% by wt.
A	VEEGUM (Vanderbilt)	1.75
	CMC (7 MSP)	0.40
	Water	34.60
B	Glycerin	5.00
	Allantoin	0.25
	Resorcinol	3.00
	Triton X-100	0.20
	Water	29.70
C	NYTAL 300 (Vanderbilt)	16.00
	Titanium dioxide	2.90
	Iron oxides	1.10
	Sulfur	5.00
D	Zinc pyridinethione	0.10

Procedure:

I. Dry blend VEEGUM and CMC and add to the water slowly, agitating continually until smooth.
II. Add B to I.
III. Pulverize C and add to III.
IV. Incorporate D by making up concentrate in portion of finished cream, triturating thoroughly. Add this to product, milling or homogenizing finished cream.

R. T. Vanderbilt Bulletin #44, p. 23, 1964

PRE-SHAVE TALC STICK #77

		% by wt.
A	VEEGUM (Vanderbilt)	1.90
	Water	q.s.
B	Zinc stearate	4.70
	Light magnesium carbonate	1.90
C	NYTAL 300 (Vanderbilt)	91.50

Procedure:

I. Add the VEEGUM to about 30 parts of water slowly, agitating continually until smooth.
II. Blend B and add to C.
III. Add I to II. Work into a smooth paste (add more water if necessary).
IV. Pack in stick mold and allow to dry.

R. T. Vanderbilt Bulletin #44, p. 21, 1964

LIQUID MATTE MAKE-UP BASE #142

		% by wt.
A	VEEGUM (Vanderbilt)	0.50
	Water	9.50
B	CMC (7LP)	0.50
	Water	49.50
C	DARVAN #1 (Vanderbilt)	0.30
	Triethanolamine	1.00
	Propylene glycol	5.00
	Water	8.40
D	NYTAL 400 (Vanderbilt)	6.00
	Kaolin	6.80
	Titanium dioxide	3.00
	Iron oxides	0.20
E	Stearic acid	2.00
	Propylene glycol monostearate	0.50
	Lanolin	3.50
	Mineral oil	4.00
	Isopropyl myristate	5.00
F	TRUODOR Oriental Bouquet #3 (Vanderbilt)	0.30
	Preservative	q.s.

Procedure:

I. Add the VEEGUM to the water slowly, continually agitating until smooth.
II. Disperse the CMC in water.
III. Mix A, B and C together.
IV. Micropulverize D. Add to III. Heat to 60-65°C.
V. Heat E to 70°C. Add to IV. Mix until cool. Add perfume.

American Perfumer and Cosmetics, 79, 68, Oct. 1964 "Make-Up Formulas"

R. T. Vanderbilt Bulletin #44, p. 16, 1964

AEROSOL FOOT POWDER #134

Concentrate	% by wt.
NYTAL 400	86.0
Magnesium carbonate	5.0
Kaolin	5.0
Zinc Stearate	3.0
METHYL TUADS (Vanderbilt)	0.5
Isopropyl myristate	0.5
Packaging:	
Concentrate	10
Propellent 12/11 (50/50)	90

Procedure:

I. Add to the NYTAL 400 each component in the order listed with high speed mixing after each addition. Mix until uniform.
II. Fill concentrate into appropriate containers.
III. Pressurize with propellent.

R. T. Vanderbilt Bulletin #42, 1962

F. V. Wells and Irwin J. Lubowe, M.D., *Cosmetics and the Skin*, p. 521, (Reinhold Publ. Corp., N.Y.)

ACNE LOTION #122

		% by wt.
A	VEEGUM (Vanderbilt)	0.80
	Water	20.00
B	Sodium carboxymethylcellulose (type 7 MSP)	0.80
	Water	15.00
C	Glycerine	5.00
	VANCIDE BN (Vanderbilt)	0.25
	Allantoin	0.25
	Resorcinol	3.00
	Water	20.00
D	NYTAL 300 (Vanderbilt)	8.00
	Titanium dioxide	2.90
	Iron oxides	1.10
	Sulfur	5.00
	Triton X-100	0.20
	Water	16.70
E	TRUODOR Aphra Bouquet #9 (Vanderbilt)	1.00

Procedure:

I. Add the VEEGUM to the water slowly, agitating continually until smooth.
II. Disperse the CMC in water.
III. Mix A and B together.
IV. Add C to III. Add D and mix thoroughly.
V. Add E.

R. T. Vanderbilt Bulletin #32, 1962

Hercules Powder Co. Bulletin #VC-441 "Hercules Cellulose Gum & Natrosol 250 in Pharmaceuticals"

MEDICATED CREAM MAKE-UP WAFER #125

		% by wt.
A	Disodium bithionol	0.5
	Resorcinol	1.0
	Allantoin	1.0
	Sulfur (colloidal)	2.0
	NYTAL 400 (Vanderbilt)	20.0
	Zinc oxide	10.0
	Iron oxides	0.5
B	Polyethylene glycol 1,000	40.0
	Polyethylene glycol 400	25.0

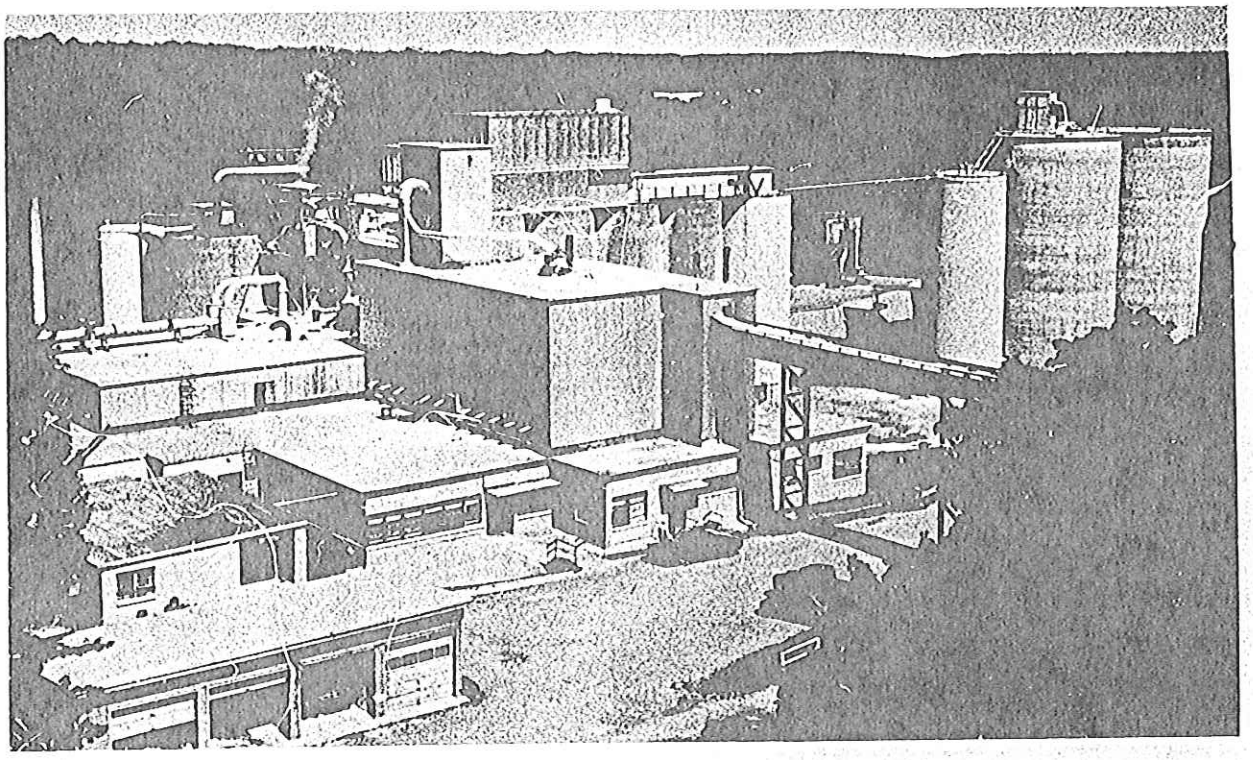
Procedure:

I. Blend A until uniform.
II. Melt B and mix.
III. Add A to B and stir until solids are uniformly wet. Pass through a roller mill.
IV. Heat to 60-70°C. to release trapped air.
V. Allow to cool (45-50°C.) and pour into containers.

Mecca, S. B., *Proc. Sci. Sect. TGA*, 39, May 1963. "The Function and Applicability of the Allantoins."

Tarnoff, B., *American Perfumer* 77, 35-38, Sept. 1964 "Dermato-Applications of Sulfur-bearing Organic Bactericide-Fungicides"

X GOUVERNEUR TALC COMPANY PLANT



Gouverneur Talc Company Plant at Balmat, New York

A. NYTAL Control

As the mineralogy of the Gouverneur area indicates, constant testing and blending of the various ores are necessary to produce a satisfactory commercial product. This is done from the testing of the ore in the mine right through the blending of the finished product by bottom loading of the storage silos.

Mine samples are first tested for ceramic or paint suitability. Then ore samples are taken every three hours and tested again for proper blending. Ground samples of NYTAL from the mill are collected automatically and rushed to the laboratory every hour by pneumatic tubes. The laboratory never closes. No shipment leaves the plant until a check reveals that it meets all grade specifications.

From the very beginning of our operations at Gouverneur it was evident that chemical analysis, with the exception of a lime determination, was of no value for control purposes. As a matter of fact, Treischel[1] shows such data could be very misleading.

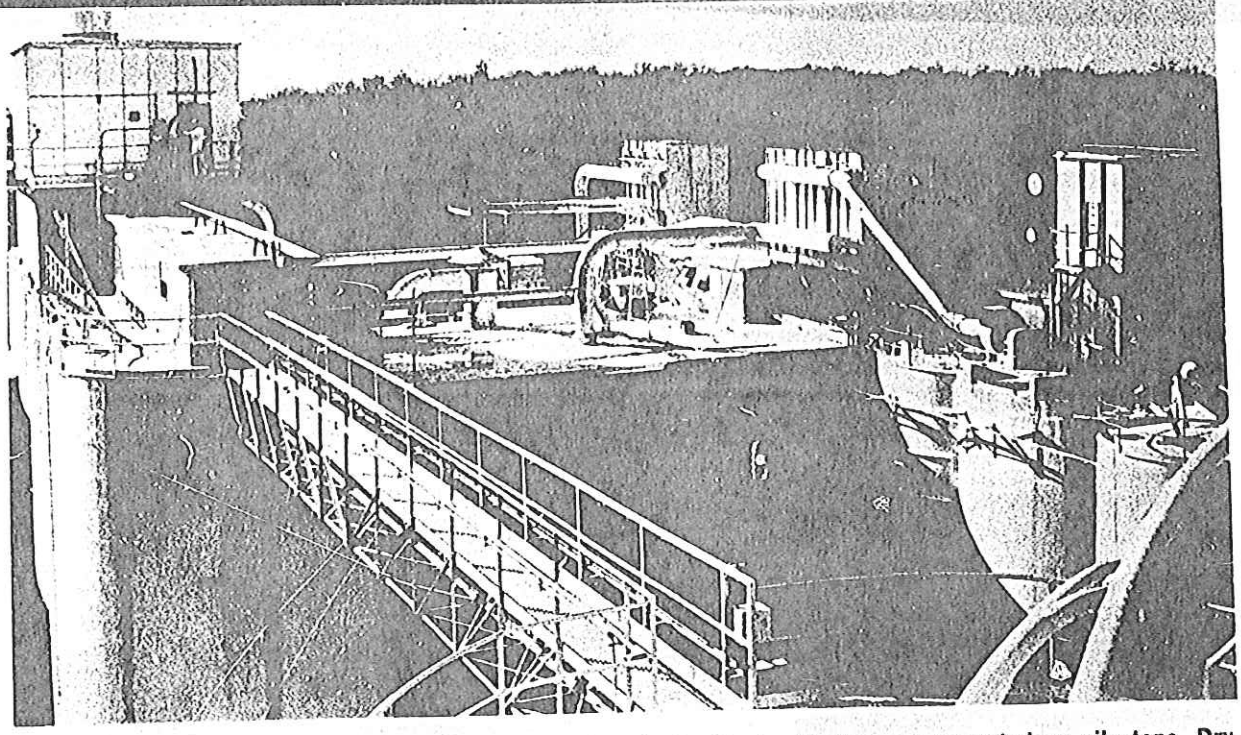
The following physical and chemical tests are made at the plant and are the basis of ceramic control specifications:

1. CaO determination
2. Acid solubility
3. Bulking
4. Screen residue
5. Fired color
6. Specific Resistance

In addition shrinkage, absorption, crazing and shivering tests are made weekly at our East Norwalk, Connecticut laboratory by introducing a weekly sample into a standard 70% NYTAL tile body fired to Cone 1.

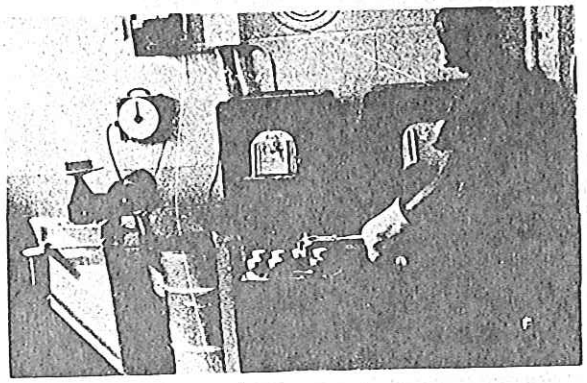
In this way we have been able to produce a very uniform talc over the past eighteen years.

The Nytal control for grades other than ceramic is described under Section VI—Paint.

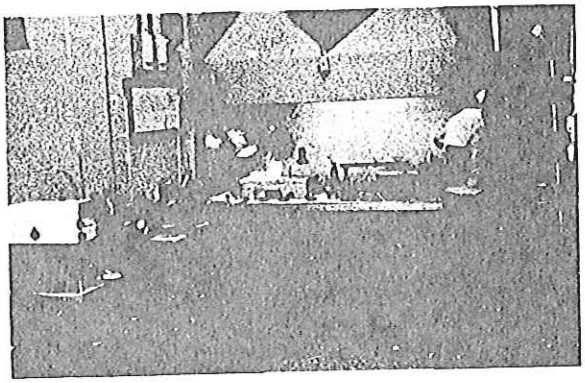


View from silo top shows others at right for finished products. Dust collectors are mounted on silo tops. Dry ore silos can be seen at the left. In all there are 13 finished product silos at the Gouverneur Talc Company plant.

Section where physical tests on paints are made. Note: Vacuum tube for rapid receipt of plant samples.



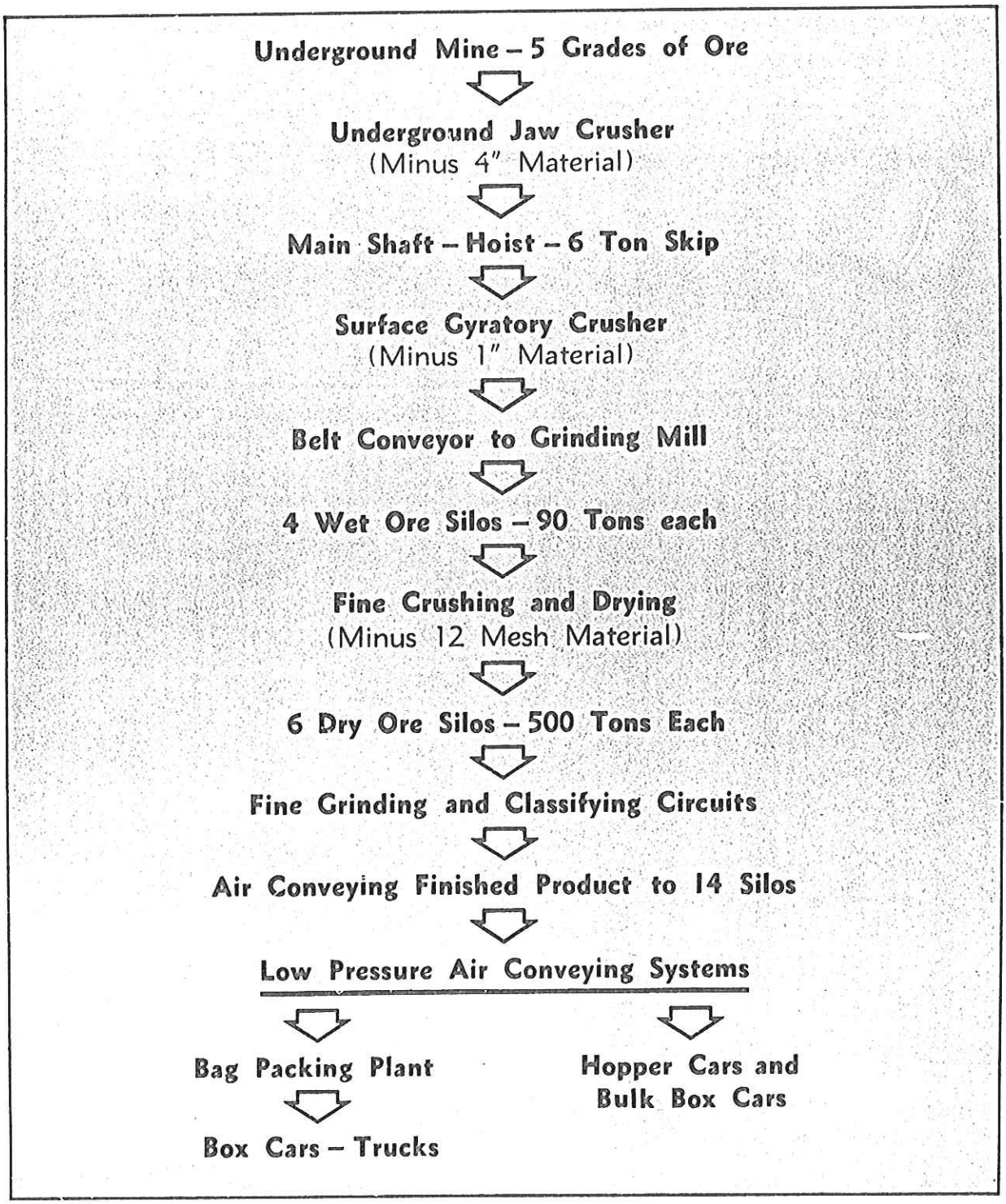
Section where Talc destined for shipment to the ceramic industry is tested for fired color and for bulk density.

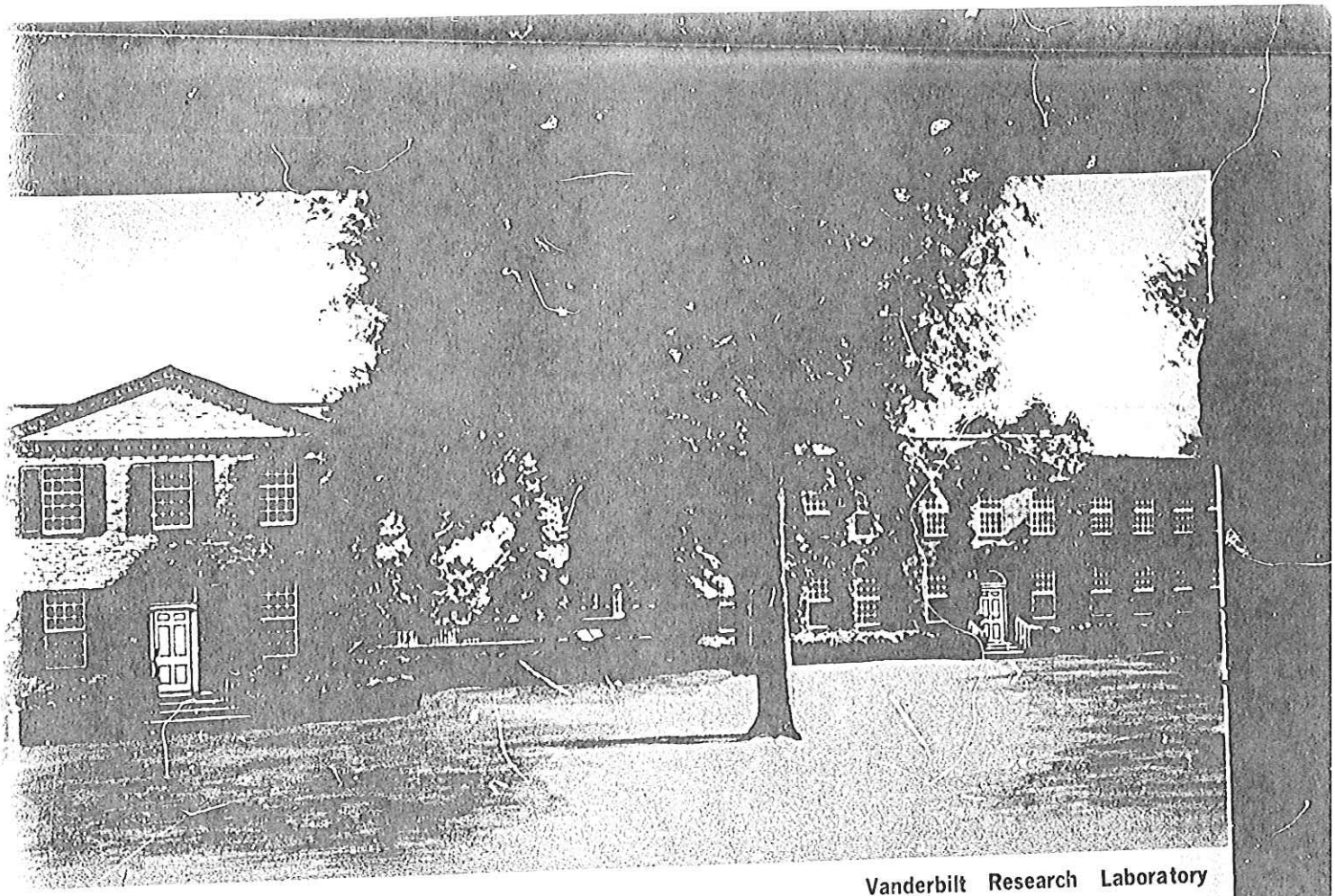


Chemical analysis section

Gouverneur Talc Company, Inc.

Simplified Flow Sheet



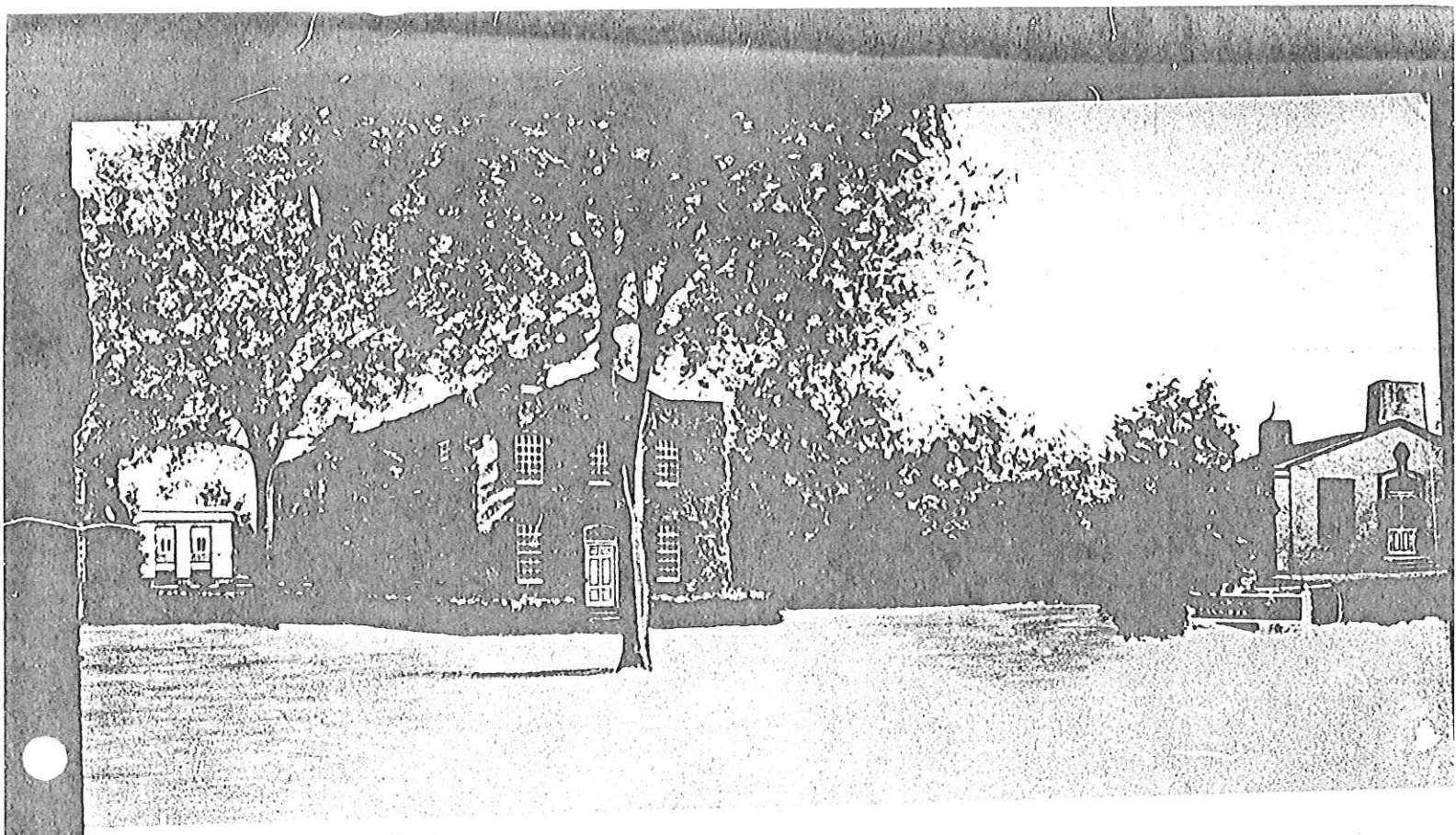


Vanderbilt Research Laboratory

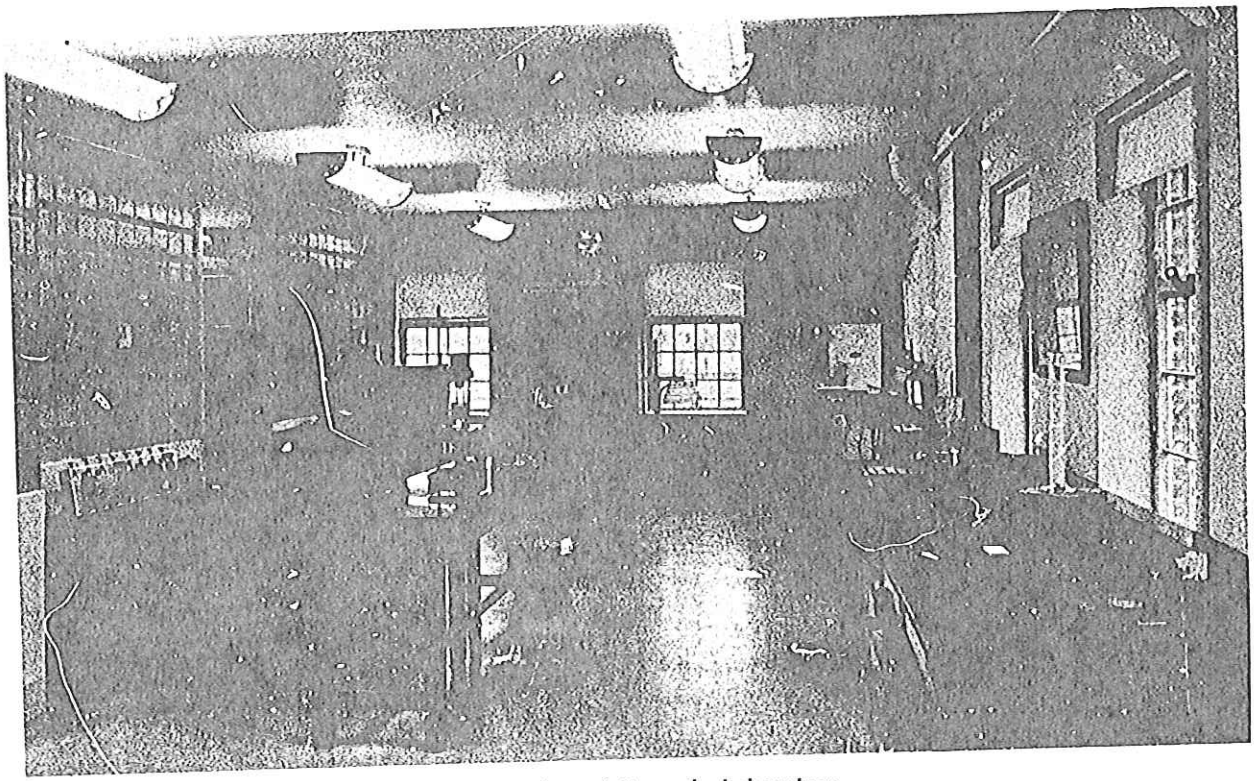
XI
VANDERBILT NORWALK LABORATORIES

The R. T. Vanderbilt Company laboratories are located at East Norwalk, Connecticut. Here research is carried on in many fields, including ceramics, rubber, paint, paper, fungicides, insecticides, plastics, petro-chemicals, foods and pharmaceuticals.

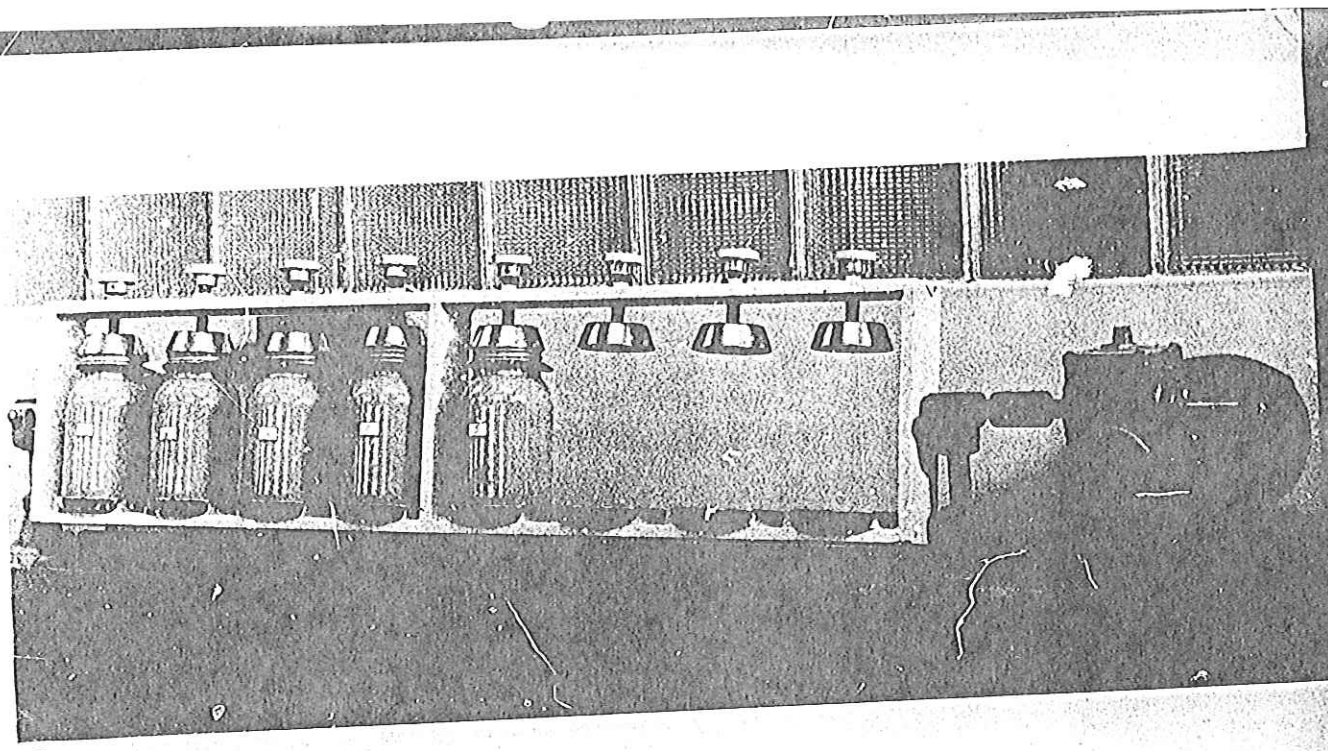
On the following pages we present a pictorial description of our ceramic and paint laboratories.



at East Norwalk, Connecticut



General View of Ceramic Laboratory



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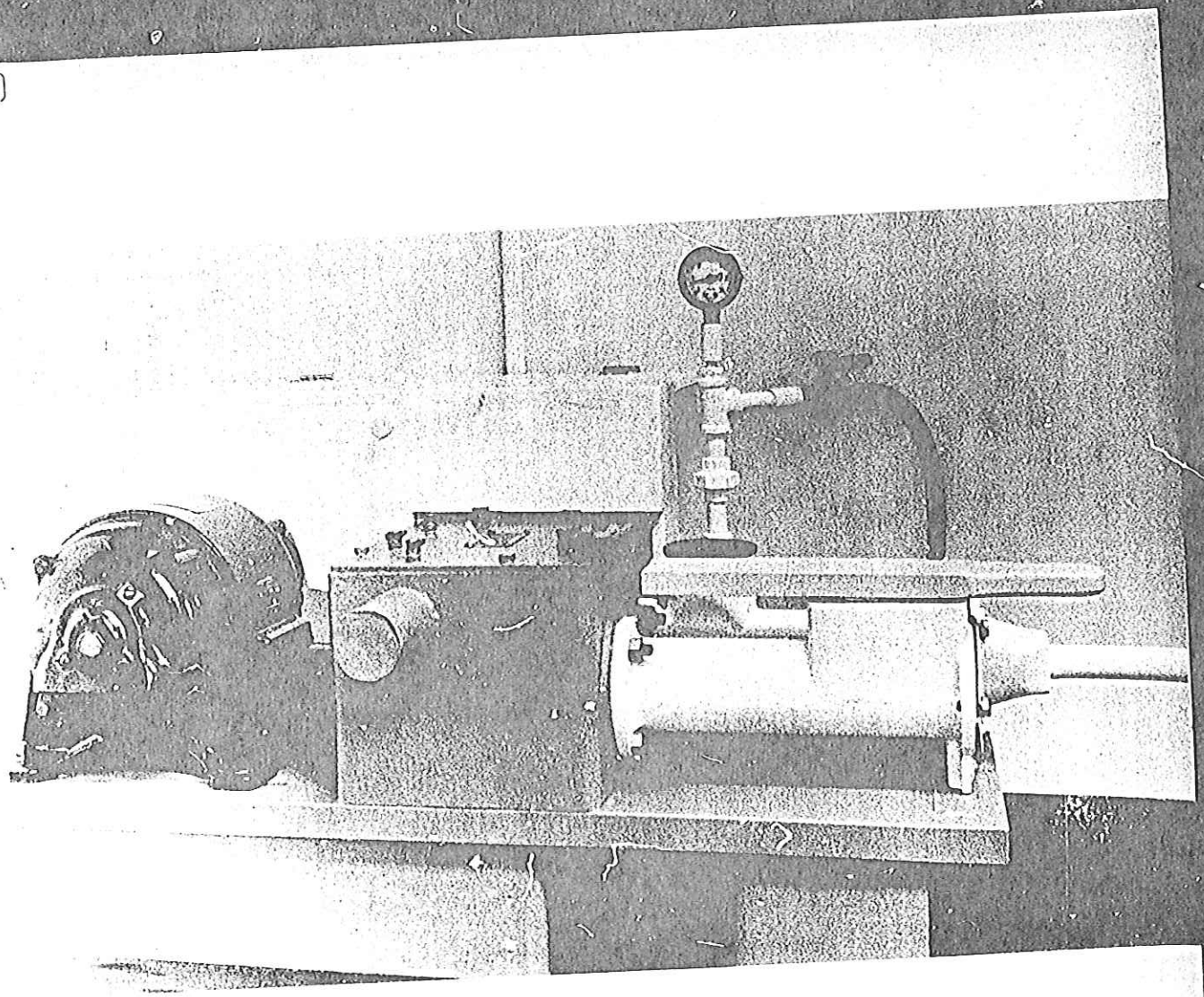

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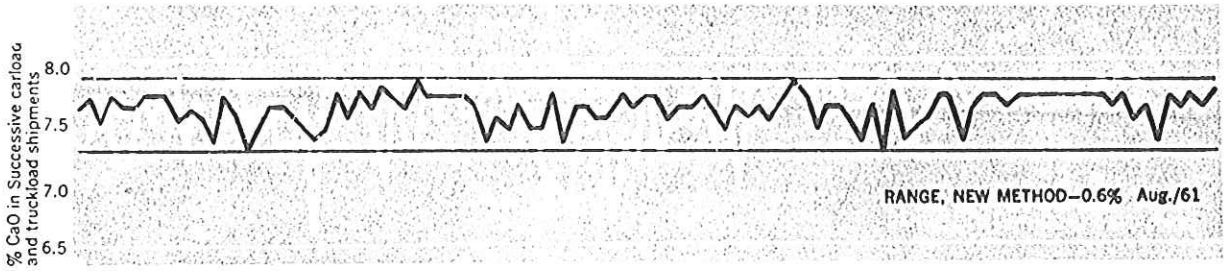


Figure 29—Per Cent CaO of Talc in Consecutive Shipments Under Old and New Systems

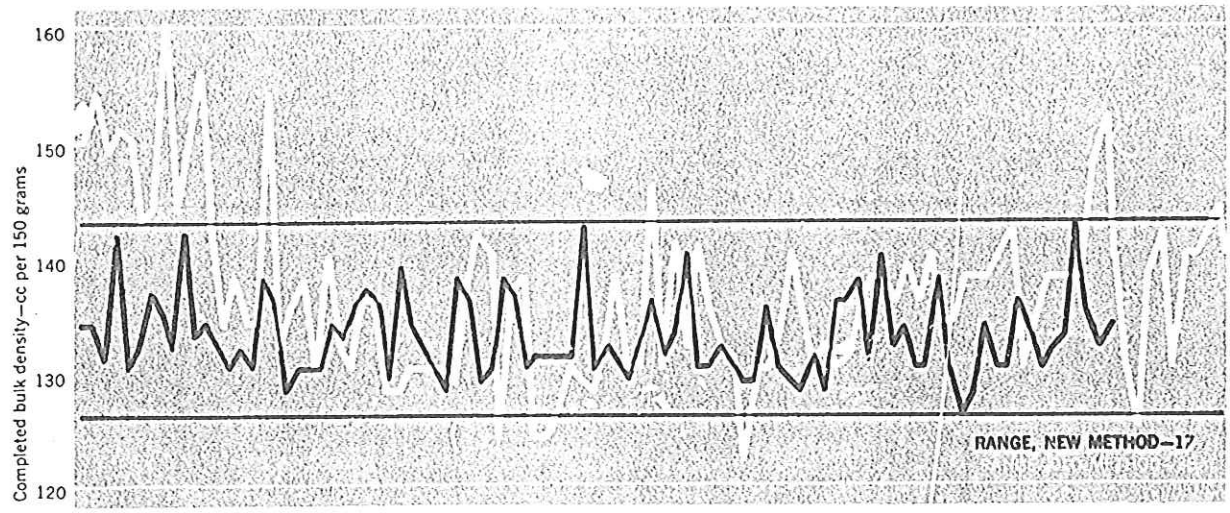


Figure 30—Compacted Bulk Density of Talc in Consecutive Shipments Under Old and New Systems

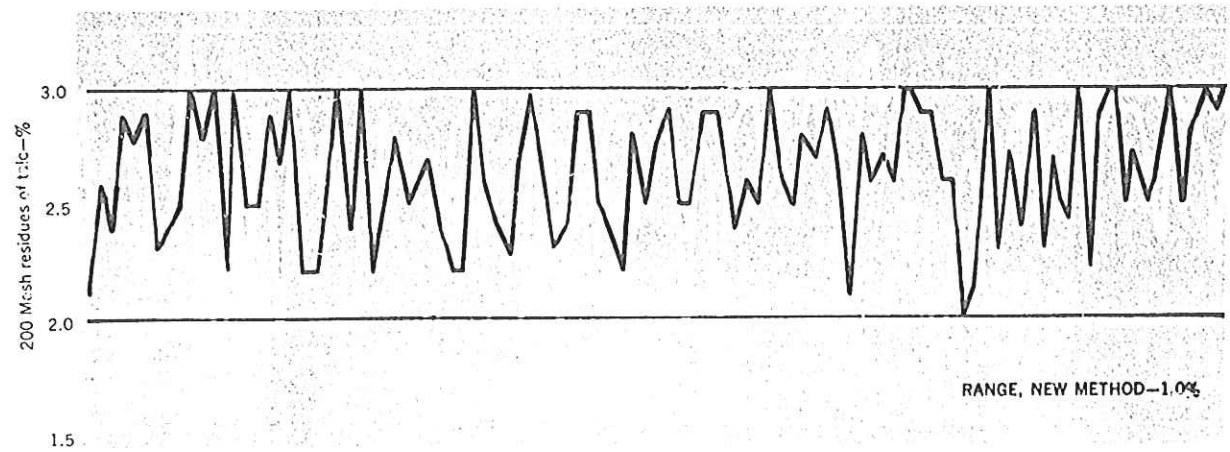
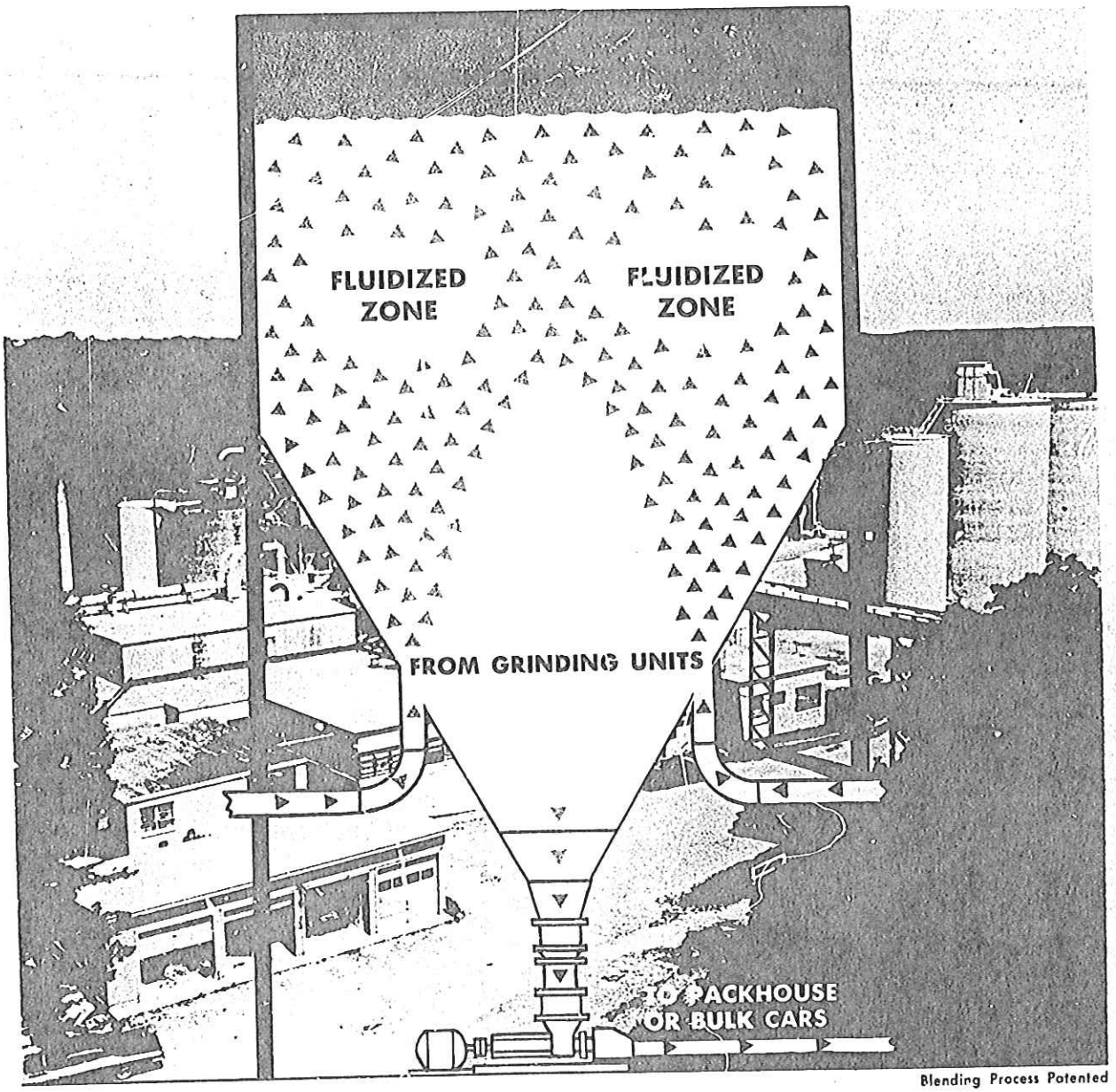


Figure 31—200 Mesh Residue of Talc in Consecutive Shipments Under New and Old Systems



Blending Process Patented

NYTAL TALC is Bottom Loaded for Better Blending

Bottom Loading Of Silos

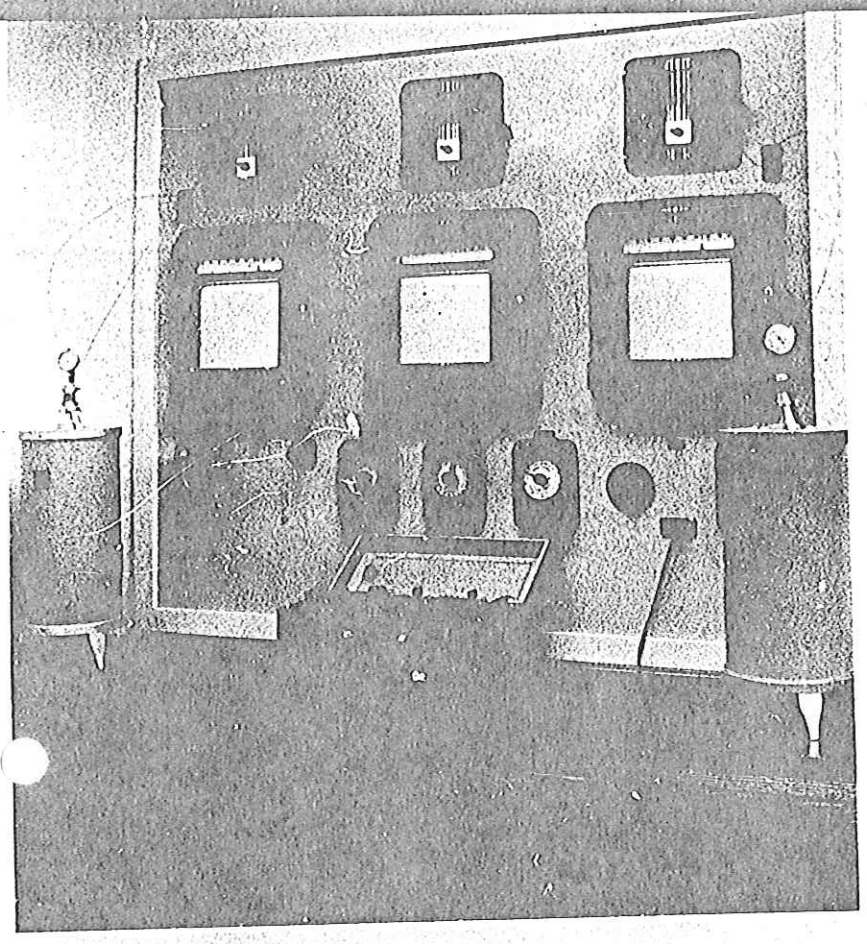
A word should be said on the revolutionary method of bottom loading of silos for the maximum blending of finished ground NYTAL. The first such idea anywhere was developed and put into commercial operation by Gouverneur Talc Company.

McClellan reports[19] that variations in CaO content, 200 mesh screen analyses and bulking have been cut in half by this new blending method.

See Figures No. 29, 30 and 31.

C

D



(A)

Control Panel for Kiln and Thermal Expansion Furnaces

(B)

Pereny Laboratory Tunnel Kiln for Fast Fire Tile

(C)

Stone Temperature Gradient Furnace

(D)

Pereny Test Kilns

(A)

(B)

Ⓐ

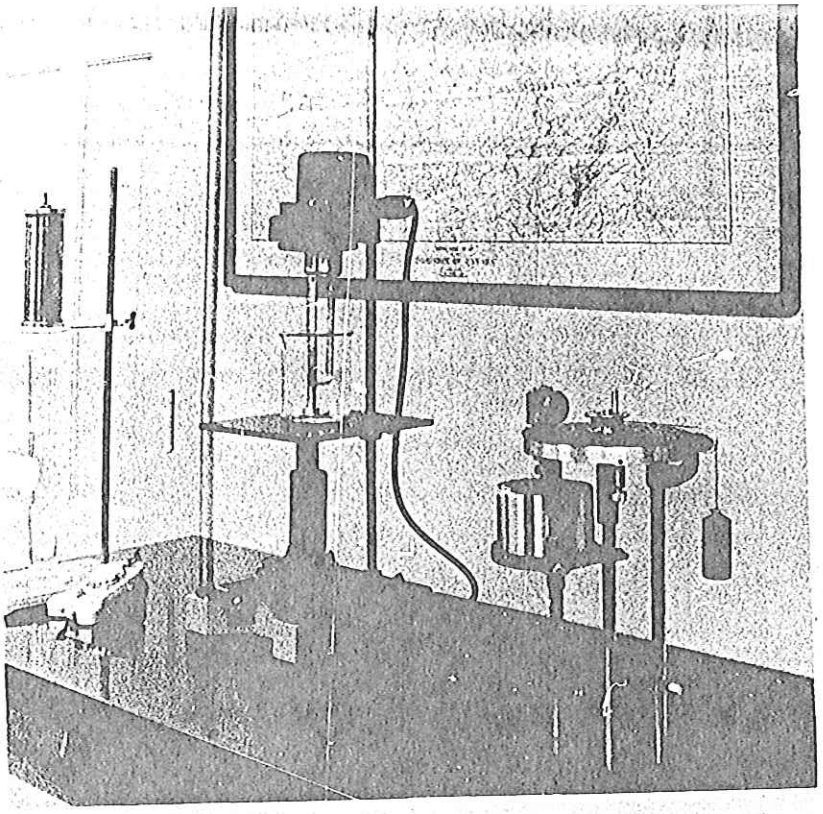
Hydraulic Tile Press

Ⓑ

Marriott Tube Viscosimiter, Brookfield Viscosimiter and Stormer Viscosimiter

Ⓒ

Tinius Olson Hydraulic Modulus of Rupture Machine



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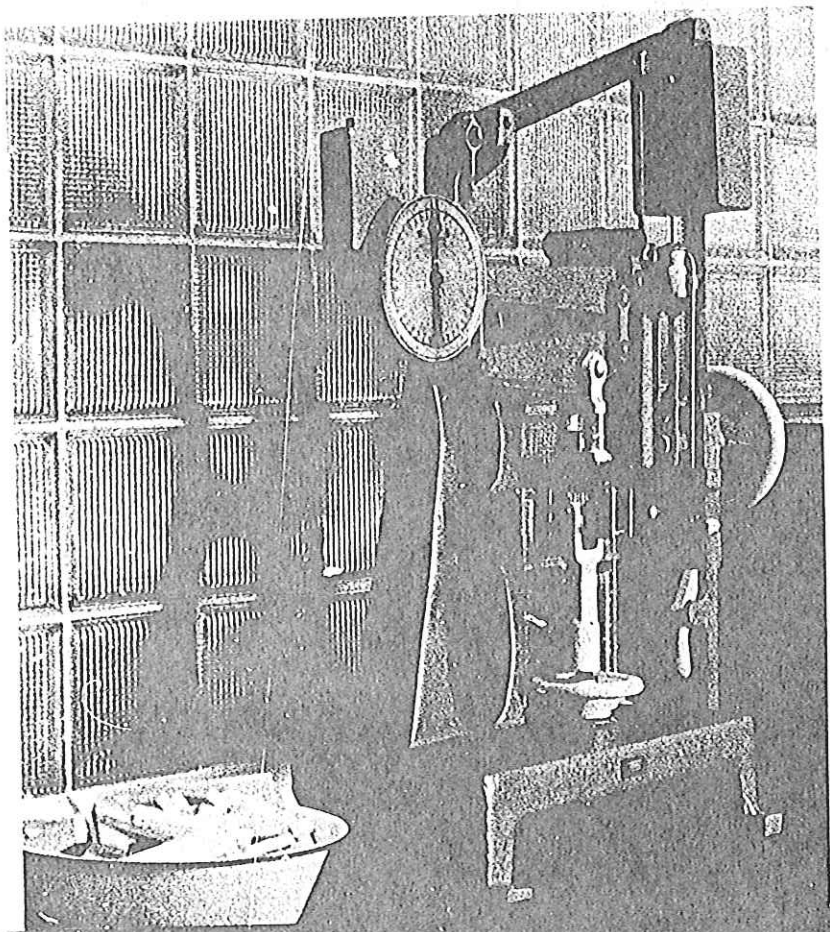

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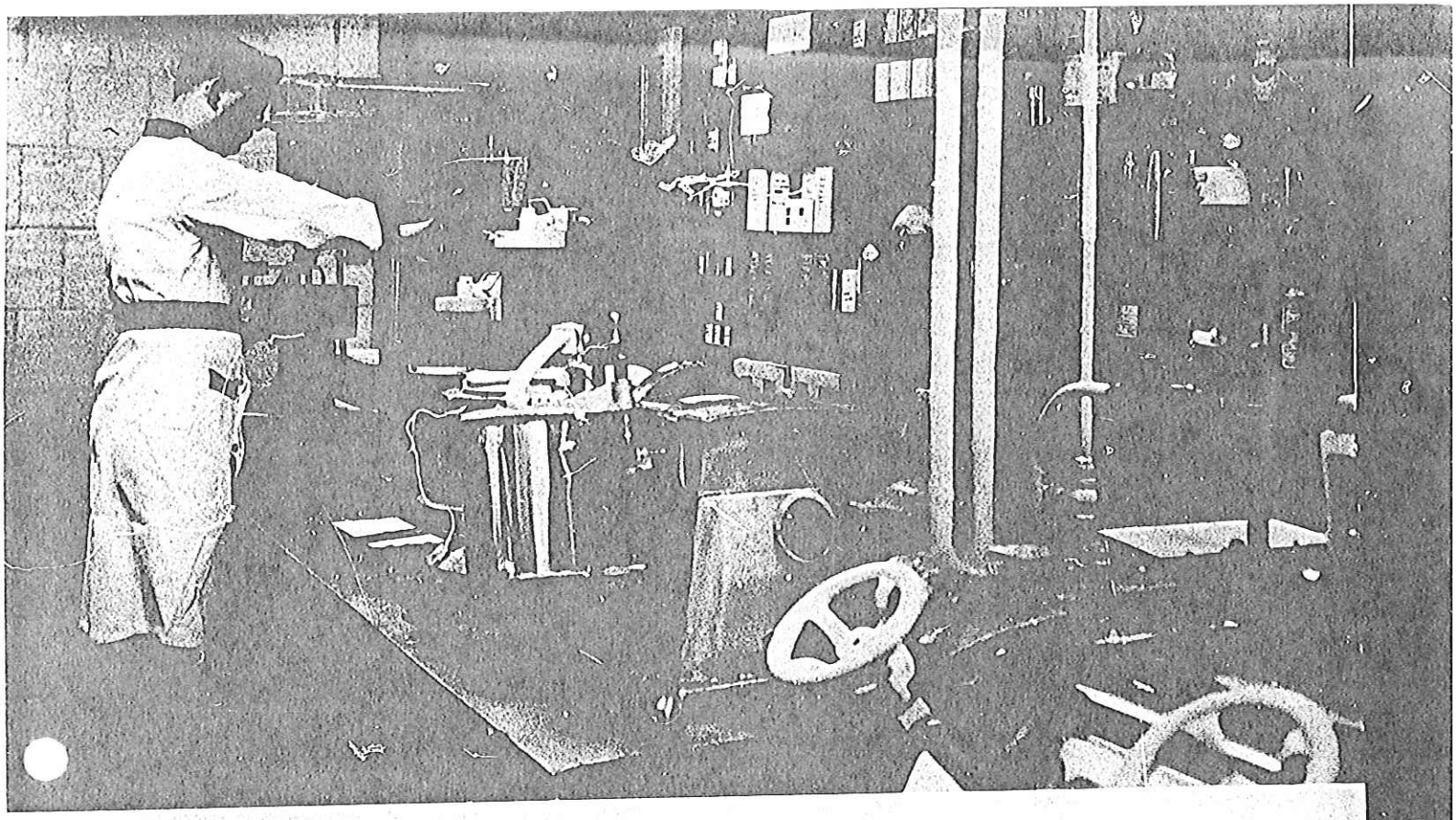
A



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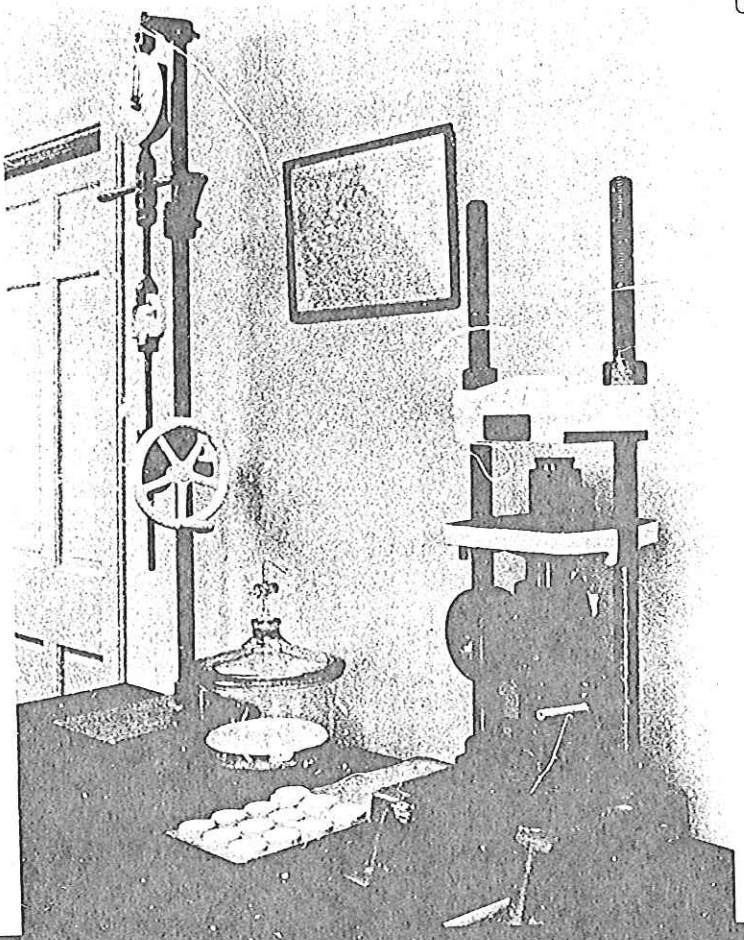

Ⓐ

General View of Paint Laboratory

Ⓑ

Dry Modulus of Rupture Machine and Carver Press

Ⓒ

Casting Slip Shaking Machine

Ⓓ

De-airing Pug Mill

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GOUVERNEUR, N. Y.

New York State Museum Bulletin

Published by The University of the State of New York

No. 259 ALBANY, N. Y. May 1925

New York State Museum

JOHN M. CLARKE, Director

GEOLOGY OF THE GOUVERNEUR QUADRANGLE

BY

H. P. CUSHING

AND

D. H. NEWLAND

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THE UNIVERSITY OF THE STATE OF NEW YORK
1925

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JAN D. ROGERS, CLERK
FILED: 8-22-07
BY: JDR

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New York State Museum Bulletin

Published by The University of the State of New York

No. 259 ALBANY, N. Y. May 1925

New York State Museum

JOHN M. CLARKE, Director

GEOLOGY OF THE GOUVERNEUR QUADRANGLE

BY

H. P. CUSHING AND D. H. NEWLAND

INTRODUCTION

This report has been prepared, by instruction of the State Geologist, to meet a quite insistent local demand. There is a considerable production of limestone, feldspar, talc, pyrites and zinc blende within the quadrangle limits; a number of people are keenly interested in the mineral development, are actively engaged in prospecting, and greatly desire a more accurate and serviceable areal map of the district than has heretofore been available. Both Mr Newland and myself are under obligation to several of these gentlemen for courtesies of many kinds, freely extended on many occasions.

The Gouverneur district was the starting point from which Professor C. H. Smyth prosecuted his important work on the Precambrian geology of the western Adirondacks, work which did much to establish the fundamental basis of our present knowledge. By all rights of service and of priority in the region he should have prepared this report, and the writer undertook the task with the greatest reluctance and only when it became evident that the work could not be delayed, and that Professor Smyth was not in a position to do it at this time. The areal mapping which is the basis of this report does little more than to reproduce Smyth's earlier results upon a more accurate map of larger scale. The indebtedness of the present work to his can not be made too emphatic.

Doctor Buddington was engaged in mapping the Lake Bonaparte quadrangle, next south of Gouverneur, during the 1916 season. We studied our joint boundary together, to our mutual advantage and pleasure.

1890

prism and pyramid. Massive quartz, white or vitreous, occurs very widely in veins that intersect all of the rocks and are most common around the borders of the porphyritic granite. The quartz has the characters of magmatic quartz; it appears in practically pure bodies and in combination with feldspar as pegmatites of varied composition. The occurrence of quartz in the Grenville limestone where it produces banded and ribbed structures is described in the earlier part of this report. The limestone on the borders of Sylvia lake especially abounds in quartz which stands out as white hummocks and reefs above the surface.

Chert and jasper are occasionally in evidence around the zinc deposits of the Edwards district. A considerable body of chert occurs on the limestone ridge that is mined by the Northern Ore Company, just north of Edwards.

Serpentine. This mineral abounds in the Edwards limestone belt as nodules and bunches enclosed by the carbonates. Most of the serpentine, as shown by Smyth,[1] is pseudomorphic after diopside, whereas talc, the other important secondary mineral in the limestone, is derived from tremolite. A peculiar whitish serpentine, seemingly of low iron content, is found in a quarry in the limestone area near Peabody bridge, north of Gouverneur. According to local accounts, the mineral was thought to be talc and some of it was ground and sold for the same purposes for which talc is employed. It is noticeably harder than talc and has rather an oily luster.

Sphalerite. Occurrences are noted in the lead veins of Rossie and Macomb as an accompaniment of galena, pyrite and chalcopyrite. In the Edwards district it is associated with pyrite and occurs in replacement bodies in the Grenville limestones. These are described elsewhere under their own title.

Talc. One of the important economic minerals of the Gouverneur district is talc. It is reserved for special description.

Titanite. Fair-sized recognizable crystals of titanite are found in some of the limestone-granite contacts, as near the Gouverneur marble quarries south of the village and in the vicinity of No. 2½ talc mine, Talcville. It is associated with diopside, tremolite, wernerite and tourmaline.

Tourmaline. This is quite common in white, brown and black crystals, as a sporadic ingredient of the limestones where it has been

[1] Genesis of the Zinc Ores of the Edwards District, St Lawrence County, N. Y. N. Y. State Mus. Bul. 201, 1918, p. 17-18.

formed by contact action with the porphyritic granite. Perhaps the best known occurrence of this type, from which have come most of the museum specimens that bear the locality name Gouverneur, is on the Reese farm, 2 miles southwest of Richville, on the Rock Island School road. It is described in some detail by Cushing on page 20. Good crystals of brown color are also to be had from the Rylestone marble quarry, southwest of Gouverneur. The black variety is a common accompaniment of the pegmatite bodies, all over the district, so widely scattered that specific mention of the localities seems unnecessary. As a constituent of the Grenville gneisses it occurs in various colors and locally may form 50 per cent of the entire rock mass. (See page 24.)

Tremolite. This member of the amphibole group is abundantly developed along the borders of some limestone areas, particularly the Edwards-Sylvia lake belt where great bodies of nearly pure tremolite in the form of crystalline aggregates appear along the contact and for some distance toward the interior of the belt. It is usually white in color and developed in long blades or needles without crystal terminations. The crystals are so interlaced that they make a very tough rock, although in the mass the latter appears to be of schistose structure. Bands of the tremolite may be traced for long distances parallel with the strike of the limestone. All of the talc mines are situated along these bands, with the tremolite forming one or both walls of the deposit.

The pink or purplish form of tremolite, called hexagonite, is a handsome mineral which occurs in the walls of the mines at Talcville, particularly on the southwestern end, and in the mines near Sylvia lake. Large masses of it are still available in the rock dumps of the old United States Talc Company's mine.

Vesuvianite. The only locality so far recorded for this mineral within the map limits, is 1 mile south of Gouverneur, probably one of the marble quarries. The locality is mentioned by Whitlock.[1]

Wad. This mineral is found in association with bog limonite in some of the Edwards and Gouverneur occurrences.

Wernerite. Sporadic occurrences of wernerite as a contact mineral are reported in the Grenville limestones. It is observed at Talcville and in the Gouverneur marble quarries.

[1] New York Mineral Localities N. Y. State Mus. Bul. 70, 1903, p. 78

new deposits formed of any importance, and those already existing were little modified during the interval.

Consequently the occurrence of Potsdam has little or no bearing upon the existence of mineral deposits in the underlying Precambrian. There is the same likelihood of finding them under the sandstone as in the exposed formations, other things being equal.

List of Minerals and Mineral Localities

Preliminary to the description of the deposits of economic importance, brief mention will be made of the various minerals which have been noted as native to the district and of their local occurrence. The list of mineral species for the district embraces a large number that have no special value industrially, as in fact the useful minerals generally constitute only a small proportion of those actually known. The vicinity of Gouverneur has provided a great array of minerals in the way of crystallized and uncommon physical forms, and not a little that has served as type material for purposes of scientific description or illustration, so that an enumeration of the individual species with information of their occurrence may prove serviceable to the student and collector.

In the compilation of the mineral occurrences information has been drawn to some extent from published sources, notably Dana's Manual which is valuable principally for the data about the early discoveries, from the reports of the First Geological Survey of New York State and particularly those by Emmons and Beck, and from Whitlock's New York Mineral Localities.[1] The last-named work is the most complete in its references to the mineral occurrences of the district that has appeared up to the present time. The information thus made available has been supplemented by observations in the district by the writer in the course of a field experience that extends through a period of many years.

Although attention is restricted generally to those occurrences within the limits of the map, a few localities of particular interest that are found in the bordering areas will be included, for which Gouverneur would naturally be used as a base by any one intending to visit such places.

Actinolite. This variety of amphibole occurs in characteristic development of thin bladed and fibrous crystals in the walls of the talc mines in the town of Edwards. It has the same methods of occurrence as tremolite, the common parent mineral of the talc, and

[1] N. Y. State Mus. Bul. 70, 1903.

differs in appearance only in its greenish color which is traceable to the small content of iron in ferrous form. The crystals occur in felted or matted intergrowths, as actinolite schist. The country rock is limestone, but porphyritic granite appears nearby.

Albite. Soda feldspar is present in some of the pegmatite bodies, as one of the essential constituents. It is associated usually with microcline and may be intergrown with it as perthite. One of the localities where both varieties are found in large crystals or masses is at the quarry now being worked for pottery spar on the road between Richville station and East De Kalb, 3 miles northeast of the former place.

Amphibole. The members of this mineral family are mentioned under their specific names, as far as they are recognized. (*See* actinolite and tremolite.) Various aluminous amphiboles are represented, of which the exact composition and type has not been determined. One of the common forms is of greenish color in prismatic shapes, to be classed probably with the variety pargasite. It is found in the limestones, often associated with tremolite and diopside. Localities are the Calvin Mitchel farm in East De Kalb, the zinc mines at Edwards and the vicinity of Talcville. Darker green or black amphibole is an important ingredient of the gneisses; one of the gneissic rocks developed on the borders of the Edwards limestone belt consists largely of this mineral and is described in the first part of the report under the name "amphibolite." It is believed to be derived from gabbro, in which case the amphibole is probably derived from an aluminous pyroxene. Black or green amphibole is also an accompaniment of some of the Grenville schists.

Apatite. Crystals of apatite, greenish or reddish in color, small to fairly large in size, occur in the crystalline limestones, notably in the marble quarries north and south of Gouverneur. The quarries just southwest of the town have supplied examples of the usual six-sided prisms, terminated by the unit pyramid, 4 to 6 inches long. Beck[1] records a crystal nearly a foot long and weighing 18 pounds from the Robinson farm, town of Hammond, which is outside the limits of the map. This locality is perhaps the same as that listed by Whitlock as near DeLong's mills.

Asbestos. Fibrous tremolite, or brittle asbestos, is not uncommon in the walls of the talc mines, one or both of which may be constituted of tremolite schist. It is also to be seen in other limestone areas, as a development of the normal tremolite. The flexible

[1] Mineralogy of New York, 1842, p. 282.

1892

R.T. Vanderbilt Company, Inc.

MINERAL PRODUCT SAFETY DATA SHEET

NOTE: Exposure to all airborne mineral dusts is subject to OSHA regulations in accordance with Section 1910.93 of the Occupational Health and Safety Administration Standard as published in the Federal Register of October 18, 1972, starting on page 22139.

SECTION I

TRADE NAME AND SYNONYMS	NYTAL 99, NYTAL 100, NYTAL 100HR Industrial Talc
MINERAL FAMILY	Hydrous silicates
CHEMICAL COMPOSITION	Complex hydrous calcium magnesium silicates

SECTION II INGREDIENTS

MATERIAL	% RANGE
Talc	20 - 30
Non-asbestiform tremolite and/or anthophyllite	50 - 70
Serpentine	20 - 30
Quartz	1 - 5

SECTION III PHYSICAL DATA

COLOR	White	SPECIFIC GRAVITY (H_2O=1)	±2.8
APPEARANCE	Powder		
OTHER PROPERTIES			

SECTION IV HEALTH HAZARD DATA

MATERIAL	*TLV
Talc	20 Mppcf
Non-asbestiform tremolite and anthophyllite	20 Mppcf
Serpentine	50 Mppcf
Quartz 30 mg./cu.m. ÷ % Quartz + 2	

SECTION V SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid breathing dust. Use respirator if TLV's exceeded.

OVER FOR FURTHER INFORMATION

DATE: May 1, 1975

This information is furnished solely for the purpose of compliance with the law and shall not be used or relied upon by any person for any other purpose.

ANDERSON CIRCUIT CT.
JAN D. ROGERS, CLERK
FILED: 8/21/07
BY:

DEPOSITION EXHIBIT
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1/19/10

1517

Report to

Dr. John Dement

NIOSH

Cincinnati, Ohio 45202

EXAMINATION OF TALCS FROM

GOUVERNEUR DISTRICT — NEW YORK

Date: 12 December 1975

MA Number: 4800

Copy 3 of 4

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walter c. mccrone associates, inc.
2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616

ANDERSON CIRCUIT COURT
JAN D. ROGERS, CLERK
FILED: 8/21/07
BY:

PLAINTIFF'S EXHIBIT
#17

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EXAMINATION OF SEVEN TALCS FROM THE GOUVERNEUR DISTRICT, NEW YORK

SUMMARY

An extensive examination has been carried out of seven talcs submitted by the National Institute of Occupational Safety and Health, to determine their asbestos content. These talcs all originated from the Gouverneur District of New York State and were identified by number code in the series 83775-83781.

Examination was carried out by a combination of light microscopy, using both polarized light and dispersion staining, x-ray diffraction, and electron microscopy combining electron diffraction and elemental analysis.

The results of the examination showed the presence of asbestiform amphibole in all seven samples. The amounts of the total amphibole and of the fibrous amphibole differed between the various samples. In all cases the principal asbestiform amphibole was identified as tremolite, but this was of a low calcium variety, containing approximately 2-3% calcium.

In Sample 83757, x-ray diffraction examination suggested that a small percentage of anthophyllite was also present. Examination by light microscopy, however, could not conclusively differentiate between anthophyllite and tremolite in this sample. The identification of tremolite rather than a calcium bearing anthophyllite in all samples was based on the extinction angle, observed under crossed polars, of the fibrous amphibole.

INTRODUCTION

The National Institute of Occupational Safety and Health is currently sponsoring a study of occupationally related disease in the talc industry. As part of this study, Walter C. McCrone Associates, Inc., has been contracted to study and characterize the raw talc ores. The present work is related to this major program and is concerned with a study of seven specific samples from the Gouverneur talc ore body.

Material and Method of Conducting Tests

Seven talc samples were submitted to Walter C. McCrone Associates, by John Dement of NIOSH. These samples were identified by numbers running in sequence from 83755-83761. No indication was given of the sample location within the Gouverneur talc body. The samples were examined by light microscopy, using both polarized light and dispersion staining, x-ray diffraction, and transmission electron microscopy combined with electron diffraction and elemental analysis.

Light microscopy

Permanent mounts were prepared for all seven samples, using Aroclor 5442 as a mounting medium. These preparations were examined under partially uncrossed polars to obtain a general indication of the mineral types present together with their shapes and sizes. Samples for examination by dispersion staining were prepared using Cargille high dispersion refractive index liquids with n values of 1.550 and 1.605. The lower refractive index was used to examine the serpentine content of the talcs; the higher value was chosen to enable identification of the amphibole present. Examination by dispersion staining was at a magnification of approximately 200X in plane polarized light.

X-ray diffraction

For x-ray diffraction examination, samples of the powders were packed into aluminum cup holders and placed in the Norelco diffractometer. The samples were rotated around an axis perpendicular to the axis of the diffractometer which was scanned through a 2θ range from approximately 6° to approximately

60° with a scanning speed of 1° per minute and a chart speed of 1/2 inch per minute. Cu radiation, nickel filtered, was used at an accelerating voltage of 42 kV, and a current of 25 milliamps. The quartz content of the samples was determined by step scanning through the 3.35 Å line for quartz and comparing the resulting data with that for "spiked" standards of quartz in talc. The step increment was 0.01°, 2θ with a counting time per step of 50 secs., an 8 sec. time constant and a chart speed of 1/8 inch per minute.

Electron microscopy

For electron microscopic examination samples of the powder were suspended in isopropanol and lightly ultrasonerated. A drop of this suspension was placed on carbon coated Nylon grids. Examination of the samples was carried out in a combined electron-microscope-microprobe-analyzer, EMMA-IV. The samples were examined and photographed at several different magnifications, electron diffraction patterns were obtained from typical fibers present and energy dispersive x-ray analysis was performed on these fibers.

RESULTS

1) Light microscopy

The following general statements can be made:

All the samples contained a serpentine which, on the basis of dispersion staining and morphology, has been identified as lizardite. Chrysotile (the asbestiform variety of serpentine) and antigorite were not detected.

All the samples contain tremolite identified by dispersion staining and polarized light microscopy and, although it would be possible to miss a small percentage of anthophyllite particles, since most anthophyllites give nearly the same dispersion staining colors as tremolite, appreciable amounts of anthophyllite would not be missed because a significant number of particles would lie in the proper orientation for positive identification. With the exception of an occasional particle in Sample 83757, all the particles which showed the tremolite/anthophyllite dispersion colors showed oblique extinction under crossed polars ($\gamma \wedge c = 17\text{-}18°$), thus identifying them as tremolite.

walter c. mccrone associates, inc.

All samples contain talc in a form which looks like fibers. These give typical talc colors by dispersion staining. The majority of these talc fibers are apparently long talc rods. These talc fibers are especially long in Sample 8375[illegible].

Most samples are believed to contain a little quartz on the basis of the light microscopical examination. It is difficult to put an accurate value to the amount of quartz present, since it is extremely difficult to distinguish between quartz and lizardite under dispersion staining conditions.

A calculation of the percentage of amphibole present and of the portion of this amphibole which was fibrous was made as follows. First the portion by volume of the total tremolite present as fibers was estimated taking cognizance of both particle size and numbers present. Subsequently, 30 fields in each sample were examined in detail and the percentage by area of the total particle area occupied by amphibole particles was estimated.

Table 1 summarizes the observations made by light microscopy.

X-ray diffraction

All samples showed the presence of talc, an amphibole and a serpentine. Inconclusive evidence of quartz was detected by x-ray diffraction on the normal scan. By step scanning, however, low levels of quartz were found. The quartz data are presented in Table 2 and Figure 1.

The serpentine minerals are difficult to distinguish from each other by x-ray diffraction. A paper by Mumpton[1] indicates certain lines which may be used to distinguish the three serpentine polymorphs provided that the samples are relatively monomineralic. Specifically, Mumpton mentions that lizardite is characterized by a strong doublet at 1.531 Å. This doublet has indeed been observed on our x-ray diffraction trace, thereby confirming the light microscopical identification of lizardite by dispersion staining.

---

1 Characterization of chrysotile asbestos and other members of the serpentine group of minerals, Siemens review XLI (1974) 7th special issue, X-ray and Electron Microscopy News.

Table I
Summary of Light Microscopical Data

	Nytal 200	Nytal 400	3X	225	X	F1	3X
Sample	83755	83756	83757	83758	83759	83760	83761
Total tremolite (% of sample by area)	25-30	15-20	20-25	25-30	25-30	15-20	25-30
Fibrous tremolite (estimated % by vol. of total tremolite)	5	25	8-10	5	1	25	10
Quartz	+	possible ..	+	+	-?	+?	+?
Serpentine	+	?	-	+?	+	probable	probable
Talc "fibers" (rolls, shards etc.)	+	+	+	+	+(long)	+	+
Comments				large tremolite plates	large particle size	small particle size	

Table II
Tremolite and Quantity Content of Talc Samples

Sample	83755	83756	83757	83758	83759	83760	83761
Quartz Content**	2%	1/2-1%	~1 1/2%	~1 1/2%	<1/2%	below detection limit	1/2-1%
Content tremolite	40-50%	50-60%*?	40-50%*	~60%	>50-60%*	50-60%	40-50%

** Step scanning data.

* Indicates possible anthophyllite present in addition to tremolite.

This leaves only the amphibole to be characterized in all seven samples. The primary amphibole observed is tremolite. The diffraction lines observed are consistent with ASTM Card 13-437 for tremolite and with published data for tremolites from the Gouverneur district. In one sample, however, Sample 83757, a distinct side peak on the tremolite 8.410 line is observed and it is believed that this side peak is due to the presence of some anthophyllite. Less distinct evidence of this side peak is also present on Sample 83756 and possibly also 83759 (see Figures 2-8 for a comparison of the 6°-12°, 2θ range on these samples). As is clear from these figures, in addition to the side peak attributed to anthophyllite there is considerable variation in the ratio of talc to amphibole in these samples. An attempt to quantitate this relationship in terms of percentage of amphibole present is also given in Table 2.

Electron microscopical examination

Electron microscopical examination showed that all seven samples contain substantial amounts of fibrous material. This was highest in Sample 83757 and lowest for Samples 83756 and 83761. Several typical electron micrographs showing general areas of the samples are appended to this report (Figures 9-17). The electron microscopical examination concentrated on the fibrous material and an attempt was made to estimate how much of this material was in fact asbestiform, that is, a fibrous amphibole as distinct from the fiber forms of talc consisting of ribbons, shards, rolls, etc. This examination was conducted both by electron diffraction and by elemental analysis using energy dispersive x-ray. The results of these examinations are summarized in Table 3, the estimated percentages being based on occluded area. Some typical electron micrographs, diffraction patterns and energy dispersive x-ray spectra are appended. In none of these fibers examined was there a particularly high percentage of calcium noted; however, calcium was observed at the level of the order of 1-3% in all the amphibole fibers examined. The only conclusion which

Table III
Electron Microscopical Estimates of Fiber Content

Sample	83755	83756	83757	83758	83759	83760	83761
Total fibers	~10%	~10%	~40%	~30%.	~5-10%	~20%	~10%
Fibrous amphibole (as % of total sample)	<5%	<5%	15-20%	10-15%	<5%	~5%	<5%

Table IV
Overall Data Summary

Sample	83755	83756	83757	83758	83759	83760	83761
Total fibers(TEM)	10%	10%	40%	30%	5-10%	20%	10%
Amphibole fibers[1] (TEM)	<5%	<5%	15-20%	10-15%	<5%	5%	<5%
Total amphibole[2] (XRD)	40-50%	50-60%	40-50%	~60%	>50%	50-60%	40-50%
Total amphibole[3] (LM)	25-30%	15-20%	20-25%	25-30%	25-30%	15-20%	25-30%
Fibrous amphibole[4] (LM)	1-2%	3-5%	1-3%	1-2%	<1/2%	3-5%	2-3%
Serpentine[2,5] (XRD)	10-15%	10-15%	10-12%	10-12%	~15%	~20%	~30%
Quartz[2,6] (S.S. X-RD)	2%	1/2-1%	~1 1/2%	~1 1/2%	<1/2%	B.D.L.	1/2-1%

NOTES:

1. Based on occluded area
2. Estimated weight percentage
3. Based on occluded area
4. Derived from estimated % of total amphibole which was fibrous. See also Table I.
5. Identified as lizardite by light microscopy
6. S.S. XRD = Step scanning x-ray diffraction

can be drawn from the electron diffraction and energy dispersive x-ray analysis is that one has a fibrous amphibole of the tremolite or anthophyllite type. It is generally not possible to distinguish between tremolite and anthophyllite by electron diffraction and one would therefore be tempted to suggest that the fibers were anthophyllite with a trace amount of calcium. Taken in conjunction with the light microscopical examination, however, during which a diligent search was made, particularly on Sample 83757, for fibers which might be anthophyllite rather than tremolite, one is forced to the conclusion that, rather than being a calcium bearing anthophyllite, the fibers are in fact a low calcium tremolite. The aspect ratios of many of the fibers observed are quite high and numerous fibers, such as those shown in Figures 20, 22, 24 and 30 showed the classic fibrous structure of the asbestos minerals. There is no doubt in our minds that these are indeed asbestos fibers rather than cleavage fragments of a more massive amphibole. Massive forms of the amphibole are, however, present and the fibrous amphibole content represents only a fraction of the total amphibole content of the samples.

CONCLUSIONS

Table 4 summarizes the results of all the investigations which we have carried out. In answer to the specific question, "Do these particular talc samples contain any asbestos minerals?", the answer must be an unequivocal yes. The asbestos mineral present appears to be a low calcium tremolite and is definitely asbestiform by any definition of the word. The asbestos content in the samples varies from less than 5% to approximately 20%, based on occluded areas observed in the transmission electron microscope.

Respectfully submitted,

Ralph J. Hinch, Jr.
Research Chemist

Lucy B. McCrone
Senior Research Scientist

Richard J. Shimps
Research Chemist

Ian M. Stewart
Manager, Electron Optics Group

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WC Nonmalignant Pulmonary Claims: GTC As of April 21, 2009

Injury Date	Claim description	Claim Status	Name
2009	Alleg. Lung disease –dust	open	
	Alleg. Lung disease – dust	open	
2008	Alleg. Lung disease - dust	No Action	
	Alleg. Lung disease – dust	open	
	Alleg. Lung disease – dust		
	Alleg. Lung disease – dust		
	Alleg. Lung disease – dust	partial Awd	
	Alleg. Lung disease – dust		
	Alleg. Lung disease – dust		
	Alleg. Lung disease – dust	Canceled	
2007	NONE		
2006	Alleg. Asbestosis	Awarded (medical only)	
2005	Lung disease & asbestosis	Awarded	
2004	Alleg. Occ. Lung Disease	Denied	
2003	Talcosis	Awarded	
2002	NONE		
2001	NONE		
2000	NONE		
1999	NONE		
1998	NONE		
1997	Alleg. Occ. Lung/heart	Open	
1996	Alleg. Dust disease	Denied	
	Exposure to Dust	Open	
1995	Alleg. Dust disease	Denied	
	Alleg. Dust disease	Open	

	Talcosis/pneumoconiosis	Awarded
	Pneumoconiosis	Denied
1994	NONE	
1993	Pol. Dust disease	Awarded
1992	Pol. Dust disease	Denied
	Pol. Dust disease	Denied
	Pol. Dust disease	Denied

Injury Date	Claim description	claim Status
1991	Pul. Dust claim	awarded
	Pul Dust Claim	awarded
	Pul Dust claim	denied
	Pul Dust claim	denied
	Pul Dust claim	denied
	Pul. Dust claim	denied
	Pul. Dust claim	awarded
	Pul. Dust claim	denied
1990	COPD	awarded
	Pul. Dust claim	awarded
	Pul. Dust claim	awarded
	Pul. Dust claim	denied
	" "	awarded
	" "	denied
	" "	denied
	" "	awarded
1989	Occ. Disease lungs	awarded
	Pul. Dust claim	awarded
	" "	denied
	" "	denied
	" "	awarded
	" "	denied
	" "	awarded
	" "	awarded
	" "	denied

"	"	denied
"	"	awarded
"	"	awarded
"	"	denied
"	"	denied
"	"	denied
"	"	awarded
"	"	awarded
"	"	awarded
"	"	denied
"	"	awarded
"	"	awarded
"	"	awarded
"	"	awarded

Injury Date	Claim description	Claim Status
1988	Pul. Dust Claim	awarded
1987	pneumoconiosis	awarded
	Talcosis	awarded
1986	Talcosis	awarded

See Continuing lists: as of 5/31/85 and 10/82

Cancers of the Pulmonary tract Claims

1972	Talcosis & pos asb contributed To lung cancer (allegedly)	awarded
1996	Talcosis contributed to lung Cancer (allegedly)	awarded
1993	Talcosis contrib. to lung C.	awarded
1995	Alleg. Meso	awarded
1995	Alleg. Meso	awarded
2001	Alleg. Meso	awarded
2005	Conf. Meso	awarded

DEPOSITION EXHIBIT

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as of 10/82

GOUVERNEUR TA. CO., INC.

RECORD OF CLOSED AND PENDING WORKMEN'S COMPENSATION DUST DISEASES OF THE LUNGS CASES

NAME	HIRE DATE	DISABLE OR RETIRE DATE	FILE DATE	PAYMENT START	AWARD DATE	PERCENT DISABLED	WEEKLY PAYMENT	DATE DECEASED	TYPE DISEASE TO LUNGS
	07/11/49	11/06/49	04/23/62	07/20/60	03/25/65	100	$ 50.00	08/21/61	Silicosis
	07/20/48	08/27/68	07/26/68	08/31/70	09/09/70	100	70.00	11/10/78	Pulmonary Fibrosis
	06/25/49	01/01/72	06/14/71	03/15/71	04/04/72	100	80.00	08/11/79	Chronic Bronchitis, Talcos & Pulmonary Emphysema
	07/28/54	08/24/71	09/01/71	08/24/71	01/26/72	100	80.00		Chronic Bronchitis, Talcos & Pulmonary Emphysema
	08/31/48	03/01/72	03/24/72	02/11/72	12/13/72	100	80.00		Talcosis
	08/29/50	02/01/72	01/18/73	11/15/72	05/24/74	100	80.00		Talcosis
	01/25/56	10/03/72	04/11/72	01/22/73	02/07/73	100	80.00	10/13/73	Talcosis
	08/24/48	03/01/73	03/15/73	02/26/73	07/09/74	100	80.00		Talcosis
	05/13/53	07/01/76	01/15/74	02/16/77	10/30/80		90.00		Talcosis
	12/17/51	06/01/74	09/13/74	11/01/73	02/10/76	100	80.00		Talcosis
	09/17/61	05/07/73	08/02/74	06/03/74	04/26/78	100	80.00		Chronic Bronchitis, Talcosi & Pulmonary Emphysema
	Electrical 1974-75	Consultant 5 Months	05/23/75	11/16/74	12/03/75	100	95.00		Talcosis
	07/20/53	11/01/76	11/13/75	10/30/75	12/15/76	100	95.00		Talcosis
	08/22/50	04/22/67 Term.	07/06/77	11/09/77	07/29/80		60.00		P.P.D. - Talcosis
	04/19/52	09/05/69	08/25/77	05/03/76	04/19/79	40	48.13*	05/03/76	Talcosis
	06/11/74	08/30/77	01/16/78	08/31/77	06/18/79	50	80.00		Talcosis
	06/21/74	01/30/78	01/30/78	01/27/78	07/13/78	75	105.00		Talcosis
	07/27/48	06/01/75	03/16/78	11/28/77	07/03/79		71.11		P.P.D. - Talcosis
	11/23/51	08/17/77	03/20/78	08/01/77	11/25/80		57.00*	08/17/77	Pneumoconiosis

P.P.D. = PERMANENT PARTIAL DISABILITY

GOUVERNEUR TA. CO., INC.

RECORD OF CLOSED AND PENDING WORKMEN'S COMPENSATION DUST DISEASES OF THE LUNGS CASES

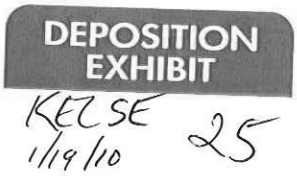
NAME	HIRE DATE	DISABLE OR RETIRE DATE	FILE DATE	PAYMENT START	AWARD DATE	PERCENT DISABLED	WEEKLY PAYMENT	DATE DECEASED	TYPE DISEASE TO LUNGS
[redacted]	07/01/48	03/01/77	06/26/78	03/01/77	04/16/80		$ 95.00		P.P.D. - Talcosis
	02/12/63	11/21/78	11/21/78	11/21/78	10/24/79 10/31/80		95.00 67.17		P.P.D. - Pneumoconiosis
	08/31/53	09/01/75	01/09/79	09/28/78	01/18/80		89.50		P.P.D. - Talcosis
	09/14/53	07/29/78	02/16/79					07/29/78	
	08/17/53	06/11/79	06/11/79	06/11/79	02/04/80	50	105.00	10/28/82	P.P.D. - Talcosis
	01/03/55	08/20/79	08/28/79	08/20/79	04/23/80	50	105.00		P.P.D. - Talcosis
	01/17/55	02/01/80	08/28/79	09/03/79	05/06/81	50	105.00		P.P.D. - Talcosis
	09/20/48	08/01/76	08/28/79						
	04/12/54	08/01/78	10/03/79	08/01/78	06/27/80	50	105.00		P.P.D. - Talcosis
	06/20/55	03/01/76	12/19/80					07/25/80	
	09/23/64	08/01/81	09/11/80	08/07/80	07/23/81	50	105.00		P.P.D. - Talcosis

P.P.D. = PERMANENT PARTIAL DISABILITY

*=SURVIVOR SPOUSE

WC Mesothelioma Deaths Claimed:

DOD	Age at Death	Yrs at GTC	Jobs at GTC	Other Work	Diagnosis	Actual Asbestos Exposure
1995	64	40 (54-94)	Mill QC	Pre 4yrs Navy	Tissue re-analysis supports ademocar. Vs meso. – 25 yrs Smoker – prostate C.	Very likely, Navy 50-54.
1995	71	33 (54-87)	Mill, misc.	Pre 4 yrs municipal Repairman	Questionable - MD feels more likely matas. from underlying lung C. Cardio-pulmonary arrest.	Possible, from municipal exposures
2001	86	20 (56-76)	Mine, scraper, mucker	Pre. 15 yrs other area mines	Sparse Med. data, no tissue, learned about in 2004.	Definite asb. exp. In scraper brake padsGTC
2005	74	34 (64-97)	Mill, wheeler mill op.	Pre. 2 yrs army demolition, 10yrs auto garage –brake work	Confirmed	Very prob. army demolition bldgs/ bridges. Very likely during brake work in 50's. Known asb. Pads on wheeler -GTC



AUTOPSY NO. AG-95-04

CANTON POTSDAM HOSPITAL

AUTOPSY REPORT

NAME: HOUSE, ARTHUR AGE: 69 SEX: Male

OCCUPATION: Retired RACE: Caucasion

HOSPITAL: E. J Noble, Gouverneur, N.Y. DOCTOR: Dr. Reason

ADMITTED: 02-14-95 DIED: 03-17-95 TIME:

DATE OF AUTOPSY: 03-20-95

AUTOPSY PERFORMED BY: Spurgeon S. Smith, M.D. ASSISTED BY:

AUTOPSY PERFORMED AT: French Funeral Home DATE COMPLETED: 05-01-95

FINAL DIAGNOSIS

1. Pneumoconiosis with pulmonary fibrosis and numerous doubly refractile mineral fibers.
2. Acute aspiration pneumonia.
3. Pulmonary emboli.

SPURGEON S. SMITH, M.D.
PATHOLOGIST

d/ss/05/01/95
t/ar/05/02/95

DEPOSITION EXHIBIT
KELSE 1/19/00 26

HOUSE, ARTHUR

AG-95-04

GROSS DESCRIPTION

The body is that of a thin, well-developed, elderly-appearing white male. The body was opened with a Y-shaped incision and the lungs were removed. Both lungs were very firm and the external surface had a slight nodular appearance. There were some pleural plaques noted on the diaphragmatic surface of the right and left lungs along with some plaques noted on the visceral surface of the right and left lung. Upon sectioning, the lungs had a slight honey-combed appearance. There exuded some greenish-gray, purulent fluid from some areas of the lung upon sectioning. There were also multiple pulmonary emboli noted within the blood vessels.

HOUSE, ARTHUR

AG-95-04

MICROSCOPIC DESCRIPTION

Sections of the lung showed a marked neutrophilic infiltration within some of the alveoli (acute bronchopneumonia). There is some fibrin deposition within some of the alveoli. There are also some histiocytes and multinucleated giant cells. There are rare ferruginous bodies noted. There are numerous doubly refractile crystals noted on polarization. These are noted free within the alveoli, within some histiocytes, within some multinucleated giant cells, within some of the rare ferruginous bodies, and within the fibrous tissue between the alveoli. Most of these refractile particles are very small and splinter-shaped in appearance. There are also a few larger, somewhat spherical-shaped, doubly refractile particles. The ferruginous bodies are most noted in block #5. There are some areas of fibrosis. Within these areas, there are some macrophages containing some brownish-black, granular pigment. Focally, there are some oval-shaped, eosinophilic, amorphous bodies. Some of these appear to be surrounded by histiocytes. There are large areas of fibrosis. There are relatively acellular, hyalinized, fibrous plaques on the surface of the lungs. There is rupture and dilation of some of the alveoli. Some of these foci are adjacent to the fibrous areas. Within some of the blood vessels, there are layered fibrin and red blood cells (pulmonary emboli). There are rare food particles noted within some of the alveoli with acute inflammation, indicating aspiration pneumonia. Special stains for Acid Fast and fungal organisms are negative.

HOUSE, ARTHUR

AG-95-04

FINAL SUMMARY

Results of the autopsy Grossly revealed an increased firmness of the lung along with visceral and parietal pleural plaques. Microscopically, there was foci of fibrosis within the lungs along with adjacent expansion of alveoli. There was marked, acute inflammation within numerous alveoli. The presence of rare food particles would indicate an aspiration pneumonia. There were also multiple pulmonary emboli present. There were numerous doubly refractile splinter-shaped crystals noted on polarization. There were also some giant cells present. These could have been present due to the aspiration pneumonia. They also could be present because of the foreign crystals present. Tuberculosis can also not be completely excluded. However, Acid Fast stains were negative and the foci do not have the classic caseating tuberculoid appearance. Ferruginous bodies are seen with mineral deposition within the lungs. They are most common with cases of asbestosis. However, they can be seen in exposure to silicates. The presence of refracticle crystals within the ferruginous bodies would suggest this as the possibility. The exact etiology of the mineral fibers can not be determined without X-rays, refraction studies and/or electron microscopy. Based on the results of the autopsy, it is concurred that the acute agonal cause of death was due to aspiration pneumonia and multiple pulmonary emboli. The patient was predisposed to this condition due to pneumoconiosis with numerous doubly refractile mineral fibers.

\H\H\H

DEPOSITION EXHIBIT
KELSE 1/19/10 27

E.J. NOBLE HOSPITAL
77 W. Barney Street
Gouverneur, NY 13642

RADIOLOGY DEPARTMENT

HANCE, LINTON ROOM NO: OPD X-RAY NO: 26696

REFERRING PHYSICIAN: DR. REYES EXAM DATE: 4/2/96

BONE SCAN:

The study was performed using Technetium 99-m HGP. Whole body imaging was performed. This is compared with plain radiographs of the patient's ribs done April 2,1996.

Areas of increased activity are seen involving the posterior left 8th and 9th ribs. This appears to be at the level of a pleural based mass which is seen in the patient's left lower lobe,posteriorly. A recent CT scan of the chest was also performed demonstrating this pleural based mass with suggestion of erosion into the chest wall and possibly some adjacent rib involvement. The patient's chest CT also demonstrates chronic interstitial lung disease and pleural based calcifications.

The remaining osseous skeleton demonstrates normal distribution of the radiopharmaceutical. No abnormal areas of increased or decreased activity are appreciated in the region of the thoracic or lumbar spines. The pelvis is within normal limits. Some juxtaarticular activity about the knees is noticed consistent with degenerative type arthritis.

INTERPRETATION:

There is increased activity involving posterior left ribs at around the 8th and 9th level. This is at the level of a pleural based mass which may be causing increased rib activity due to rib erosion. Given the chest CT findings this is likely either a mesothelioma or a lung carcinoma. This would be very amendable to CT guided lung biopsy.

CRB/mb
DOB: 7/31/20
D:4/4/96
T:4/4/96

Dr. Rowe-Button

E.J. NOBLE HOSPITAL
77 W. Barney Street
Gouverneur, NY 13642

RADIOLOGY DEPARTMENT

HANCE, LINTON ROOM NO: OPD X-RAY NO: 26696

REFERRING PHYSICIAN: DR. REYES EXAM DATE: 4/2/96

CT OF THE CHEST:

Scanning was performed at the level of the sternoclavicular joints and proceeding caudally using 10 mm. thick slices to the level of the adrenal glands. Additional scanning using 5 mm. thick slices was performed for evaluation of the left lower lobe, posteriorly.

Filming was performed using lung and mediastinal windows.

FINDINGS:

Advanced emphysematous lung disease is noticed with evidence of emphysematous bullae in the right lower lobe. Thickened interstitial markings are also noticed bilaterally.

The presence of a large pleurally based lesion is noticed involving the left lower lobe, posteriorly, measuring approximately 5.9 x 5.4 cm. Several images reveal also extension of this lesion, posteriorly into the chest wall.

No clear evidence of metastatic lung lesions. No mediastinal lymphadenopathy is identified.

FINAL IMPRESSION:

Advanced emphysematous lung disease with the presence of emphysematous bullae in the right lower lobe. The presence of a large soft tissue mass is noticed in the left lower lobe, posteriorly, which is pleurally based and measures approximately 5.9 x 5.4 cm. Extension posteriorly into the chest wall is identified.

Malignant lesion such as mesothelioma is high on the differential list. Fine needle biopsy for a final diagnosis is suggested.

DOB: 7/31/20
D:4/2/96
T:4/2/96 mb

R.A.Prijic, M.D.

COPY

RECEIVED
JUN 19 1996
OOT & ASSOCIATES
CANTON, NY 13642

E.J. NOBLE HOSPITAL
77 W. BARNEY STREET
GOUVERNEUR, NY 13642

TRANSFER SUMMARY

HANCE, Linton Dr. Reyes Hosp.# 00-19-88

DATE OF ADMISSION: 04/05/96
DATE OF TRANSFER: 04/09/96

Mr. Hance is transferred to A. Barton Hepburn Hospital under Dr. Palao's service since 04/09/96.

PROVISIONAL DIAGNOSIS:
1. Bilateral pneumonia.
2. Hemoptysis probably, secondary to CA of the lung.
3. Rule out presence of mesothelioma.
4. Chronic interstitial lung disease with emphysema to bullae right lower lobe.
5. Chronic obstructive pulmonary disease.
6. Benign prostatic enlargement.

TRANSFER DIAGNOSIS:
1. Bilateral lower lobe pneumonia.
2. Possible CA of the lung.
3. Rule out mesothelioma.
4. History of coronary artery disease with status post CHF.
5. History of chronic obstructive pulmonary disease with chronic interstitial lung disease, secondary to talcosis.
6. Benign prostatic enlargement.

CHIEF COMPLAINT AND HISTORY OF PRESENT ILLNESS: Please see history and physical form. Wedad Hanna

DISCHARGE SUMMARY: This is the case of a 75-year-old white male who is a known case of coronary artery disease, CHF, COPD with chronic interstitial lung disease, secondary to talcosis with enlarged prostate hematuria, with normal PSA who was admitted on 04/05/96 for left sided chest pain and hemoptysis. The patient is a non-compliant patient who refused to be followed up regularly, had just been found to have a possible left lower lobe mass, questionable mesothelioma, verified by CT scan done on April 2, 1996 with bone scan showing increased activity in the posterior left ribs at 8th and 9th level, question of possible metastatic focus found of lung cancer. He was started on Naprosyn on Tuesday of this week when he finally decided to have a CAT scan and a bone scan done, but apparently came back on

(Continued on Next Page)

COPY

HANCE, Linton Dr. Reyes Hosp.# 00-19-88

04/05/96 because the pain got worse and intolerable, not relieved by Naprosyn.

This time the patient was also complaining of increasing shortness of breath with hemoptysis. There was no fever or chills. His appetite has been fair and there is no other site of pain. The patient has not shown any weight loss since the last visit to my office 3 months ago. The patient was initially seen in the Emergency Room and found to have crackles bibasal lung field with bilateral infiltrate on the chest x-ray with a white count of 21,400 with segs of 80 and lymphs of 19, hemoglobin 14.8, hematocrit of 42. His blood gas showed a PO2 of 50, pH 7.43, PCO2 36.2. ADDENDUM: The patient's sputum culture showed positive Serratia Marcescens, which is sensitive to everything including Septra, only resistant to Cefazolin.

HOSPITAL COURSE: He was admitted to the hospital with diagnosis of bilateral pneumonia and started on IV Rocephin 1 gram q24 hourly, after obtaining sputum cytology, gram stain, and blood cultures. He was kept comfortable with Morphine IV at 1 mg per hour, titrated up to 3 mg per hour to keep chest pain free. He was continued on Albuterol and Atrovent aerosol therapy q.i.d. alternately and 2 liters of oxygen via nasal cannula. ABG and pulse oximetry was followed up in the hospital and oxygen was titrated accordingly based on the blood gases obtained. The patient was started on MS Contin 30 mg b.i.d on 04/06/96 and MSIQ 4 mg qt hourly p.r.n. for pain. His 02 was increased to 4 liters per minute by nasal cannula for persistent hypoxemia despite 02 therapy at 2 liters per minute. Incidentally the patient was found to have a slight abnormality in PT PTT for which he was started on Vitamin K sub q. The patient showed clinical improvement while in the hospital. On my arrival on 04/09/96 I spoke to the patient and told him since he has persistent hemoptysis and because of the mass in his lung he needs further evaluation, such as bronchoscopy, possible thoracoscopy. He was referred to Dr. Palo who accepted the patient for transfer and immediate further diagnostic workup at A. Barton Hepburn Hospital. The patient was subsequently transferred in stable condition after he agreed to the further workup. Appropriate papers were filled out and the patient was transferred with stable vital signs not in respiratory distress, comfortable with 02 inhalation at 4 liters per minute. No neck vein engorgement with bilateral crackles. Heart has been regular and abdomen is soft and non-tender and no peripherals or central cyanosis.

FTR/dh
D: 04/09/96 (1743 hours)
T: 04/09/96 Fe T. Reyes, M.D.

INTER-OFFICE MEMORANDUM

Date: May 11, 1992

To: Mr. G. L. Fiederlein

From: J. W. Kelse

Subject: BILL FOR REMOVAL OF "MOULDENE" - May 2, 1992

Attached please find an invoice for $7,500 which we agreed to pay for the removal and disposal of the captioned material. Would you please expedite payment on this so that we can close our file on this project.

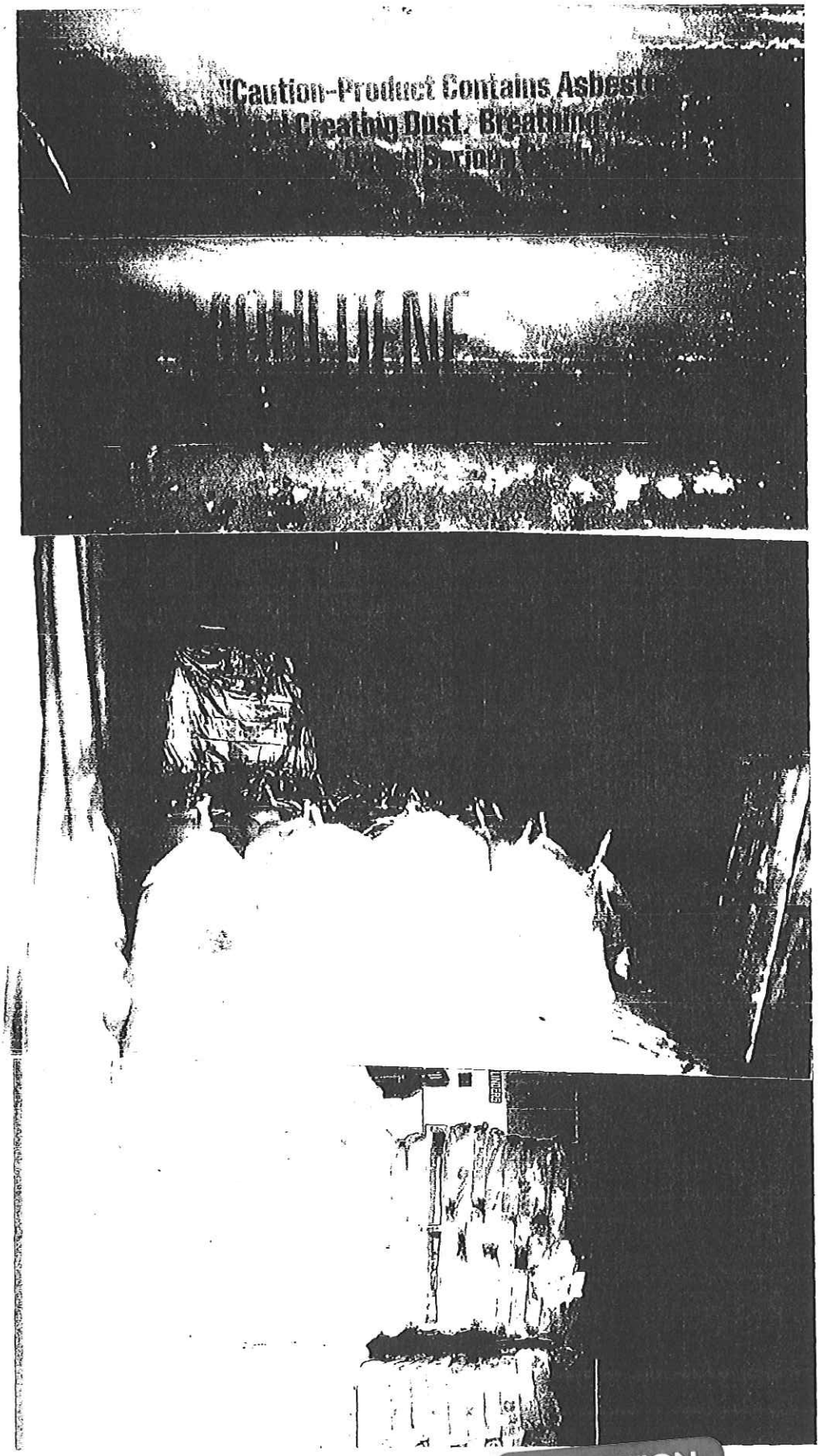
As the cover letter (also attached) indicates, I have received full documentation on this project and shall establish a file. I would appreciate a copy of the check sent for this file.

Thank you for your interest and cooperation on this matter. Although this discontinued talc product is not an asbestos containing material (ACM), I believe our conservative approach minimized costs.

JWK/sk
attachment

cc: Mr. H. B. Vanderbilt Sr.

DEPOSITION EXHIBIT
KELSE
1/19/10 29



DEPOSITION EXHIBIT
30 KELSE
11/9/10

Products with Talc

DEPOSITION EXHIBIT
31 KELSE 1/19/10

R. T. VANDERBILT COMPANY, INC.
30 WINFIELD STREET
NORWALK, CONNECTICUT 06855

January 2, 1975

Georgia-Pacific Corporation
900 South West Fifth Avenue
Portland, Oregon 97204

Attention: Mr. Edward [illegible]
Purchasing Manager

Gentlemen:

In the course of our association with the business of the former International Talc Company, we will continue to market five fibrous (asbestiform) type talcs previously supplied by them, namely:

1. Fiber #1
2. Fiber #2
3. Mouldene
4. 6N Fiber
5. PL Fiber

We intend to label bags containing these products with an Asbestos CAUTION Label as follows:

CAUTION-PRODUCT CONTAINS ASBESTOS FIBERS. AVOID CREATING DUST. BREATHING ASBESTOS DUST MAY CAUSE SERIOUS BODILY HARM.

As you know, the mineral fibers present in these grades, which make them industrially useful, are the asbestiform varieties of those minerals normally contained in commercial talc and consequently fall under Section 1910.93a, the OSHA Asbestos Standard.

Very truly yours,

Pamela A. Morray
Specialties Department

PL 1 (Morray)
DEPT. EX. 5-1-80
FOR ID.
MARKED BY REPORTER

24.

R.T. Vanderbilt Company, Inc.

TECHNICAL DATA SHEET

KEMCO Chem-Materials Co., Inc.
216-476-2100

FIBERTAL

August 7, 1975

FIBERTAL is a complex hydrous calcium magnesium silicate. It is a unique fibrous mineral whose only known source is in northern New York State.

FIBERTAL has great affinity for oils, polymers, solvents and water, rendering it a particularly useful tool for the coatings formulator. FIBERTAL is supplied with a wide range of water absorption, providing maximum versatility to the formulator. Wherever stable thixotropy is desired, the proper FIBERTAL will do the job. In addition, its light color allows the preparation of whites and clean light tiles.

Among its useful applications are: texture paints, stucco coatings, gel coats, block fillers, roof paints, asphalt curbings, putties, caulking compounds and floor tiles. Another use is in nonferrous metal casting plasters.

Typical properties:

	FIBERTAL 6	FIBERTAL 1	FIBERTAL 2	MOULDENE
Dry brightness, minimum:	88	88	88	88
Specific gravity:	2.86	2.86	2.86	2.86
Plus 325 mesh, % maximum:	25	15	15	15
Water absorption, range:	100-180	180-240	240-290	290+

FIBERTAL carries an asbestos warning label and should be handled accordingly.

R.T. Vanderbilt Company, Inc.
INDUSTRIAL MINERALS AND CHEMICALS
30 Winfield Street, Norwalk, CT 06855 (203) 853-1400
West Coast: 6279 East Slauson Avenue, Los Angeles, CA 90040 (213) 723-5208

MINERAL SAFETY DATA SHEET

DATE: January 1, 1980

SECTION I

TRADE NAME AND SYNONYMS	NYTAL 99, NYTAL 100, NYTAL 100HR, Industrial Talc
MINERAL FAMILY	Hydrous Silicates
CHEMICAL COMPOSITION	Complex hydrous calcium magnesium silicates

SECTION II INGREDIENTS

MINERAL	% RANGE
Talc (Hydrated magnesium silicate - $Mg_6Si_8O_{20}(OH)_4$)	20-30
Tremolite and/or anthophyllite	50-70
Serpentine (antigorite - lizardite)	20-30
Quartz	1-5

SECTION III PHYSICAL DATA

COLOR	White	DENSITY, Mg/m^3	$\pm$ 2.8
APPEARANCE	Powder		
OTHER PROPERTIES			

SECTION IV HEALTH HAZARD DATA

MINERAL	PEL*
Talc (Hydrated magnesium silicate - $Mg_6Si_8O_{20}(OH)_4$)	20 mppcf
Tremolite and/or anthophyllite	20 mppcf
Serpentine (antigorite - lizardite)	50 mppcf
Quartz (total dust)	30 mg/m^3 ÷ % Quartz + 2

*Permissible Exposure Limit listed in the Z-3 Table of Mineral Dusts, OSHA Standard for Air Contaminants, 29 CFR 1910.1000. PEL must be determined by the individual user based on the mineral composition of the airborne dust at any particular location in the plant. The composition of the airborne dust may be quite different from the actual percentage composition of the bulk material.

SECTION V SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Do not breathe dust. Prolonged inhalation may cause lung injury.

Information presented herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so. Nothing herein is to be construed as recommending any practice or any products in violation of any patent or in violation of any law or regulation. It is the user's responsibility to determine for himself the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. We make no warranty as to the results to be obtained in using any material and, since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of any material supplied by us.

DEPOSITION EXHIBIT
32 KELSE

FT 100774

R.T. Vanderbilt Company, Inc.
INDUSTRIAL MINERALS AND CHEMICALS
30 Winfield Street, Norwalk, CT 06855 (203) 853-1400
West Coast 6279 East Slauson Avenue, Los Angeles, CA 90040 (213) 723-6208

MINERAL SAFETY DATA SHEET

DATE: January 1, 1981

SECTION I

TRADE NAME AND SYNONYMS	NYTAL 99, NYTAL 100, NYTAL 100HR, Industrial Talc
MINERAL FAMILY	Hydrous Silicates
CHEMICAL COMPOSITION	Complex hydrous calcium magnesium silicates

SECTION II INGREDIENTS

MINERAL	% RANGE
Talc (Hydrated magnesium silicate - $Mg_6Si_8O_{20}(OH)_4$)	20-30
Tremolite and/or anthophyllite	50-70
Serpentine (antigorite - lizardite)	20-30
Quartz	0-2

SECTION III PHYSICAL DATA

COLOR	White	DENSITY, Mg/m³	± 2.8
APPEARANCE	Powder		
OTHER PROPERTIES			

SECTION IV HEALTH HAZARD DATA

MINERAL	PEL*
Talc (Hydrated magnesium silicate - $Mg_6Si_8O_{20}(OH)_4$)	20 mppcf
Tremolite and/or anthophyllite	20 mppcf
Serpentine (antigorite - lizardite)	50 mppcf
Quartz (total dust) 30 mg/m³ ÷ % Quartz + 2	

*Permissible Exposure Limit listed in the Z-3 Table of Mineral Dusts, OSHA Standard for Air Contaminants, 29 CFR 1910.1000. PEL must be determined by the individual user based on the mineral composition of the airborne dust at any particular location in the plant. The composition of the airborne dust may be quite different from the actual percentage composition of the bulk material.

SECTION V SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Do not breathe dust. Prolonged inhalation may cause lung injury.

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DEPOSITION EXHIBIT
33 KELSE
11/9/10

R.T. Vanderbilt Company, Inc.
30 Winfield Street, Norwalk, CT 06855 • (203) 853-1400 • TWX 710-468-2940
West Coast: 6279 East Slauson Avenue, Los Angeles, CA 90040 • (213) 723-5208

TECHNICAL DATA

200 MESH TALCS

Ceramic Department — March 15, 1981

NYTAL® 100 is used as an auxillary flux in vitreous bodies such as electrical porcelain or sanitaryware. **NYTAL 100** substituted directly for feldspar up to 3% results in a tighter and stronger body if fired to the same temperature, or maturing temperatures may be reduced to affect fuel savings. **NYTAL 100** is also recommended for cordierite development in refractory specialties and to impart strength and resistance to delayed crazing in semivitreous dinnerware.

NYTAL 100HR and **CERAMITALC® 10AC** are recommended specifically for art pottery and hobby ceramic casting slips where control of the specific resistance is essential in high talc bodies.

All three of the above grades are produced from a massive type of ore which aids in dry-pressing, ram-pressing or in the making of good casting slips.

Typical Chemical Analyses: Expressed as oxides:

	NYTAL 100	NYTAL 100HR	CERAMITALC 10AC
Silicon dioxide (SiO_2)	56.20%	55.20%	52.20%
Magnesium oxide (MgO)	28.80	30.00	32.40
Calcium oxide (CaO)	8.58	8.42	7.93
Iron oxide (Fe_2O_3)	.12	.16	.12
Aluminum oxide (Al_2O_3)	.27	.31	.28
Manganese oxide (MnO)	.14	.17	.08
Sodium oxide (Na_2O)	.38	.34	.39
Ignition loss	5.15	5.41	6.74

Physical Properties:

Density, Mg/m^3	2.85	2.85	2.85
Fineness (+200 mesh residue):	2.5 - 3.2	2.5 - 3.2	2.5 -3.2
Average particle size (microns):	34	32	31
Fired color (Hunterlab Meter):	97	97	98
Specific resistance (Ohms):	n.a.	6-9,000	9-12,000

Particle Size Distribution (Coulter Counter):

Percent finer than indicated size:

Microns	NYTAL 100	NYTAL 100HR	CERAMITALC 10AC
40	58	63	62
30	44	47	49
20	28	30	34
10	13	14	17
5	6	6	9
2	1	2	3
1	--	--	--

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R.T. Vanderbilt Company, Inc.
INDUSTRIAL MINERALS AND CHEMICALS
30 Winfield Street, Norwalk, CT 06855 • (203) 853-1400 • TWX 710-468-2940
West Coast: 6279 East Slauson Avenue, Los Angeles, CA 90040 • (213) 723-5208

FRACTIONATED TALCS
Technical
Data

FRACTIONATED TALCS

Ceramic Department

June 1, 1981

NYTAL® 99 and **CERAMITALC® HDT** are outstanding pressing grades of talc designed originally for use in ceramic wall tile but also beneficial in artware. The reduction of the extremely fine particles in these grades will virtually eliminate laminations, improve product density and permit faster pressing. Both products will develop high uniform thermal expansion and low moisture expansion to prevent crazing in bodies that can be safely fired at rapid cycles. **NYTAL 99** will produce bodies with somewhat lower shrinkage than **CERAMITALC HDT**, otherwise they are quite similar.

Typical chemical analysis:

Expressed as oxides	NYTAL 99	CERAMITALC HDT
Silicon dioxide (SiO_2)	56.90%	56.00%
Magnesium oxide (MgO)	28.60	29.60
Calcium oxide (CaO)	8.28	8.71
Iron oxide (Fe_2O_3)	.17	.18
Aluminum oxide (Al_2O_3)	.38	.36
Magnesium oxide (MnO)	.18	.12
Sodium oxide (Na_2O)	.38	.34
Ignition loss	4.75	4.84

Physical properties:

Density, Mg/m^3	2.85	2.85
Fineness (+200 mesh residue %)	2.3 to 4.0	2.3 to 4.0
Average particle size (microns)	38	37
Fired color (Hunterlab Meter)	96	96

Particle size distribution (Coulter Counter):

Percent finer than indicated size

Microns		
40	53	55
30	37	38
20	20	21
10	7	6
5	2	2
2	---	---
1	---	---

Information presented herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so. Nothing herein is to be construed as recommending any practice or any product in violation of any patent or in violation of any law or regulation. It is the user's responsibility to determine for himself the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. We make no warranty as to the results to be obtained in using any material and, since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of any material supplied by us.

65

U.S. DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

P.O. Box 1451
328 U.S. Post Office and Courthouse
Albany, New York 12201

Mr. George E. Erdman, Vice President and
General Manager
Gouverneur Talc Company, Inc.
P.O. Box 89
Gouverneur, New York 13642

November 10, 1979

MSHA file

Dear Mr. Erdman:

The enclosed supplemental report completes a Federal inspection of the No. 1 Mine and Mill, I.D. No. 30-00611, Balmat, New York, conducted on July 17-20 and 26, 1979. The inspection was made pursuant to Public Law 91-173 (83 STAT. 742) as amended by Public Law 95-164 (91 STAT. 1290).

The type and number of actions taken during this inspection were:

ORIGINAL ACTIONS THIS INSPECTION	TYPE AND NUMBER OF:		
	Citations	Orders	Others
Issuances	5	3	0
Terminations	6	1	
Modifications	8	3	
Extensions			
Vacated			
ACTIONS ON PREVIOUS VIOLATIONS			
Modifications		2	0
Extensions	5		
Terminations	1	1	
Vacated			

Figures for the following are not yet available:

Incidence Rate:	Fatal	Non-Fatal
Industry		
This Operation		

Sincerely yours,

Edward J. Podgorski
Subdistrict Manager
Metal and Nonmetal Mine Safety and
Health, Northeastern District

EXH. 65 FOR I.D.
WITNESS Harvey, vol III
DATE 5/28/87
DIANNE JONES, N.P., CSR #3328

cc: A. R. Trombley, President, United Steelworkers of America, Local 7749
Safety and Health Department, United Steelworkers of America
William Kelly, District 4 Representative, United Steelworkers of America

DEPOSITION EXHIBIT
34 KELSE 1/19/10

FIBER AND DUST DISCUSSION

The fiber filters were counted in the Albany, NY, laboratory for fiber per ML count. The following filters were submitted to the MSHA, Denver Technical Support Center for fiber identification. This was accomplished by an Electron Microscope Scan.

The results were as follows:

Filter No.	Percent	Type of Fiber
E-219	16.7	Chrysotile
	8.3	Anthophylite Asbestos
E-226	16.7	Anthophylite Asbestos
E-225	20.0	Fiberous Talc
E-248	13.3	Anthophylite Asbestos
	13.3	Fibrous Talc
E-216	18.2	Fibrous Talc
	9.1	Anthophylite Asbestos
E-246	33.3	Fibrous Talc
E-239	7.1	Fibrous Talc
	22.3	Average

The percent varied as expected due to the nonhomogeneity of the atmospheres and local differences in the rock being mined. The local percentum should change from day to day, but the average should be reasonably consistant. The filters were all averaged and the result was 22.3 percent toxic fibers which was used for each location.

The percent of toxic silica was determined to be below 1 percent in each area sampled so toxic silica was not included in the calculations. (The 700 level crusherman was found to be below the TLV, which would bring him into compliance).

TOTAL DUST MEASUREMENTS

Sampling Method

The dust concentration results included in this report were obtained by the gravimetric dust sampling method. Results are milligrams of total dust per cubic meter of air (mg/m^3).

The dust sampling equipment used consisted of an air pump and a 37 mm diameter, 5 micron pore size filter. All components were interconnected by tubing and/or fittings to maintain a negative pressure at the filter inlet. Sampling equipment was of the "personal" type and the filter assembly was located in the breathing zone of each person sampled. When taking a total dust sample a cyclone dust classifier is not used.

As air was drawn through the sampling device, the airborne dust was deposited on the filter.

The equipment used met the requirements of the American Conference of Governmental Industrial Hygienists for airborne dust sampling and was operated at an air flow rate of 1.7 liters per minute. The flow rate of the apparatus was checked prior to use and was periodically checked during sampling to ensure that the flow rate was maintained.

Each filter was weighed prior to and after sampling, with the difference in weight being the amount of dust collected on the filter.

Free Silica (SiO_2)

Free silica (alpha quartz) analyses were made of the total dust collected on the filters. The sample location and the results obtained are shown in the appended table(s).

Threshold Limit Values (TLV)

The 1975 edition of "Threshold Limit Values of Airborne Contaminants and Physical Agents," as published by the American Conference of Governmental Industrial Hygienists, was the source of the applicable threshold limit values. The TLV, in mg/m^3, is the limiting value for exposure to total airborne dust for a 7 to 8-hour workday. Dust with less than 1 percent SiO_2 is considered nuisance dust and the TLV is 10 mg/m^3.

The TLV for total dust containing greater than 1 percent SiO_2 is calculated from the following equation:

$$\text{TLV (in mg/m}^3\text{)} = \frac{30}{\% \ SiO_2 + 3}$$

The Time Weighted Average (TWA) concentrations were calculated from the following equation:

$$\text{TWA Conc. (in mg/m}^3\text{)} = \frac{\text{Dust weight (mg)}}{\text{flow rate (lit./min.)} \times \text{time (min.)} \times .001 \text{ m}^3\text{/lit.}}$$

TWA concentrations exceeding the TLV indicate overexposure.

Crystalline Silica Dust
Sampling Results

U. S. Department of Labor
Mine Safety and Health Administration

Mine ID Number	Date of Sample(s)	Type of Sample		Contaminant			
30-00611	7/18/79	☒ Total	☐ Respirable	☒ Quartz	☐ Cristobalite	☐ Tridymite	

Mine Name	Company Name	Address
No. 1 Mine and Mill	Gouverneur Talc Co.	Gouverneur, NY

Name and Social Security Number	Occupation and Location	Sample Number	Sampling Time (min)	Sample Weight (mg)	SiO_2 Weight (mg)	% SiO_2	TWA (mg/m³)	TLV (mg/m³)	Comments
Fred Lennox 076-32-6279	Crusherman, 700 level	8-M-07[illegible]	420	[illegible] 632	12	.33	5.0[illegible]	10.0	

MSHA Form 4000-24, Apr 79

MIDGET IMPINGER MEASUREMENTS

Sampling Method

The dust concentration results included in this report were obtained by the midget impinger dust sampling method. Results are millions of particles less than 5 microns (particle) diameter per cubic foot of air (mppcf).

The dust sampling equipment used consisted of an air pump and midget impinger assembly. The pump and midget impinger were connected by tubing to maintain a negative pressure at the impinger nozzle inlet. The midget impinger assembly was positioned in the breathing zone of each person sampled.

Air was drawn through the 1 millimeter nozzle located 5 millimeters from the bottom of the flask. The dust particles in the air sampled were impinged on the bottom of the flask and retained in the collecting liquid, usually isopropyl alcohol. The air flow rate through the midget impinger was 0.1 cubic feet per minute at 12 inches of water vacuum.

Collected particulate matter was counted optically using a microprojector at 1,000 x magnification with Kohler illumination. The microprojector is a device that projects particle images on a ruled translucent screen that contains a comparison grid to permit particle counting.

Toxic Silica (SiO_2)

Toxic silica (alpha quartz) analyses were made from gross airborne samples collected by an air sampler on a membrane filter or from random settled dust samples. The particulate analysis and midget impinger time weighted average results are shown in the appended table(s).

Threshold Limit Values (TLV)

The allowable time weighted average concentrations for exposure to airborne contaminants is found in the 1973 edition of "Threshold Limit Values of Airborne Contaminants and Physical Agents" as published by the American Conference of Governmental Industrial Hygienists.

Time Weighted Average (TWA) concentrations were determined from the midget impinger results for samples collected throughout the work shift in the worker's breathing zone. Time weighted averages were calculated using the following formula:

$$\text{TWA Conc. (mppcf)} = \frac{C_1T_1}{T} + \frac{C_2T_2}{T} + \ldots\frac{C_nT_n}{T}$$

where:

C_1, C_2, C_n = concentration of dust measured by impinger sample
T_1, T_2, T_n = time period for which dust concentration was C_1, C_2, ...,n.
T = total time over which dust concentration was determined (usually an 8-hour work shift)

TWA concentrations exceeding the TLV indicate overexposure.

65-5

ASBESTOS FIBER EVALUATION METHOD

Measurement of the airborne asbestos fiber concentration consists of drawing a sample of dust laden air through a filter, counting the fibers on the filter using a microscope, and calculating the airborne fiber concentration. The results are fibers per milliliter of air.

Samples are collected to represent personal breathing zone measurements of fibrous dusts. The filter media is 37 mm Millipore type AA mounted in an open face filter holder. The sampling air flow rate is 1.7 lpm, using a battery powered personal pump. The sampling time is a function of concentration so that the filter contains a quantity that is satisfactory for counting with a microscope. Full working shift time weighted average exposures are calculated by relating appropriate sample results to estimated exposure times on the day of the evaluation.

Counting is performed by the phase contrast illumination method (the membrane filter method) described by NIOSH in their criteria document "Occupational Exposure to Asbestos", U. S. Department of HEW, HSM 72-10267, G.P.O., Washington, D.C. 1972. This method requires phase contrast illumination, 400-450 magnification and a 4 mm objective. Fibers greater than 5 microns in length and with an aspect ratio greater than 3 to 1 are counted.

MESA Mandatory Standard 55, 56, 57.5-1 (b) states, in part, the following:

> 55, 56, 57.5-1 Mandatory. (b) "The 8-hour time weighted average airborne concentration of asbestos dust to which employees are exposed shall not exceed 5 fibers per milliliter greater than 5 microns in length. No employee shall be exposed at any time to airborne concentrations of asbestos fibers in excess of 10 fibers longer than 5 micrometers, per milliliter of air, as determined by the membrane filter method over a minimum sampling time of 15 minutes. . . ."

Asbestos ... a and Silicate Dust
Sampling Results

U. S. Department of Labor
Mine Safety and Health Administration

Mine ID Number	Date of Sample(s)	Contaminant				
30-00611	7/17/79	☐ Mica	☐ Soapstone	☒ Talc (nonasbestiform) also fibers/XL	☐ Graphite	☐ Amorphous Silica

Mine Name | Company Name | Address

No. 1 Mine and Mill | Gouverneur Talc Co. | Gouverneur, NY

Name and Social Security Number	Occupation and Location	Sample Number	Time of Sample	Sampling Time (min)	Occupancy Time (min)	Concentration Sample (mg/m³)	TWA (mg/m³)	TLV (mg/m³)	Comments
Thomas Rogers 057-28-6618	Loc. over 500 level	JR-1	7 am 11 am	20	240	1.2			
		JR-3	11am 12N	5	60	[illegible]			
		JR-4	12N 3pm	15	180	1.6			
					Total shift		3.0	20.0	
		E-208	7am 11am	20	240	.07			
		E-209	11am 3pm	20	240	.06			22.3% toxic fibers
					Total Shift		.13	2.0 f/cc	
	Total Additive values =						4.3	20	
							20	20	

MSHA Form 4000-23, Apr 79

Amorphous Silica and Silicate Dust
Sampling Results

U. S. Department of Labor
Mine Safety and Health Administration

Mine ID Number	Date of Sample(s)	Contaminant				
		☐ Mica	☐ Serpentine	☐ Talc (nonasbestiform)	☐ Graphite	☐ Amorphous Silica
30-00611	7/17/79		Also fibers/ML			

Mine Name	Company Name	Address
No. 1 Mine and Mill	Gouverneur Talc Co.	Gouverneur, NY

Name and Social Security Number	Occupation and Location	Sample Number	Time of Sample	Sampling Time (min)	Occupancy Time (min)	Concentration Sample (mspcf)	TWA (mspcf)	TLV (mspcf)	Comments
William Fuller 077-26-9532	Slusherman, No. 3 stope, No. 9D stope	JR-2	7am 11am	20	240	.64			
		JR-3	11am 12N	5	60	.16			
		JR-5	12N 3pm	15	180	1.6			
					Total Shift		2.4	20	
		E-215	7am 11am	20	240	.07			
		E-212	11am 3pm	20	240	.05			22.3% toxic fibers
					Total Shift		.15	2 f/ml	
	Total	Additive values =					3.9 20	20 20	

MSHA Form 4000-23, Apr 78

orphous Silica and Silicate Dust
mpling Results

U. S. Department of Labor
Mine Safety and Health Administration

ID Number	Date of Sample(s)	Contaminant				
0-00611	7/17/79	☐ Mica	☐ Soapstone	☒ Talc (nonasbestiform)	☐ Graphite	☐ Amorphous Silica

Also fibers/ML

e Name	Company Name	Address
o. 7 Mine and Mill	Couvernear Talc Co.	Couvernear, NY

e and Social Security Number	Occupation and Location	Sample Number	Time of Sample	Sampling Time (min)	Occupancy Time (min)	Concentration Sample (mppcf)	TWA (mppcf)	TLV (mppcf)	Comments
harles Minckler 28-26-6121	Motorman, trammer 700 level	CD-1	7am 11am	15	180	5.2			
		CD-2	10am 12N	10	120	.8			
		Lunch	12N 1pm	5	60	.6			
		CD-3	1pm 3pm	10	120	.9			
					Total Shift		7.5	20	
		E-214	7am 10am	15	180	.11			
		E-217	10am 12N	10	120	.07			22.37 toxic fibers
		E-222	12N 2pm	10	120	.13			
					Total Shift		.31	2.0 fiber	
	Total	Additive values =					10.6/20	20/20	

MSA Form 4000-23, Apr 79

Amorphous Silica and Silicate Dust
Sampling Results

U. S. Department of Labor
Mine Safety and Health Administration

Mine ID Number	Date of Sample(s)	Contaminant					
30-00611	7/17/79	☐ Mica	☐ Serpentine	☒ Talc (nonasbestiform)	☐ Graphite	☐ Amorphous Si...	Also fibers per ML
Mine Name		Company Name		Address			
No. 1 Mine and Mill		Gouverneur Talc Co.		Gouverneur, NY			

Name and Social Security Number	Occupation and Location	Sample Number	Time of Sample	Sampling Time (min)	Occupancy Time (min)	Concentration Sample (mppcf)	TWA (mppcf)	TLV (mppcf)	Comments
Ward Mincler 056-20-5002	Scraperman, 700 level	GD-1A	7am 12N	25	300	9.4			
		GD Lunch	12N 1pm	5	60	6			
		GD-2A	1pm 3pm	10	120	2.5			
					Total Shift		12.5	20.0	
		E-225	7am 11am	15	180	.14			
		E-226	10am 12N	10	120	13			
		E-219	12N 3pm	10	120	.12			22.3% Toxic fiber
					Total Shift		.39	2.0 f/ml	
	Total	Additive Values =					13.4	20	
							20	20	

MSHA Form 4000-23, Apr 79

...rystalline Silica and Silicate Dust
...mpling Results

U.S. Department of Labor
Mine Safety and Health Administration

...a ID Number | Date of Sample(s) | Contaminant

0-00611 | 7/18/79 | ☐ Mica ☐ Soapstone ☒ Talc (non-asbestiform) ☐ Graphite ☐ Amorphous Silica

Also fibers per ML

...e Name | Company Name | Address

...o. 1 Mine and Mill | Couverneur Talc Co. | Couverneur, NY

...no and Social Security Number	Occupation and Location	Sample Number	Time of Sample	Sampling Time (min)	Occupancy Time (min)	Concentration Sample (mppcf)	TWA (mppcf)	TLV (mppcf)	Comments
Clarence Crandall 074-18-6930	Packerman	JR-7	7am 12N	25	300	1.18			
		JR-8	12N 1pm	5	60	.11			
		JR-10	1pm 3pm	10	120	.38			
					Total Shift		1.7	20.0	
		E-236	7am 12N	25	300	.22			
		E-245	12N 1pm	5	60	.02			22.37 tovic fibers
		E-234	1pm 3pm	10	120	.02			
					Total Shift		.25	2.0 +/-1	
		Total Additive Values=					4.5/20	20/20	

11-5-79

...HA Form 4000-23, Apr 79

Amorphous Silica and Silicate Dust
Sampling Results

U. S. Department of Labor
Mine Safety and Health Administration

Mine ID Number	Date of Sample(s)	Contaminant				
30-00611	7/18/79	☐ Mica	☐ Soapstone	☐ Talc (nonasbestiform)	☐ Graphite	☐ Amorphous Si.
Mine Name		Company Name	Also Fibers per ML	Address		

No. 1 Mine and Mill — Gouverneur Talc Co. — Gouverneur, NY

Name and Social Security Number	Occupation and Location	Sample Number	Type of Sample	Sampling Time (min)	Occupancy Time (min)	Concentration Sample (mppcf)	TWA Conc. (mppcf)	TLV (mppcf)	Comments
Thomas Zaluski 131-50-0076	Carliner, mill	JR-6	7am 12N	25	300	.55			
		JR-8	12N 1pm	5	60	.11			
		JR-9	1pm 3pm	10	120	.49			
					Total Shift		1.5	20.0	
		E-210	7am 12N	25	300	.12			
		E-245	12N 1pm	5	60	.02			
		E-243	1pm 3pm	10	120	.09			92.3% toxic fibers
					Total Shift		.23 F/c	2.0 +/-1	
		Total Additive values=					3.8	20	
							20	20	

21.9

MSHA Form 4000-23, Apr 79

morphous Silica and Silicate Dust
ampling Results

U. S. Department of Labor
Mine Safety and Health Administration

ine ID Number	Date of Sample(s)	Contaminant				
30-00611	7/18/79	☐ Mica	☐ Soapstone	☐ Talc (nonasbestiform)	☐ Graphite	☐ Amorphous Silica

Also fibers per ML

ine Name	Company Name	Address
No. 1 Mine and Mill	Gouverneur Talc Co.	Gouverneur, NY

ame and Social Security Number	Occupation and Location	Sample Number	Time of Sample	Sampling Time (min)	Occupancy Time (min)	Concentration Sample (mg/m³)	TWA (mg/m³)	TLV (mg/m³)	Comments
Fred Lennox 076-32-6279	Crusherman, 700' level	ACB-1	7am 11am	20	240	1.10			
		ACB Lunch	11am 12N	5	60	.61			
		ACB-2	12N 3pm	15	180	4.13			
					Total Shift		5.8	20.0	
		E-329	7am 11am 12N 3pm	35	420	.91			
		E-246	11am 12N	5	60	.04			22.3% toxic fibers
					Total Shift		2.95	2.0 f/ml	
		Total additive values=					15.3	20	
							20	20	

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Amorphous Silica and Silicate Dust
Sampling Results

U. S. Department of Labor
Mine Safety and Health Administration

Mine ID Number	Date of Sample(s)	Contaminant					
30-00611	7/18/79	☐ Mica	☐ Serpentine	Also Fibers per ML	☒ Talc (nonasbestiform)	☐ Graphite	☐ Amorphous Silica

Mine Name: No. 1 Mine and Mill
Company Name: Couverneur Talc Co.
Address: Couverneur, NY

Name and Social Security Number	Occupation and Location	Sample Number	Time of Sample	Sampling Time (min)	Occupancy Time (min)	Concentration Results (mppcf)	TWA (mppcf)	TLV (mppcf)	Comments
Michael Pike 105-34-0285	Hardinge, mill operator, Mill	GD-1	7am 11am	20	240	1.25			
		GD-2	11am 12N	5	60	.12			
		GD-3	12N 3pm	15	180	1.40			
					Total Shift		2.8	20.0	
		E-238	7am 10am	15	180	.12			
		E-251	11am 12N	5	60	0.0			
		E-216	10am 11am 12N	20	240	.29			22.3% toxic fibers
			3pm		Total Shift		.40	2.0	
		Total additive values=					6.8	20	
							20	20	

MSHA Form 4000-23, Apr 79

Asbestos Silica and Silicate Dust
Sampling Results

U. S. Department of Labor
Mine Safety and Health Administration

Mine ID Number	Date of Sample(s)	Contaminant				
30-00611	7/18/79	☐ Mica	☐ Soapstone Also fibers per ML	☑ Talc (nonasbestiform)	☐ Graphite	☐ Amorphous Silica

Mine Name	Company Name	Address
No. 1 Mine and Mill	Gouverneur Talc Co.	Gouverneur, NY

Name and Social Security Number	Occupation and Location	Sample Number	Time of Sample	Sampling Time (min)	Occupancy Time (min)	Concentration Sample (mppcf)	TWA (mppcf)	TLV (mppcf)	Comments
Gary Hall 105-34-0265	Shift foreman, mill	GD-1A	7am 11am	20	240	.67			
		GD-2	11am 12N	5	60	.12			
		GD-2A	12N 3pm	15	180	.47			
					Total Shift		1.3	20.0	
		E-248	7am 10 am	15	180	.24			
		E-251	11am 12N	5	60	0.00			
		E-244	10am 11am 12N 3pm	20	240	.12			22.3% toxic fibers
					Total Shift		.36	2.0	
		Total additive values=					4.9	20	
							20	20	

MSHA Form 4000-23, Apr 79

...pliogenous Silica and Silicate Dust
...mpling Results

U. S. Department of Labor
Mine Safety and Health Administration

...ne ID Number	Date of Sample(s)	Contaminant				
30-00611	7/18/79	☐ Silica	☐ Serpentine	☒ Talc (nonasbestiform)	☐ Crystalline	☐ Amorphous Silica

Also fibers per ML

...ne Name — Company Name — Address

No. 1 Mine and Mill — Gouverneur Talc Co. — Gouverneur, NY

...me and Social Security Number	Occupation and Location	Sample Number	Time of Sample	Sampling Time (min)	Occupancy Time (min)	Concentration Sample (mppcf)	TWA (mppcf)	TLV (mppcf)	Comments
J. Regan 101-16-8513	Caseman, mine	LJ-4	7am 12N	25	300	5.46			
		LJ-5	12N 1pm	5	60	.05			
		LJ-6	1pm 3pm	10	120	1.71			
					Total Shift		7.2	20.0	
		E-221	7am 11am 12N 3pm	35	420	.19			
		E-229	11am 12N	5	60	.03			22.3% toxic fibs.
					Total Shift		.22	2.0 f/ml	
		Total additive values=					9.4	20	
							20	20	

MSHA Form 4000-23, Apr 79

RTV Stipulation in Nov. 2006

	D.O.B.	D.O.D.	(Governor TALC / YEARS AT WORK)
✓ (1)	4/4/25	6/4/94	1949 - 1954
✓ (8)	~~3/31/23~~ 12/31/23	6/10/95	1954 - 1987
✓ (3)	2/14/31	9/6/95	1954 - 1994
✓ (4)	5/28/14	5/17/01	1956 - 1975
✓ (5)	9/~~8~~08/31	11/10/05	1964 - 1997

DEPOSITION EXHIBIT
KELSE 35
1/14/10

PLAINTIFF'S EXHIBIT
~~15~~ 16

PENGAD 800-631-6989

Appendix 6

Tile Council of America INC.

P.O. Box 326 • Princeton, N.J. 08540 • 609 921-7650

July 18, 1973

Mr. Robert Bacon
Talc Industry Association
R. T. Vanderbilt Co., Inc.
33 Winfield Street
East Norwalk, Connecticut 06855

Dear Mr. Bacon:

For over 25 years, the Tile Council of America has worked, through Research and Advertising, to create and expand the market for ceramic tile. At the present time, Tile Council members produce 69 percent of the 311 million square feet of ceramic tile produced annually in the United States.

To obtain a factual picture of the significance of tremolitic talc as a raw material for the tile industry, I have conferred with Chief Executives of both Tile Council of America member and non-member manufacturers. Talc is used in all 32 American wall tile factories to reduce shrinkage, and thereby control the uniformity of size required in all ceramic tile. Talc also reduces moisture expansion, thereby eliminating the occurrence of cracks and crazing that would otherwise occur several years after installation. To achieve this desired dimensional stability, a tile body is composed of from 45 percent to 70 percent talc. Talc also is used to manufacture ceramic bathroom fixtures, glazes for ceramic tile and ceramic mosaic floor tile. Talc is a component of the refractories that support tiles during their manufacture.

Twenty-five of the thirty-two ceramic tile factories in this country (all of those located in United States Regional Marketing Areas numbered 1, 2, 3, 4 and 6 in the monthly Industrial Reports published by the Department of Commerce) use and depend on tremolitic talc. In March of 1973, alone, these plants are reported to have produced 17,579,000 square feet of glazed wall tile, or 84 percent of total domestic production. The factories in these five regions employ some 4,300 persons and produced 217,028,000 square feet of glazed wall tile in 1972, representing $110,400,000.

John P. Marshall, President
Fred H. Stratton, Jr., Vice President
J. V. Fitzgerald, Executive Director
E. E. Bernard, Research Manager

MEMBER COMPANIES
American Olean Tile Co., Inc., Lansdale, Pennsylvania
Atlas Ceramics Company, San Antonio, Texas
Cambridge Tile Manufacturing Co., Cincinnati, Ohio
Continental Ceramic Corporation, Sharon Springs, Pennsylvania
Florida Tile Industries, Inc., Lakeland, Florida
Gulmex Factories, Inc., Gilmer, Texas
INTERPACE Corporation, Los Angeles, California
Keystone Ridgeway Tile Co., Gettysburg, Pennsylvania
Lone Star Ceramics Co., Dallas, Texas
Marshall Tiles, Inc., Marshall, Texas
Mid-State Tile Company, Lexington, North Carolina
Mosaic Tile, Inc., Cleveland, Mississippi
Monarch Tile Manufacturing, San Angelo, Texas
Pomona Tile Manufacturing Co., Pomona, California
Robertson-American Corp., Monroeville, Pennsylvania
Summerville Tiles, Inc., Summerville, Ohio
Texas-Ceramics, Inc., Mineral Wells, Texas
Wenczel Tile Company, Trenton, New Jersey
Wenczel Tile Co. of Florida, Tampa, Florida
Windsor Tile Manufacturing, Little Rock, Arkansas

ANDERSON CIRCUIT COURT
JAN D. ROGERS, CLERK
FILED: 8/21/07
BY:

5

Blumberg No. 5137

DEPOSITION EXHIBIT
36 KELSE 1/19/00

CRMC-BEV-000364

July 18, 1973

Mr. Robert Bacon

ceramic tile manufacturers, therefore will be severely injured should tremolitic talc become unavailable or should they be compelled to comply, in the handling of this raw material, with the stringent new OSHA standards for asbestos and other toxic substances. Application of asbestos restrictions to tremolitic talc would cripple American manufacturers' capability of furnishing their product in the market that they have worked to create. Recognizing that this matter is critical, the Board of Directors of the Tile Council of America has requested that I assist and support the Talc Industry Association in its petition to exempt tremolitic talc from inclusion under OSHA standards for asbestos minerals and other such toxic substances.

The average after tax profit margin is 4.2 percent in the tile industry. This is so low, it is questionable that many ceramic tile factories could afford the physical changes required by imposition on the handling of tremolitic talc of the OSHA asbestos standards. This becomes obvious when the industry profits of - 1.1 percent in 1969, 2.0 percent in 1970 and 1.9 percent in 1971 are considered. Some older factories might well not afford the $250,000 or more in capital expenditures required to comply.

The alternative - replacing this basic raw material with some other product - would also be extremely difficult and costly as to time, cost of experimentation, and possible revamping of dies and other equipment. Reserves of the talc-like mineral, pyrophyllite, which is used to manufacture some tile, are insufficient to meet demands should tremolitic talc become unavailable. Further, the value of existing inventories at both factories and distributors would be seriously affected, since exact matching of size and shade would be impossible. Finally, there is no question that the quality of the product would suffer by any such change, making it even more difficult to compete with the lower cost of foreign imports while maintaining quality standards for the domestic industry. Thus the alternative for some American manufacturers could be economically impractical and cause them to go out of business.

With these choices, one company has reported to me that, if the stringent asbestos standards are imposed on tremolitic talc, they will have to close down and build a plant in a foreign country and export to the United States. Thus, there is no question but that the domestic ceramic wall tile industry will be seriously injured if OSHA requires tremolitic talc to be classified and handled as a toxic asbestos mineral.

Sincerely yours,

J. V. Fitzgerald

J. V. Fitzgerald

JVF:nk

cc: J. Bruce
F. Gibney

0017 0266 AC150

1784

Ann
AHF
RL.

R. T. VANDERBILT COMPANY, INC
30 WINFIELD STREET
NORWALK, CONNECTICUT 06855

CABLE ADDRESS
"VANDERBILT" NORWALK, CONNECTICUT
TWX 710 468 7040
(203) 853-1400

January 25, 1977

To Our Talc Customers

Subject: Talc Certification

Gentlemen:

In a letter from the U. S. Department of Labor, dated October 9, 1974, we were authorized to certify that our talc products do not contain asbestos. This reasonable move was followed by OSHA Field Memorandum 74-92, which attempted to clarify the differences between asbestiform and non-asbestiform minerals.

Dr. Morton Corn, the most recent Assistant Secretary of Labor and head of OSHA, informed us in a letter received January 24, 1977, that this authorization has now been rescinded and the Field Memorandum has been cancelled. These most recent rulings were made just prior to Dr. Corn's resignation and mean we are no longer in a position to certify that our talc products do not contain asbestos even though they are composed of the same non-asbestiform minerals processed the same as always.

We are unable to explain this unwarranted reversal of policy by OSHA, but you can be assured we will actively oppose this injustice with all the technical and legal means available to us. Our talcs have been the subject of two OSHA cases during the past year which have gone to litigation. One case remains unresolved and in the other one the Government backed down from their asbestos contention and accepted a settlement which was not even under the Asbestos Standard.

We thank you for your continued consideration and support.

Sincerely,

R. T. VANDERBILT COMPANY, INC.

Date 10-15-99 Exhibit # 7
Case BALLARD-v-OWENS
Deponent Vanderbilt
Reporter Linda L. Taylor CRS File # 625
Court Reporting Services, Inc.
888.430.1521 FAX 502.899.7976

SUBJECT TO RESTRICTIVE ORDER

CONFIDENTIAL 0025986

DEPOSITION EXHIBIT
37 KELSE
11/9/10

AMH's Copy

: Mr. V. Carlson
Mr. G. O'Brien

R.T. Vanderbilt Company, Inc.
INDUSTRIAL MINERALS AND CHEMICALS

30 WINFIELD STREET, NORWALK, CONNECTICUT 06855 • (203) 853-1400
CABLE: "BILTVAN", NORWALK, CONNECTICUT • TWX 710-468-2940

January 4, 1983

Mr. Terry Losee
GEORGIA PACIFIC CORPORATION
Polymer Materials Division
100 Adams Boulevard
Farmingdale, NY 11735

Dear Mr. Losee:

Our salesman George O'Brien has asked me to send you an update on the status of NYLTALS and the talc-asbestos situation.

Things have quieted down quite nicely these past few years in the area of OSHA regulation and enforcement. Although the asbestos standard has not been changed, our talc customers have had no problems with federal OSHA for almost four years. This lack of activity has resulted from our successful challenge of the methods OSHA had been using to analyze for asbestos. Analysts in the OSHA Salt Lake City laboratory now admit that the mineral particles found in Vanderbilt's talcs cannot be confirmed as asbestos by existing techniques.

To supplement our animal studies, we commissioned Dr. Tabershaw of Tabershaw Occupational Medicine Associates to run an epidimiological study of our talc miners and millers. The results of that study are reported in the enclosed publication. Together with the results of the animal study, we believe we now have good evidence that the NYTALS do not constitute an asbestos health hazard, and we believe OSHA recognizes this finding.

Please contact us if more information is needed.

Sincerely,

R. T. VANDERBILT COMPANY, INC.

Allan M. Harvey

Allan M. Harvey, Director
Environmental Affairs

AMH:lsm
Enclosure

DEPOSITION EXHIBIT
38 KELSE
11/9/10

DAP Inc.
P.O. Box 277
Dayton, Ohio 45401
513/667-4461

February 27, 1984

Mr. Alan Harvey
R.T. Vanderbilt Company, Inc.
30 Winfield Street
Norwalk, CT 06855

Dear Mr. Harvey:

Attached is the confirming letter that was sent to C-Tek in regards to the meeting that is scheduled for March 9, 1984 at 10:00 a.m. In addition, I have the following information regarding the talc analysis that was performed.

I.T.3X Talc Lot # 8-25-83
X-ray diffraction and polarized light microscopy performed by C-Tek in Dallas. Results: 35-40% Asbestos
Electron microscopy and polarized light microscopy performed by Spectrum Labs in Dallas. Results: Confirmed asbestos fibers.

I will contact you next week regarding the location and directions to the facility. If you have any questions or need any additional information, please contact me.

Sincerely,

DAP Inc.

David L. Harrison
Safety & Regulatory
Affairs Coordinator

DLH/kmc

cc: R.K. Mommsen
D. Wilson
R. Twedell
M. Fogt

Attachment

DEPOSITION EXHIBIT
39 KELSE
1/19/10

CALL REPORT

DEC 15 1983

CUSTOMER	
D. A. P. Inc.,	
ADDRESS	
855 North Third Street,	
Tipp City, Ohio 45371	

DISTRIBUTION

SALES MGR.	X	
R & D	X	A. HARVEY
MFG.		S. THOMPSON
PLT. MGR.		
SALES/ SERVICE		
F/U DATE		

DATE: December 7, 1983

SALESMAN: J.F.McCarthy

CONTACTS:
Richard K. Mommsen - Exec. V.P.
Albert R. Hunt - V.P. Marketing & Mfg. Distribution
Don Montgomery - Dir. Purchases
M.L, Fogt - Personnel Mgr.
Others including T.D. Dr. Hun C.
Al Harvey has all the names.

PRODUCTS DISCUSSED:

IT 3X Talc, Absence of Asbestos.

ACTION REQUIRED

DEPOSITION EXHIBIT
40 KELSE 1/19/10

SALES OBJECTIVE (SPECIFIC)

Visit by Dr. Slim Thompson, and Al Harvey to convince them that IT 3X is free of asbestos.

SUMMARY

As indicated above, called with our Slim Thompson, and Al Harvey.

Reference my TCR Nov. 10, and 11, covering abrupt discontinuance our IT 3X talc. Al and Slim covered the full matter, in their usual masterful style. Mommsen was the spokesman for their views, comments, and questions. He was very courteous to our group, and in essence, asks for a letter worded as strongly as we can this side of certification. Al and Slim will cover the revised letter with our legal staff and with Verg Carlson. The 18 minute film was videotaped and it was to all appearances very impressive to all of them.

Mr. Hunt noted he would like to have a brochure from us, covering the international scope of our sales and marketing to multiple industries, with a broad offering of raw materials. Beacham Ltd. parent Company would like to assess the possibilities of world wide purchasing from R.T.Vanderbilt Co..

Al and or Slim will have in depth details as needed, in their Report.

CALL REPORT

CUSTOMER: Dicks,Armstrong,Pontius, Inc.,

ADDRESS: Corp. Hdqutrs Tipp City, Ohio Laboratories, Dayton, Ohio

DISTRIBUTION

SALES MGR.	X		
R & D	X	AL HARVEY	
MFG.			
PLT. MGR.			
SALES/ SERVICE			
F/U DATE			

DATE: Nov. 10, and 11 1983

SALESMAN: J.F.McCarthy

CONTACTS:

11/10 Sue Smith,Purchasing Dept.
11/11 Dr. Tussie Habasa Res. Dept.

PRODUCTS DISCUSSED:

IT 3X

RECEIVED
NOV 16 1983

ACTION REQUIRED

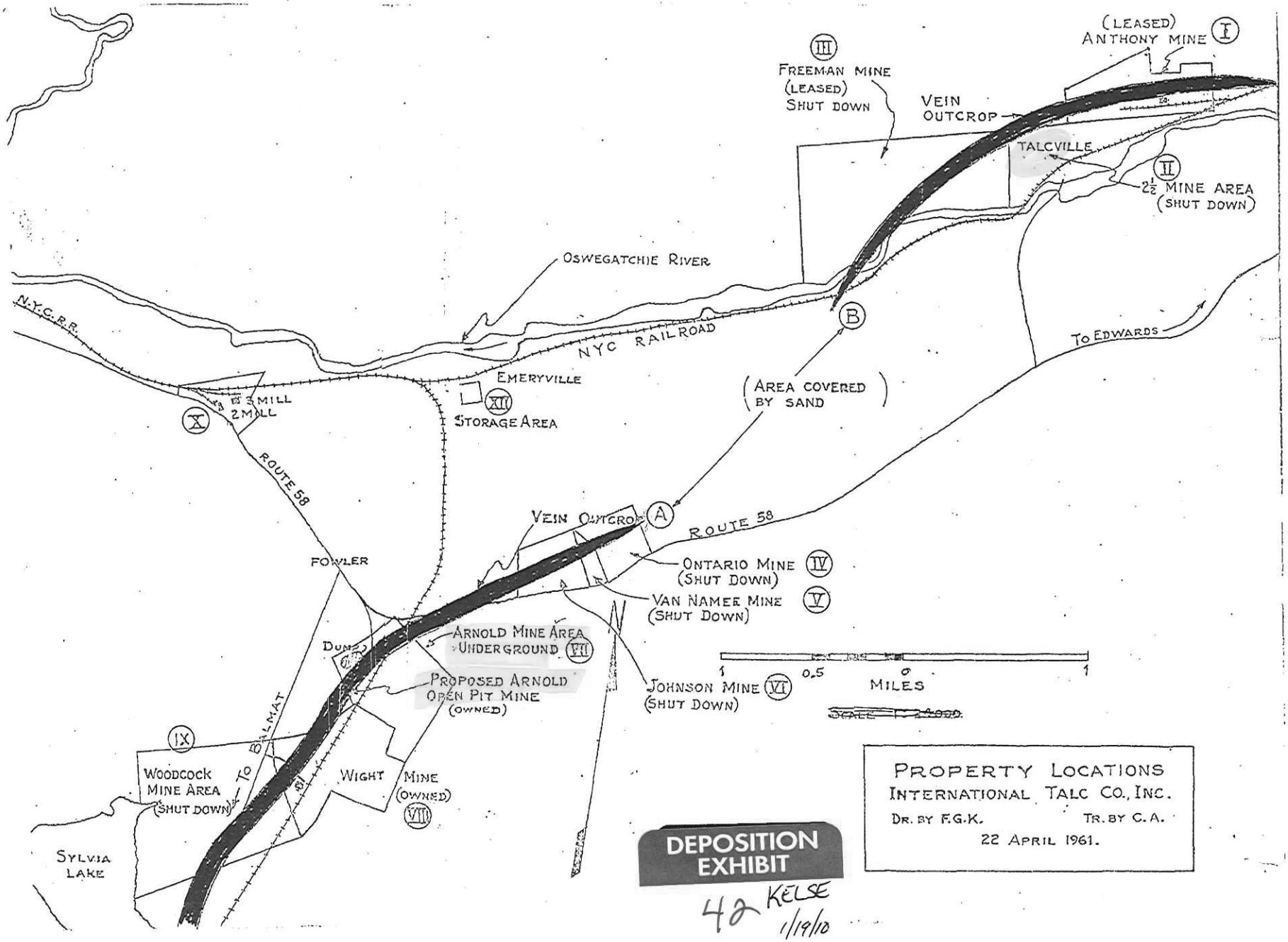
DEPOSITION EXHIBIT
41 KELSE 1/19/10

SALES OBJECTIVE (SPECIFIC)

SUMMARY

VIA TELEPHONE

Reference our Customer Service Dept. note to Verg Carlson,11/7/83 telling of abrupt cancellation of two carloads of IT 3X, one for Baltimore Plant and one for the Dayton Plant. Sue Smith was at first as strangely evasive to me as she must have been to Customer Service. Persisted in making point that we are entitled to know what is the nature of your problem, and the right to try to help resolve same. She finally told me her directive came from this woman, Dr. Tussie Habasa, at Dayton R. & D. Labs.. Couldn't reach Habasa today, got hold of her on Friday, 11/11/83. She tried to clam up completely, indicating orders from top level. Decided no more pussy footing on this so asked her if it pertains to the O.S.H.A. Asbestos Dust Standard, to which she had to admit, qualifying that it is only a temporary stoppage in use IT 3X, while they investigate for asbestos in our IT 3X. Advised her that we would like to have our Mr. Al Harvey contact her to cover this matter. I suspect our Montana friends, as she asked for a letter of certification from officers of our Company to wit we have absolutely no asbestos in our IT 3X talc. I shall have spoken to our Verg Carlson on this matter, first thing Monday, Nov. 14.



DEPOSITION EXHIBIT

42 KELSE 1/19/10

Johns-Manville
Products Corporation

Filtration & Minerals Division

Greenwood Plaza
Denver, Colorado 80217
(303) 770-1000

April 18, 1975

Mr. H. B. Vanderbilt, President
R. T. Vanderbilt Company, Inc.
30 Winfield Street
Norwalk, CT 06855

Dear Mr. Vanderbilt:

Your courtesy in meeting with us earlier this week is greatly appreciated. We felt that it was important for you to understand our position with respect to talc labeling and the various actions we are currently taking in the market place in this regard.

Our intent in sharing with you our analytical data on your products is an attempt to be helpful and is most certainly friendly. In this regard, if we can in any way be of assistance to your technical people through an exchange of information and samples we would be glad to do so. If Dr. Thompson would care to meet with our Research people to review our findings we would be pleased to arrange this for him. This kind of technical exchange would be helpful to both companies.

Following our meeting in Norwalk, I have reviewed with Dr. Paul Kotin, Medical Director for Johns-Manville Corp., the various points we discussed. He has indicated that if you so desire he would gladly meet with you and various members of your staff to describe the medical aspects of the situation.

Will you please convey my thanks to the other members of your group who attended our meeting on April 16.

Sincerely,

R. S. Lamar, Manager
Filtration and Minerals Division
Growth Development

dla

cc: Dr. Paul Kotin
Dr. Fred Pundsack

bcc:
S. W. Schulmeyer
H. R. Keefe
RSL chrono
file P. T. Vanderbilt
file
C. J. Sulewski
P. A. Martinson
R. P. Carter
W. C. Streib

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11/9/10

CRMC-BEV-000375

Johns-Manville

Date October 23, 1974

R. S. Lamar - R&D

V. E. Wolkodoff - R&D

Distribution on Reverse Side

TEM AND SELECTED AREA DIFFRACTION PATTERNS OF ASBESTOS MINERALS IN FOUR TALC SAMPLES PRODUCED BY R. T. VANDERBILT COMPANY

1. At your request, I was able to contract time on the Philips 200 electron microscope at Denver Research Institute to confirm by selected area diffraction patterns, the presence of chrysotile, anthophyllite and tremolite in all the R. T. Vanderbilt talcs designated Mytal 200, Mytal 400, Asbestine 3X, and Asbestine 325X (please refer to my letter of October 9, 1974, which is based basically on PLM optical methods and the use of our RCA electron microscopes to confirm chrysotile). It was felt that selected area diffraction patterns of the asbestos minerals using the Philips 200 would lend positive identification - a type of analysis which cannot be done on our RCA EMU-3B model.

2. Table No. 1 not only identifies samples, but also identifies all TEM prints and selected area diffraction patterns of the 33 prints attached to this letter. The TEM plates are always on file. The microscope constant ($L\lambda$) was derived by averaging 21 microscope constant values based on lines of Au and Pd. The microscope constant is:

$$L\lambda = 4.451 \text{ Å cm} \pm 0.003$$

To calculate d-spacing in Angstrom units, the following formula was used:

$$\frac{L\lambda \ (\text{Å cm})}{\text{spot pair radius (cm)}} = \text{d-spacing (Å)}$$

3. Chrysotile, anthophyllite, and tremolite were all found in each of the four R. T. Vanderbilt talc samples. Particular data for each sample are found in Table No. 1 and appropriate attached electron diffraction patterns.

V. E. Wolkodoff

V. E. Wolkodoff

jc

Attachments

CRMC-BEV-000274

NOTEBOOK 4454, pp. 82-84

Distribution:

R. P. Carter*	- 4N
E. M. Fenner	- 4N
Paul Kotin, M.D.	- 4N
W. B. Reitze	- 4N
F. J. Solon, Jr.	- 4N
G. L. Swallow	- 4N
A. C. F. Finkbiner, III	- 5W
J. A. McKinney	- 5W
H. K. Keefe*	- 2W
P. A. Martinson	- 2W
C. J. Sulewski	- 2W
W. L. VanDerbeek	- 2S
R. G. Riede	- 2S
F. L. Pundsack	
J. P. Leineweber*	
W. C. Streib	
S. Speil*	
R. S. Lamar*	
V. E. Wolkodoff*	

*Prints attached only to those names followed by asterisk.

CRMC-BEV-000275

TABLE 1

TEM Tabulation of Micrographs and Selected Area Diffraction Patterns of Four Talc Samples From R. T. Vanderbilt Co.

No.	Lab. No.	Vanderbilt Designation	TEM Plate No., Magnification	Selected Area Diffraction Pattern, 35X	Remarks
1	RC 74255-1	Nytal 200	2301A, 11,000X	-	-
2	RC 74255-1	Nytal 200	2317A, 16,000X	-	-
3	RC 74255-1	Nytal 200	2305A, 22,000X	-	Chrysotile fiber
4	RC 74255-1	Nytal 200		2305B	Pattern is of widest fiber in 2305A, Chrysotile
5	RC 74255-1	Nytal 200	2306A, 22,000X	-	Anthophyllite fiber
6	RC 74255-1	Nytal 200	-	2306B	Anthophyllite fiber in 2306A
7	RC 74255-1	Nytal 2-0	2307A, 22,000X	-	Tremolite fiber
8	RC 74255-1	Nytal 200	-	2307B	Tremolite fiber in 2307A
9	RC 74255-2	Nytal 400	2302D, 11,000X	-	-
10	RC 74255-2	Nytal 400	2318C, 16,000X	-	-
11	RC 74255-2	Nytal 400	2308A, 22,000X	-	Chrysotile fiber
12	RC 74255-2	Nytal 400	-	2308B	Pattern of Chrysotile above
13	RC 74255-2	Nytal 400	2309A, 22,000X	-	Anthophyllite fiber
14	RC 74255-2	Nytal 400	-	2309B	Pattern of Anthophyllite above
15	RC 74255-2	Nytal 400	2310A, 22,000X	-	Tremolite fiber
16	RC 74255-2	Nytal 400	-	2310B	Pattern of Tremolite above
17	RC 74255-3	Asbestine 3X	2303D, 11,000X	-	-
18	RC 74255-3	Asbestine 3X	2319D, 16,000X	-	-
19	RC 74255-3	Asbestine 3X	2311A, 22,000X	-	Chrysotile fiber on bottom
20	RC 74255-3	Asbestine 3X	-	2311B	Pattern of Chrysotile above
21	RC 74255-3	Asbestine 3X	2312A, 22,000X	-	Anthophyllite fiber
22	RC 74255-3	Asbestine 3X	-	2312B	Pattern of Anthophyllite above
23	RC 74255-3	Asbestine 3X	2313A, 22,000X	-	Tremolite fiber
24	RC 74255-3	Asbestine 3X	-	2313B	Pattern of Tremolite above
25	RC 74255-4	Asbestine 325	2304A, 11,000X	-	-
26	RC 74255-4	Asbestine 325	2322A, 16,000X	-	Fiber is contaminated Chrysotile and Amphibole

CRMC-BEV-000276

Table 1 continued

No.	Lab. No.	Vanderbilt Designation	TEM Plate No., Magnification	Selected Area Diffraction Pattern, 35X	Remarks
27	RC 74255-4	Asbestine 325	-	2322B	Chrysotile pattern superimposed on Amphibole pattern
28	RC 74255-4	Asbestine 325	2314A, 22,000X	-	Chrysotile fiber
29	RC 74255-4	Asbestine 325	-	2314B	Pattern of Chrysotile above
30	RC 74255-4	Asbestine 325	2315A, 22,000X	-	Longest fiber is Anthophyllite
31	RC 74255-4	Asbestine 325	-	2315B	Pattern of Anthophyllite above
32	RC 74255-4	Asbestine 325	2316A, 22,000X	-	Largest fiber is Tremolite
33	RC 74255-4	Asbestine 325	-	2316B	Pattern of Tremolite above

CRMC-BEV-000277

1943

Vol. 49, No. 1

THE DUST HAZARD IN TREMOLITE TALC MINING, INCLUDING ROENTGENOLOGICAL FINDINGS IN TALC WORKERS

By WILLIAM SIEGAL, ADELAIDE ROSS SMITH, and LEONARD GREENBURG

From the Division of Tuberculosis, New York State Department of Health, and the Division of Industrial Hygiene, New York State Department of Labor

FROM time to time the attention of the Division of Industrial Hygiene has been drawn, through compensation claims, to incapacitating fibrosis in talc workers. Since silicate dusts, of which talc is one, have been considered relatively innocuous in the opinion of most authorities (the single exception being asbestos), the occurrence of [illegible] questions—the obvious question as to whether this incapacity has resulted from talc exposure alone, and the second more interesting question as to whether industrial hygienists, with few exceptions, have erred in considering asbestos to be the only injurious silicate dust.

In an attempt to answer these questions, the study here reported was undertaken. It consisted of an investigation of the talc industry and an examination of talc miners and mill workers in northern New York State (St. Lawrence County) made, in 1940–1941, as a joint enterprise of the Division of Industrial Hygiene of the State Department of Labor and the Division of Tuberculosis of the State Department of Health.

NATURE OF TALC

Talc is a hydrous magnesium silicate with the formula $H_2Mg_3(SiO_3)_4$ composed, according to Ladoo[13] of about 63 per cent SiO_2, 32 per cent MgO, and 5 per cent H_2O. It is usually a secondary mineral resulting from the alteration of other magnesium silicates or carbonates. While its own silica is present in the combined form, most talcs mined commercially contain varying amounts of such impurities as quartz, calcite, dolomite, iron oxide, etc.

Talc has a characteristic soapy feeling and a pearly lustre. It may be pure white, silvery white, gray or green and, when impure, yellow, brown or reddish. The most common commercial variety is a massive, foliated, or granular type, but it may also occur in a micaceous, or in a fibrous form.

Soapstone is a closely related substance, being essentially an impure talc, and when pulverized it may be used for the same purposes. Tremolite, which is a calcium magnesium silicate, changes over to talc. It may be mined with it and subsequently ground and sold as talc.

GEOGRAPHICAL DISTRIBUTION

The United States produces about 65 per cent of the world's supply of talc, the leading states in its production being Vermont, New York, California, North Carolina and Georgia.

THE INDUSTRIAL USES OF TALC

According to the Minerals Year Book (1938) of the United States Bureau of Mines, the use of talc and soapstone is steadily increasing. Ladoo[13] states that at least 60 different uses for talc have been noted, though most of them are of minor importance. Its value depends chiefly on its usefulness as a filler, inert extender, dusting powder and absorbent. In 1921, according to Ladoo, the marketed, ground talc production in this country was industrially distributed as follows: paper 38 per cent, paint 23 per cent, prepared roofing 18 per cent, rubber 9.5 per cent, textiles 4 per cent, toilet powder 2.5 per cent, other uses 5 per cent.

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The other uses for which ground talc is adapted are: as a filler in soap; in foundry facings; in wire-insulating compounds; in dry lubricants; as a filler in cotton textiles; in the dressing and manufacture of leather; as a cleaning and polishing agent for rice, peas, coffee beans, peanuts, etc.; in making colored crayons; as a filler in windowshade cloth; as a dusting agent in making candy, chewing gum, etc.; and as an ingredient of concrete, plastics and insecticides.

Since 1921 there has been a marked increase in its use in the ceramic industry. Fourteen thousand more tons of talc and related materials were sold in 1937 than in 1936 and about 10,000 tons of this increased amount went to the ceramic industry where talc is chiefly used as constituent of glazed wall tile.

REVIEW OF LITERATURE ON THE EFFECTS OF TALC DUST

Experimental Studies. During the last ten years a certain amount of experimental work with talc dust has been reported, but on reviewing this literature most of the inhalation experiments are found to have been of insufficient duration to be helpful in regard to the probable effect of long continued industrial exposure.

In 1931, Haynes[10] included talc in a series of dusts studied for their reactions on guinea pigs. Twelve pigs were dusted two hours daily, except Sunday, for a fortnight. The author saw no sign of pulmonary damage, but found that bronchial and lymphatic removal occurred unusually briskly. He concludes that the substances dissolved from talc are of a low degree of toxicity but sufficiently obnoxious to neighboring tissues to cause the removal of cells containing them.

Strüber,[23] in 1934, studying the cellular response of lymph nodes to various dust suspensions introduced into the lymphatics, found that talc caused no apparent cellular proliferation within the lymph nodes after five days. After 108 days the nodes were still normal and showed no increase in connective tissue.

Fossel,[6] in 1935, reported experiments in which guinea pigs were exposed to the inhalation of talc for one hour daily over a period of eight weeks. No significant tissue changes were seen.

Bethune,[2] in 1935, was able to produce pleural adhesions in cats and dogs by blowing commercial talc into the pleural cavity. Miller and Sayers, quoted below, found that adhesions were produced by injecting various dusts into the peritoneal cavity, but that such adhesions were not related to the subsequent behavior of the dust.

Fienberg,[5] in 1937, having observed granulomas from the surgical use of talc, experimented with the injection of this substance in mice and obtained subcutaneous granulomas in these animals.

Miller and Sayers,[17] in 1936, reported studies in which talc was included among the dusts whose intraperitoneal reaction in guinea pigs was studied. They found that it produced an "inert reaction." That is to say, the injected dust was not absorbed; neither did it initiate a cellular proliferation. In interpreting the significance of "inert reactions" the authors conclude that such dusts should be considered as potentially harmful.

Gardner,[7] summarizing [illegible] central work on silicate dusts at the Saranac Laboratory said, at the Fourth Saranac Laboratory Symposium on Silicosis (1939), "a few silicates like true talc . . . and some of the clay minerals have provoked chronic inflammation (of the lungs) but this reaction has tended to retrogress after several months. No progression to a stage of true fibrosis has been observed within periods of one to two years and there is no indication that the progression will occur."

Policard,[20] in 1939, reported an experiment in which he dusted white rats with foliated, industrial talc three hours a day for twelve days. The intensity of the exposure was high. He found that the dust was irritating to the upper respiratory tract and produced a marked dyspnea. In the lungs of animals sacrificed two and six days after inhalation began, he found dilatation of bronchi, acute emphysema, and exudative alveolitis. Many animals died spontaneously with pulmonary congestion and foci of bronchopneumonia. The short duration of the experiments did not permit any conclusion concerning the possibility of pulmonary fibrosis.

McCormick and Ramsey,[15] in 1941, reported postoperative, peritoneal granulomatous inflammation caused by talc in 2 cases.

Schulz and Williams,[21] in 1942, injected intra-

peritoneally in guinea pigs a series of seven commercial talcs with different silicate-carbonate ratios. Animals were sacrificed at intervals ranging from ten days to fifteen months. In all cases, the pathological histology showed the holding of talc particles in a local area by phagocytic cells of the macrophage and giant cell type. Progressive fibrosis was not found. The fibrosis which occurred was only enough to hold and limit the space for storing the foreign material. The greatest amount of fibrous tissue developed in the presence of the two talcs which contained the least carbonate and the most talc and tremolite respectively.

Clinical Reports. Talc fibrosis as an occupational disease has received attention in this country only within the past ten years, and until the studies of Dreessen and DallaValle, discussed later, extremely few talcs [illegible] been studied anywhere.*

Policard[20] says that it was in 1896 that the question of the action of industrial talc dust on the human lung was first considered. At that time a pathologist of Nuremberg, Thorel, published the results of the pathological examination of the lung of a tuberculous woman patient of forty-four years, who had worked for many years in soapstone dust. According to Policard, Thorel demonstrated the presence of cells containing soapstone dust in the cavity and walls of certain alveoli and the existence of formations, more or less nodular, resulting from the accumulation of cells filled with talc. Other nodular formations of a tuberculous nature were present, and Thorel pointed out a combination of tuberculous and pneumoconiotic lesions.

In 1915, according to Policard,[20] Hayhurst stated that work in talc dust favored and exaggerated tuberculosis, but the basis for this opinion is not known.

Zanelli, in 1931, quoted by Teleky,[20] came to the conclusion that talc dust, though belonging to the family of silicates, ought to be considered dangerous and likely to produce typical pneumoconiotic lesions.

Merewether[1] in 1933, reported the cases of 11 rubber tire workers, exposed from ten to thirty-two years to French chalk, a fine granular variety of talc dust, who showed diffuse interstitial fibrosis by roentgen examination without clinical evidence of anything more than a peribronchial increase in fibrous tissue. Thirteen additional workers, with exposures of from four and one-half months to forty-eight years, were examined and reported upon the following year[1] confirming the original findings.

In 1933 a report was made by Dreessen[2] of examinations of a number of workers in silicate dusts, including 57 men exposed to tremolite, a hydrous calcium magnesium silicate containing no free silica.

The findings in this group were as follows: more fibrosis than usual 67 per cent, first stage pneumoconiosis 26 per cent, second stage pneumoconiosis 2 per cent, normal lungs 5 per cent.

Dreessen described the first stage pneumoconiosis as similar to that produced by cement dust, "softer" than that resulting from silica dust, a "diffuse, fine, generalized fibrosis . . . chiefly confined to the lower two-thirds of the lung fields."

In 1935 the same author, together with DallaValle,[3] reported on the effect of exposure to dust in two Georgia talc mills and mines. The dust involved was, again, a calcium magnesium silicate containing no free silica. It was present in excessive amounts, over one and one-half billion particles per cubic foot in some operations, the particle size averaging less than 1 micron. Sixty-six workers were examined. Among these, 22 (33 per cent) showed pneumoconiosis, 8 in stages two or three. The conclusion was reached that exposure to talc dust was either "too severe" in the Georgia study, or that this talc was a more dangerous dust than that previously studied. No particular relationship between talc exposure and tuberculosis was demonstrated.

Middleton,[16] in 1936, referred to an unpublished case of Cunningham's in which pneumoconiosis was found in a talc grinder who had been employed for nine years. He also mentioned an autopsy by Sand in 1910 on a woman exposed to talc dust in which "not much reaction" was found.

In 1938, Nuck and Szczepanski[19] reviewed the literature on talc fibrosis and added several cases of their own. They concluded that this type of pneumoconiosis resembled asbestosis more than silicosis.

At the International Conference on Silicosis

* Since this report was written, Porro, F. W., Patton, J. R. and Hobbs, A. A., Jr. (Pneumoconiosis in the talc industry. Am. J. Roentgenol. & Rad. Therapy, April, 1942, 47, 507–524) e described pneumoconiosis in 15 tremolite talc workers with al termination in five.

at Geneva in 1938,[12] Riddell reported the results of the examination of 37 workers engaged in grinding talc ore. Thirteen showed fibrosis resembling silicosis.

Gardner on the same occasion[12] said that of 300 films of talc workers which he had examined about 50 showed some evidence of pulmonary reaction which in 17 suggested nodulation.

From a survey of the literature it appears that while experimental studies have hitherto been inconclusive, clinical studies have tended to indicate that talc dust is capable of producing injurious pulmonary changes.

COMPENSATION CLAIMS FOR DISABILITY DUE TO TALC DUST IN NEW YORK STATE

The cases which originally drew the attention of the Division of Industrial Hygiene to disability resulting from exposure to talc dust are summarized below. Six such cases have occurred during the past few years. One originated in the manufacture of talcum powder; one in the shoe industry, and 4 of them in talc mining and milling. In one case (Case v) there had been significant previous exposure to dust probably containing free silica. Five of the 6 cases were fatal. In 5 cases, summaries are available as follows:

CASE I. Aged sixty-three. The claimant had worked for twelve years operating a talcum powder mixing machine not provided with exhaust ventilation for dust control. The talc used was found by the Division of Industrial Hygiene to contain less than 0.5 per cent of free silica. The dust concentrations at this work ranged from 13.9 to 34.8 million particles per cubic foot.

For three or four years before quitting the job, the claimant had complained of cough with expectoration. *Examination of the lungs* showed moist râles at the bases. The vital capacity was 2,500 (normal estimated as 4,000).

Roentgen examination of the lungs showed an increase of bronchial markings in the lower and middle fields with areas of increased density resembling lipiodol or calcific deposits in both midlung fields.

A *diagnosis* was made in hospital of emphysema and chronic bronchitis with acute exacerbation.

CASE II. Aged forty-four. For twenty-two years the claimant had worked as a "bed laster" in a shoe factory. White shoes were manufactured during about five months of the year and at these times he used talc freely, dusting it on the shoes to prevent soiling of the white leather. The powder used was analyzed by the Division of Industrial Hygiene and found to contain no free silica.

For seven years before quitting work he complained of cough, dyspnea and increasing weakness. His condition finally necessitated hospital treatment.

Physical examination showed the presence of dyspnea, cyanosis and clubbing of the fingers. Examination of the lungs revealed dullness on both sides with diminished fremitus and breath sounds.

Roentgen examination of the chest showed marked, confluent, hazy mottling with nodular densities uniformly distributed. The right ventricle was hypertrophied (cor pulmonale).

The *diagnosis* was chronic pulmonary fibrosis and emphysema. The case terminated fatally nine months after admission to the hospital.

CASE III. Aged forty-nine. The claimant had worked as a talc miner for fifteen years with eight months' exposure in other mines ten years previous to his talc exposure. His illness began five years before death with shortness of breath and a productive cough. He quit work two years after the onset of symptoms because of increasing weakness, and was admitted to a sanatorium.

Physical examination showed an emaciated individual who looked chronically ill. The vital capacity was 1,800 (normal estimated as 3,000). The lungs showed dullness over the middle thirds, râles above second rib anteriorly, and posteriorly throughout. Five specimens of sputum were negative for the tubercle bacillus. The temperature was normal.

Roentgen examination showed extensive, bilateral fibrosis with infection, probably tuberculous, and this was the diagnosis.

CASE IV. Aged thirty-seven. For twenty-one years the claimant had worked in talc mines as mucker, driller and foreman. For two years before quitting work he had noticed cough, shortness of breath and pain in chest. He was easily fatigued. These symptoms caused him to enter a hospital for treatment.

Physical examination revealed no lung abnormalties but showed cardiac hypertrophy, hypertension and evidence of nephrosis.

Roentgen examination of the chest showed fine nodulation through both lung fields below the fifth posterior rib, more marked in the central lung field, an increase in hilum shadows and cardiac hypertrophy.

The clinical diagnosis was early silicosis with probable infection, hypertensive disease and severe nephrosis.

The case terminated fatally.

CASE V. Aged fifty-two. The claimant had worked in talc mines for seventeen years with a previous exposure of ten years in zinc and iron mines. Illness began six years before death with cough and dyspnea. Following the initial symptoms he developed pain in chest and hemoptysis and sought hospital treatment.

Physical examination showed an emaciated individual, appearing chronically ill. The fingers were slightly clubbed. The chest expansion was limited. Examination of the lungs showed dullness on the right below the seventh spine with râles and diminished breath sounds. The sputum was positive.

Roentgen examination showed a fine miliary type of increased density on the left, a mass of increased density in the right middle lung field with evidence of excavation, and heavy fibrosis at the right base.

The clinical diagnosis was probable silicosis, complicated by tuberculosis.

Death occurred twenty-one months after admission to the hospital.

REPORT OF A STUDY OF TALC MINERS AND MILLERS IN ST. LAWRENCE COUNTY, NEW YORK

Scope of Study. In the course of this investigation studies of operations and dust concentrations were made by engineers of the Division of Industrial Hygiene in three talc mines and five talc mills. Two hundred and twenty-one men from seven plants received an initial roentgen examination. In the case of 28 of these individuals, who showed positive lung findings, a follow-up examination was made at the end of ten months which included a second roentgenogram, a medical history and physical examination of the chest, and a detailed occupational history.

The roentgen examinations were made with a 200 milliampere machine mounted on a truck belonging to the Division of Industrial Hygiene.[11] Patterson high speed screens were used, and exposures were made at a 60 inch distance and with an exposure time of one-tenth of a second.

Type of Talc Involved. The type of talc produced in St. Lawrence County is of the fibrous variety known as asbestine. It is noted for its clear whiteness and is used chiefly as an ingredient in the manufacture of paint and tile. With it is found tremolite —calcium magnesium silicate ($CaMg_3(SiO_3)_4$)—a similar appearing mineral occurring in a fibrous or asbestiform state which in the course of time changes over to talc. Gardner[8] reports that anthophyllite, another fibrous silicate, is also present in the talc deposits of the St. Lawrence County region.

Analysis of representative samples of talc from two of the mines in the region, submitted by one of the mining companies, shows the following composition:

Analysis	*Sample A*	*Sample B*
Total silica*	68.24	57.50
Calcium oxide	2.72	5.24
Aluminum oxide	—	.27
Iron oxide	—	.17
Manganese oxide	—	.16
Carbon dioxide	—	.38
Magnesium oxide	24.51	30.20
Calcium carbonate	0.23	—
Sulfur trioxide	trace	—
Ignition loss	3.65	5.13
	99.35	99.05

Free silica content. The free silica content of commercial talc as found in industrial use is very low. Schulz and Williams[21] report that of 51 samples analyzed quartz was not found in 25; traces of quartz only were present in 25; while one sample showed a quartz concentration of 3 per cent. The free silica content of the talc in the mills and mines included in this study was likewise found to be low. Six samples from two talc mines, taken and analyzed by chemists of the Division of Industrial Hygiene, showed 1 per cent or less of free silica. Two of these samples were taken from long standing accumulations of waste rock; two were

* Includes both free and combined silica.

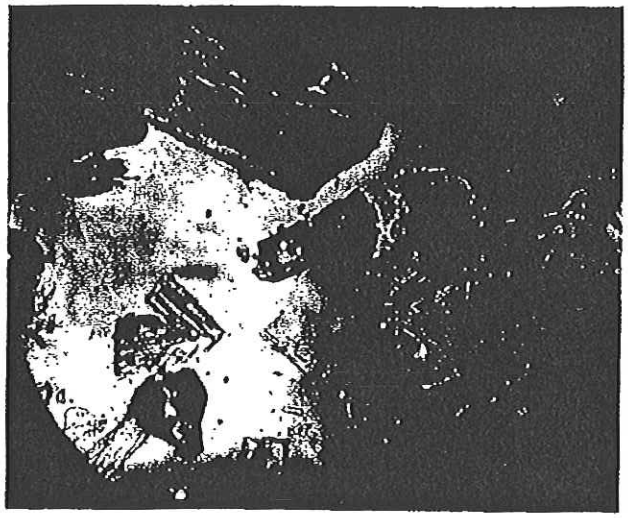

FIG. 1. Tremolite talc. Note bundle-like arrangement of fibers. (Magnification 2,500×. 1 inch = 10 microns.)

from recent three- and four-day-run waste accumulations; and two were from collections of rock destined for the mills. Six samples of ground talc from several mills were also analyzed and in each case the silica content was found to be less than 1 per cent. Dreessen[3] also reported little or no free silica in the composition of the talc in this region.

Gardner,[4] on the other hand, found amounts of quartz ranging from 12 to 20 per cent in mineral samples from two mines in this area. It is difficult to explain the marked difference between Gardner's findings and those of Dreessen[3] and ourselves, except upon the supposition that Gardner's samples included some of the quartz-bearing stratum overlying the talc deposit proper. That such high percentages are not representative, however, is shown by the

FIG. 2. Tremolite talc. Note straight needle-like fibers. (Magnification 2,500×.)

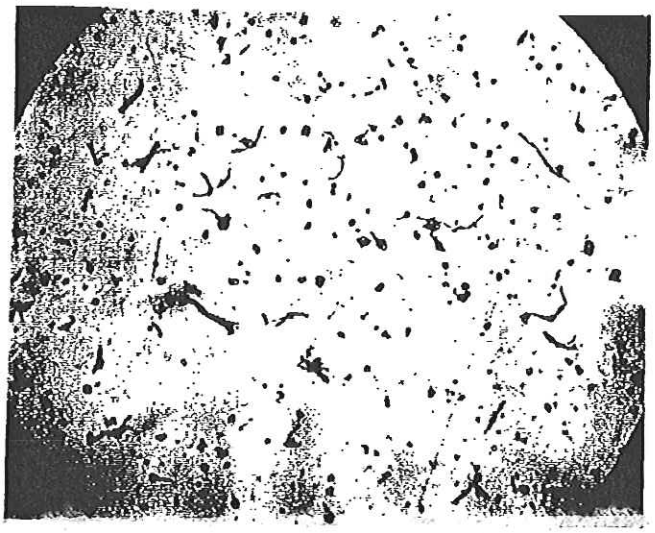

Fig. 3. Asbestos. Note curving tendril-like fibers. (Magnification 2,500×.)

fact that material from the mills where all rock is mixed and crushed showed low quartz percentages both in Gardner's studies and our own.

Microscopic appearance. Photomicrographs of talc dust from St. Lawrence County show that it tends to occur in oblong or squarish particles made up of parallel fibers (Fig. 1) which splinter off into sharp spicules (Fig. 2). Its microscopic appearance differs from that of asbestos (Fig. 3) in that asbestos fibers tend to be curved and tendril-like in form, whereas those of talc appear straighter and needle-like in structure. Tremolite talc fibers are also much shorter than those of asbestos. In this study their maximum length was approximately 15 microns. Asbestos fibers, on the other hand, may attain a macroscopic length. In interesting contrast to both tremolite talc and asbestos are the flake-like particles of mica dust (Fig. 4), another

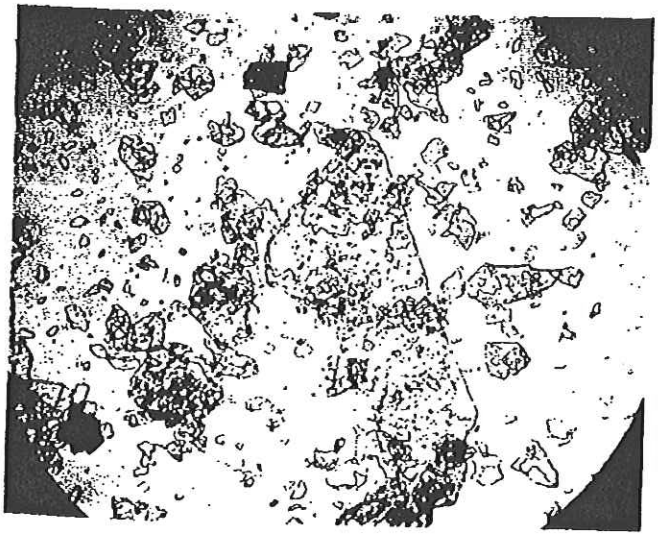

Fig. 4. Mica. Typical mica particles, showing the very thin plate-like structure. (Magnification 2,500×.)

magnesium silicate, and the granular particles of granite dust (Fig. 5), a combination essentially of quartz and feldspar.

Description of the Industry

Talc Mining

Mining operations. Talc ore is obtained by underground mining. Inclined shafts are used with headings to various depths down to about 1,100 feet. The talc occurs in compact, homogeneous seams, so that contact with hard rock is limited to that incurred on entering a seam. Once a seam is entered there is no exposure to anything but talc until it becomes necessary to enter another seam. Since seams may be worked for years, the amount of drilling in hard rock is very small compared with the amount of drilling in talc.

The headings are mined by drift drilling, blasting, and hand or machine mucking. Raising and stoping are resorted to, to obtain the ore from pockets. All drilling is done dry since every precaution must be taken to avoid wet ore which cannot be milled and is wasted. Drilling crews of one or two men are used, the drillers doing their own blasting. The ore is then mucked as it is required by the mills. It is loaded into muck cars and pushed along the haulageways to the shaft where it is dumped into a skip, hoisted to the surface, and dumped into railroad cars or trucks for shipment to the mills. Each mine employs fifteen to seventeen men underground.

Dust exposure in talc mining operations. The problem of the best method of control of the dust in talc mines is one which is receiving the attention of the Division of Industrial Hygiene at the present time. Very little dust control was found in the three mines studied. Some attempts had been made to remove the dust during drift drilling by means of small, home-made, portable units, but relatively few of these were in actual use during drilling operations. The drillers wore respirators.

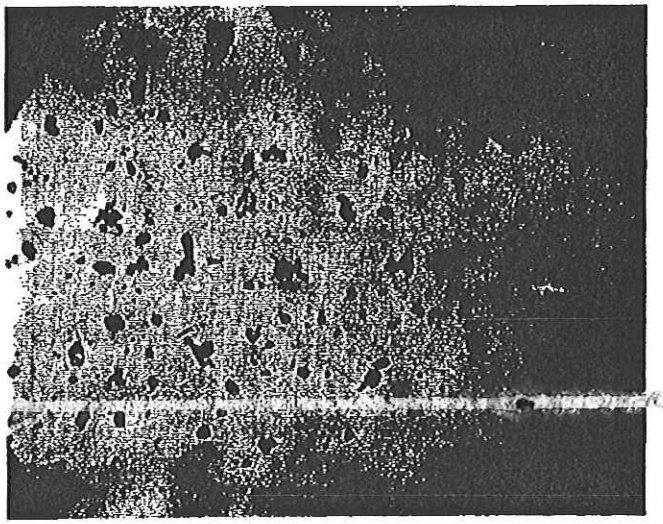

FIG. 5. Granite. Shows lack of form usually found in silicate and silica particles. (Magnification 2,500×.)

Twenty-two dust samples were taken with a midget impinger at various operations and situations. These were counted within ten hours of the time of sampling by means of the low power, light field technique, and gave the results shown in Table 1.

The dust counts where no exhaust device was used gave average dust concentrations as follows: for drilling 1,350, for stoping 1,290, for mucking 35, and in the general air, 17 million particles per cubic foot.

Talc Milling

Milling operations. The milling processes in all five mills were found to be essentially alike. The ore is shipped to the mills in railroad cars or trucks and is dumped into chutes leading to a jaw crusher. From the jaw crusher the talc, in most mills, passes through disc or roll crushers, or both, before entering rotary or trommel screens. After passing the screens, the talc is stored in garners before the final milling operation which takes place in pebble mills. The final separation of the finely ground talc is accomplished with air separators, from which the material passes to garners which feed bagging machines.

The bagging machines utilize open top bags, or sacks, which fit loosely onto the discharge spout of the machines. Hand scoops are used to add or remove talc from the bags to obtain accurate weight. The greater percentage of material is bagged in

TABLE I

DUST CONCENTRATIONS IN TALC MINES

Operation	Mine	Dust Count (million particles per cubic foot)	Remarks
Drilling	A	300	"Upstream" of drill [illegible] 2' per minute
		300	"Downstream" of drill
		75	3' "upstream." Using exhaust
		110	Same as above. Breathing level of helper
		600	Exhaust off
		2700	Exhaust off. Breathing level of helper "downstream"
		5000	Exhaust of dust collector
		1500	Same as above; 3 minutes after drilling stopped
		150	General air stream
	B	65	"Upstream" air movement 50' per minute
		265	Same as above. Air turbulent
	C	90	Dead end drift
		300	Just off main airway
		16	Main airway
		100	Breathing level driller, top of open stope
Stoping	A	4000	Dead end stope. No air movement
	B	760	Top of dead end raise
Mucking	A	40	Bottom of stope, drilling at top
		50	Same as above
		6	Top of pile, mucking only operation
	B	35	"Downstream" of mucker
		24	Same as above

TABLE II

DUST CONCENTRATIONS IN TALC MILLS

Operation	Mill	Dust Counts (million particles per cubic foot)	Average Dust Concentration (million particles per cubic foot)
Crushing-jaw crusher	1	20	
	2	41.5	
	3	76.5	46
Crushing-disc or roller crushing	1	22	
	2	79	50
Pebble milling	1	32	
		46	
	2	106	61
Bagging paper	1	141	
	2	190	
	4	160	163
Bagging burlap	1	120	
	3	73.5	
	5	87.5	93
General air cylinder room	1	48	
	3	85	
	4	78	
	5	77	72
Separator room	4	58	
	5	67.5	62
Manual handling	1	215	

50 lb. paper bags, while some is shipped in larger burlap bags. The operators of the bagging machines stack the filled bags on hand trucks and wheel the loaded trucks into railroad cars or automobile trucks for shipment, or into the warehouse for storage.

Dust exposure in talc milling operations. Dust control in the various mills is confined chiefly to the bagging machines and pebble mills. Some control is also used in several mills at the crushers and material transfer points. Dust samples were taken throughout the mills using the technique already described. The samples were taken at the breathing level of the workmen in locations where men are usually stationed.

Table II shows the concentrations found at various points throughout the mills. Manual handling of the talc produces concentrations in excess of those found at other operations but, fortunately, there is little manual handling during normal procedure.

The dustiest operation, other than manual handling, is that of paper bagging where the average dust concentration for three mills was found to be 163 million particles per cubic foot.

TABLE III

FIBROSIS IN TALC WORKERS, BY LENGTH OF EXPOSURE

Years Exposed	All Workers Examined	Cases of Fibrosis		
		Number	Total Fibrosis Cases per cent	Exposure Group per cent
5	82	—	—	—
5–9	32	—	—	—
10–14	47	8	25.0	17.0
15–19	33	13	40.6	39.4
20–24	10	2	6.3	20.0
25–29	9	3	9.4	33.3
30–39	6	5	15.6	83.3
40–49	1	—	—	—
50–59	1	1	3.1	100.0
Totals	221	32	100.0	14.5

Roentgen Findings

Fibrosis

Incidence. In recording pulmonary fibrosis among talc workers, those with slight or even moderate degrees of fibrosis were disregarded, and only those cases included in which a marked degree of this condition was present.

Upon the initial roentgen survey in 1940 fibrosis was found in 32 of the 221 men examined, giving a rate of 14.5 per cent. The distribution of these cases according to length of exposure is shown in Table III.

It will be seen that no cases occurred in workers with less than ten years' exposure. The 32 cases of fibrosis were all found among the 107 men who had worked in talc for ten years or longer, giving an incidence rate for this group with ten years or more of employment of 29.9 per cent. Of the 8 men who had worked thirty or more years in talc, 6 showed fibrosis (74 per cent).

To make clear the fact that talc is fibrosis-producing dust the distribution of cases of fibrosis, according to age, in talc workers and in a group of carpet factory workers previously examined by the authors, is shown in Table IV.

Fibrosis was present in only 2.5 per cent of all carpet workers, and in 4.9 per cent

TABLE IV

FIBROSIS IN TALC AND CARPET WORKERS, BY AGE

Age	Talc Workers			Carpet Workers		
	Number examined	With fibrosis		Number examined	With fibrosis	
		Number	Per cent		Number	Per cent
Less than 20	4	—	—	6	—	—
20–29	71	1	1.4	57	—	—
30–39	72	7	9.7	61	1	1.6
40–49	41	7	17.0	57	1	1.7
50–59	17	9	52.9	49	4	8.1
60–69	13	6	46.1	33	—	—
70–79	3	2	66.6	3	—	—
Totals	221	32	14.5	266	6	2.5

of those fifty years of age and older; while it was present in 51.5 per cent of talc workers in this age group.

Ten months after the original roentgen study, a second visit was made to the same plants for follow-up examinations of selected cases. At this time occupational and medical histories were taken and chest examinations were made. From the occupational histories it was possible to eliminate those men who had previously been exposed to other types of siliceous dust. In this way a group of 18 cases showing marked fibrosis was defined in men who had not worked in any other dusty industry and whose only significant dust exposure, therefore, had been to talc.

Signs and symptoms. Fifteen of the men showing fibrosis [illegible] talc mills; 3 were miners. The proportion of mill workers to miners in the entire group, however, was approximately 2.3 to 1, showing that fibrosis was relatively more prevalent among millers than miners. With one exception, the men with fibrosis were all forty years of age or older and had been exposed to talc dust, as noted above, for at least ten years.

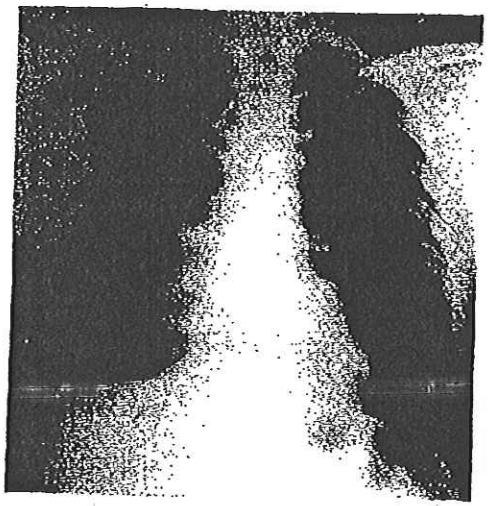

Fig. 6. Case 200-28. Aged forty-six. Began working at age of fifteen. Woolen mill six years; talc mill worker twenty-five years. Complains of cough, shortness of breath, pain in chest, fatigue. *Physical examination:* Chest expansion 1¼ inch, respiration 28 breath sounds diminished. Clubbing of fingers. *Roentgen examination:* Shows a very fine, granular fibrosis on a diffusely hazy background. The hilar nodes are thickened.

Fig. 7. Case 198-3. Aged fifty-four. Began work at age of fifteen. Farmer sixteen years; telephone linesman seven years; talc mining sixteen years. Complains of productive cough and dyspnea. *Physical examination:* Chest expansion 1 inch. Nails curved. *Roentgen examination:* Shows enlargement of the hilar nodes, and exaggerated linear markings at the right base. There is also a fine, generalized, diffuse fibrosis having a granular appearance.

Thirteen of the 18 had one or more symptoms referable to the lungs. Ten complained of dyspnea; 7 of chronic cough and 3 of pain in the chest. In addition, 5 complained of excessive fatigue.

On physical examination, all 18 showed limited chest expansion. Thirteen showed abnormal lung signs and 13 showed curving of the nails or clubbed fingers. In one case cardiac hypertrophy was observed, and in one auricular fibrillation.

The general appearance of the group struck the examiners as being distinctly different from the appearance of the usual group of first and second stage silicotics who are still able to work. The latter usually present a robust appearance. A substantial number of individuals in such a group are

FIG. 8. Case 197-38. Aged fifty-five. Began working at age of fourteen. Talc mill laborer and foreman forty-one years. Complains of fatigue. *Physical examination:* Chest expansion 1¾ inches; clubbing of fingers. *Roentgen examination:* Shows marked elevation of right diaphragm with obliteration of the costophrenic sulcus. On the left leaf of the diaphragm is a deposit of opaque material. Both lungs show a fine, granular fibrosis.

likely to be overweight. This was not the case with the talc workers who showed fibrosis. None of them was overweight, but on the contrary they tended to present an undernourished and drawn appearance. It was the impression of the examiners, also, that dyspnea was unusually pronounced in relation to the extent of the fibrosis seen in the roentgenograms.

Roentgenographic characteristics. The type of fibrosis seen in these roentgenograms is very fine and diffuse, showing in many cases an appearance of soft haziness to which the term "ground glass," used in describing certain cases of asbestosis, can very well be applied. This is illustrated in Figures 6, 7, and 8. In a number of cases there is in addition a distinctly granular appearance (Fig. 7), and in some nodulation (Fig. 9 and 10) which might be confused with silicosis. In certain films soft conglomerations also occur (Fig. 9 and 11).

The fibrosis in these cases tends to be somewhat more marked on the right side, and in the mid-lung fields and bases as seen in Figures 7 and 9. The hilar nodes show a slight or moderate increase in density. Evidence of obliterative pleuritis and emphysema is also present in some cases. In a few instances (Fig. 7 and 11) a blurring or "shagginess" of the cardiac outline is noticeable.

Tuberculosis. In the total group of 221 talc workers there were 29 (13.1 per cent) cases of primary healed tuberculosis; 6 (2.7 per cent) cases of healed reinfection type tuberculosis and 5 (2.2 per cent) cases which were considered, on the basis of the roentgen appearances alone, to show clinically significant tuberculosis.

The incidence of healed primary and reinfection type lesions is not remarkable in any way, being similar to that found, in general, in other industrial groups. The incidence of clinically significant tubercu-

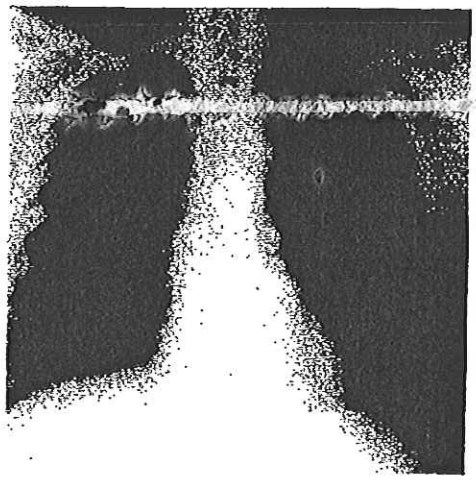

FIG. 9. Case 196-3. Aged sixty-eight. Began working at age of sixteen. Farmer twenty-three years; carpenter six months; talc mill laborer and repair man twenty-nine years. Complains of dyspnea. *Physical examination:* Chest expansion 1½ inches, respiration 24, râles both bases. *Roentgen examination:* Shows a diffuse, finely nodular fibrosis throughout both lungs. There is emphysema at the left base. There is apparent thickening of the pleura at the right base with several horizontal shadows in this region. There is also an area of increased density extending from the second to the third interspace on the right, and shadows at both apices suggesting possible reinfection tuberculosis.

losis (2.2 per cent) is slightly higher than is found in most industrial groups, the average rate found for this condition being about 1.2 per cent. Among the 5 individuals with clinically significant tuberculosis 3, between the ages of thirty and fifty, showed minimal lesions; one, forty-five years of age, showed moderately advanced lesions and one, sixty-four years of age, showed what was interpreted to be far advanced atypical tuberculosis. Among the 18 cases of fibrosis in men exposed only to talc clinically significant tuberculosis appeared to be a complicating feature in 3 cases (16.6 per cent).

Talc plaques. A most interesting finding in this group of talc workers interesting because, to these investigators, it was new —was the presence in 14 instances (6.3 per cent of the 221 talc workers originally roentgenographed) of what appeared to be deposits of opaque material on various pleural surfaces. These deposits, or plaques, are seen on the visceral pleura, including the region of the diaphragm, and occasionally the pericardium (Fig. 8, and 13 to 17). Lateral and oblique views indicate that their location is definitely at the periphery of the lung, not involving the parenchyma (Fig. 17).

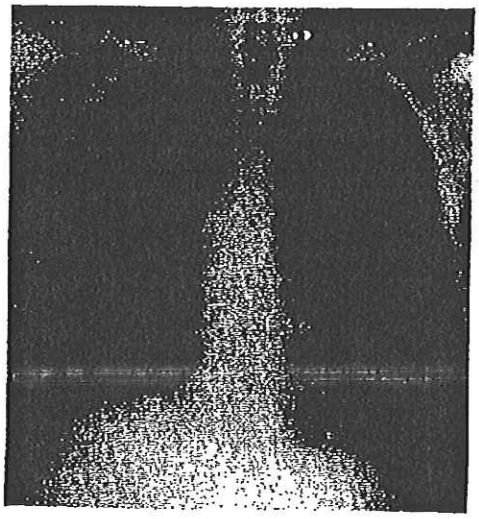

FIG. 10. Case 197-8. Aged forty-nine. Began working at age of fourteen. Talc mill laborer thirty-five years. Complains of dyspnea, pain in chest, fatigue. *Physical examination:* Chest expansion 1¼ inches. Nails curved. *Roentgen examination:* Shows diffuse finely nodular fibrosis with soft shadows suggesting bilateral, clinically significant, apical tuberculosis.

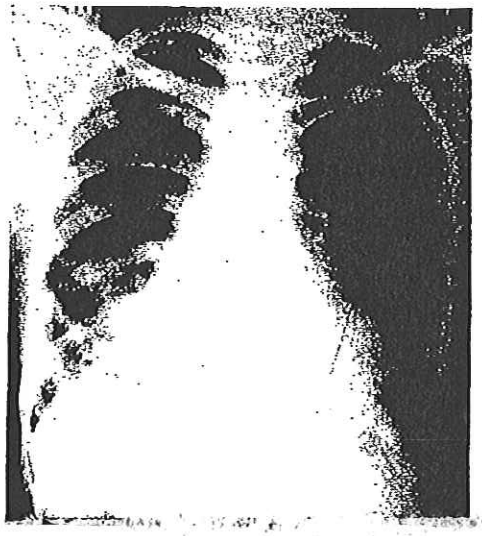

FIG. 11. Case 201-10. Aged forty-nine. Began working at age of sixteen. Farmer seven years; talc mill laborer and foreman twenty-six years. Complains of productive cough, dyspnea and fatigue. *Physical examination:* Chest flat, expansion limited, dullness at apices, otherwise hyperresonant. Râles throughout, most marked at bases. Respiration 22; pulse 116. Heart negative. Clubbing of fingers. *Roentgen examination:* Shows a fine, soft mottling over both lung fields, more pronounced at the bases. In addition, in the third left interspace near the periphery is a round homogeneous area of increased density about 2 cm. in diameter.

In size the plaques vary from a single, linear-appearing deposit of a few centimeters in length in the region of the diaphragm (Fig. 8 and 12) to massive deposits bizarre in shape, extending over a large part of the lung fields (Fig. 14, 15, 16 and 17). They are characterized not only by irregularity of shape, but by marked irregularities in degree of density also, and by the sharpness of their borders. In this series of films the development of these plaques can be traced from small, light, scarcely noticeable deposits to the extensive opacities described.

FIG. 12. Case 200-20. Aged sixty-three. Began working at age sixteen. Fireman three years; farmer eight years; talc mill laborer and repairman thirty-nine years. Complains of dyspnea and fatigue. *Physical examination:* Lungs hyperresonant, [illegible] enlarged to left, base irregular. Clubbing of fingers. *Roentgen examination:* Shows deposits of opaque material on the left diaphragmatic dome; marked emphysema at the left base. Both lungs show diffuse, granular fibrosis with irregular patchy shadows at right base and left mid-lung field.

It should be noted that roentgen appearances similar to the plaques herein described were apparently seen in Case 1 where mention is made of areas of increased density resembling lipiodol or calcific depositsin mid-lung fields. Similar appearances have also been noted in another group of workers who were exposed to talc dust in the making of material for electrical insulation.

So far as can be ascertained, these deposits bear no relation to any history of previous infection since they occur both with and without such a history. Nor are they necessarily associated with other pulmonary pathology. The underlying lung tissue may or may not show fibrosis. There is no associated enlargement of the hilar nodes in cases showing plaques without fibrosis.

An analysis of the group of 14 talc workers who showed these deposits revealed the following facts: Their ages ranged from thirty-five to seventy-seven years and their exposure in the talc industry from four to fifty-two years. Ten were mill workers; 4 were miners. Only one individual gave a history of having had pleurisy. None had had empyema. In 5 instances no lung pathology other than the plaques was noted. A marked degree of fibrosis coexisted in 7 cases. Evidence of clinically significant tuberculosis was seen in one case and of primary healed tuberculosis in another case.

No symptoms or physical signs attributable to these deposits could be identified,

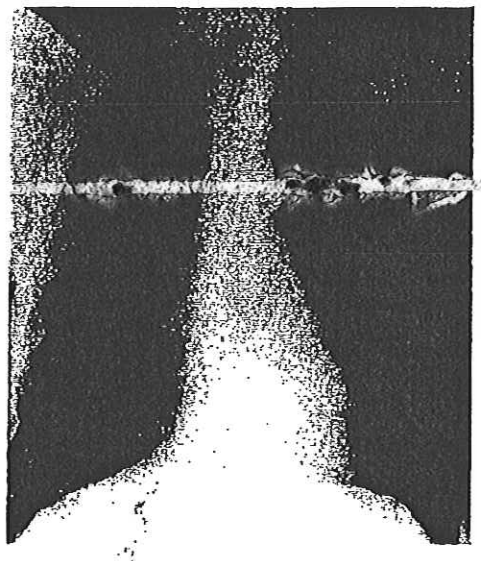

FIG. 13. Case 201-5. Aged fifty. Began working at age of fifteen. Farmer seventeen years; repairman in talc mill eighteen years. Complains of cough. *Physical examination:* Lungs show diminished breath sounds throughout, especially on right. Heart: systolic murmur at apex. Pulse 120. Clubbing of fingers. *Roentgen examination:* Shows a soft, diffuse, very finely nodular fibrosis throughout both lungs. In addition, there are irregular, sharply defined deposits of opaque material in both middle and lower lung fields. (Lateral and oblique views show that these plaques are located near the periphery.) There are similar deposits on both diaphragms and in the region of the right spinal gutter.

since in the group studied symptoms and signs only occurred in those individuals in whom there was other lung pathology. Apparently the plaques themselves and the process responsible for producing them are symptomless.

DISCUSSION

Fibrosis. The type of fibrosis found in this study was characterized, as already described, by a soft haziness and a *finely* granular or nodular appearance tending to be more marked in the mid-lung fields and bases. Dreessen[3] apparently found a condition somewhat similar to this in his study of tremolite talc workers in the same geographical area. However, the fibrosis here reported was more severe than that found by Dreessen as indicated by the conspicuous presence of clinical symptoms, such as dyspnea, pain and fatigue in these cases and also by the more frequent appearance of granulation and fine nodulation. It more closely resembled in severity the fibrosis later reported by Dreessen and Dalla-Valle[4] among Georgia talc millers and miners. Here the talc was also of the tremolite variety. Analyses also failed to show the presence of free silica. These authors reported 8 cases with symptoms of dyspnea, cough and pain, abnormal chest signs,

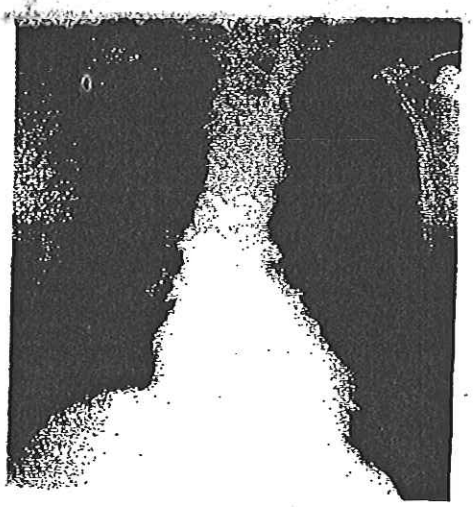

FIG. 14. Case 196-16. Aged fifty-two. Began working at age of fifteen. Farmer twelve years; worked on railroad four years; talc mill worker thirty-one years. No complaints. *Physical examination:* Chest expansion 1¾ inches, breath sounds distant. Nails Curved. *Roentgen examination:* Shows what appears to be an extensive, irregular, sharply defined deposit of opaque material in the left lung field. Stereoscopic view shows that this deposit is at the periphery, probably on the visceral pleura, and that the lung beneath is comparatively free from fibrosis. The right lung shows a fine, diffuse, granular fibrosis with shadows in the first and second interspaces suggesting healed reinfection tuberculosis.

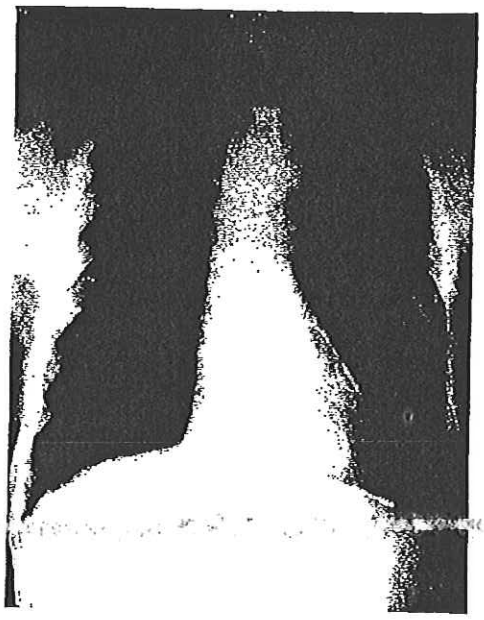

FIG. 15. Case 199-16. Aged sixty-three. Began working at age of sixteen. Talc mill laborer sixteen years; talc miner thirty-one years. Complains of productive cough, night sweats, pain in chest, loss of weight and appetite. *Physical examination:* Chest flat, expansion 1¾ inches, lungs dull both apices, diminished breath sounds, nails curved. *Roentgen examination:* Shows what appears to be deposits of opaque material on the left diaphragm and pericardium; also an extensive irregular deposit on the left pleura. Stereoscopic view indicates that the latter is on the visceral pleura. Soft shadows indicative of moderately advanced tuberculosis are present in both apices, extending to the third interspace on the right and the second on the left.

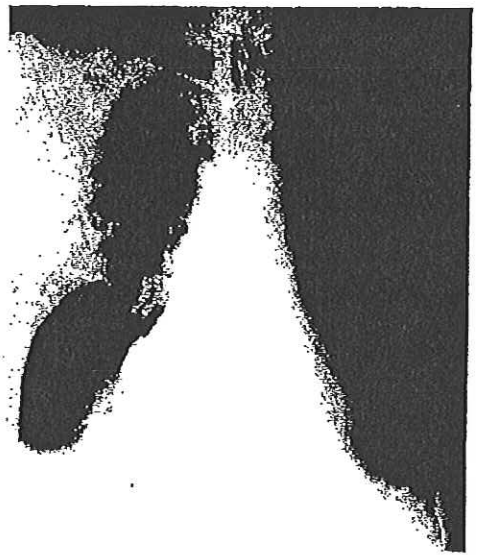

FIG. 16. Case 198-40. Aged sixty-four. Began working at age of sixteen. Paper mill five years; carpenter six years; zinc miner three years; talc miner and blacksmith twenty-one years; talc mills thirteen years. Complains of productive cough, shortness of breath, fatigue, and night sweats. *Physical examination:* Chest expansion 1¼ inches. Respiratory rate 32; pulse 112. The lungs are hyperresonant. There are bronchovesicular breath sounds with râles throughout right lung. Curved nails. *Roentgen examination:* Shows extensive areas of increased density which suggest irregularly shaped deposits of opaque material in both lung fields. This appears to be not exactly at the periphery but several millimeters inside the lung field. There is also a rather dense accumulation of opaque material on the right and left leaves of the diaphragm, along the right pericardial border and arch of the aorta. The right costophrenic sulcus is obliterated. The lung tissue, apart from the areas described, shows an increase in lung markings more marked on the right.

clubbed fingers, and a nodular or "nodular-conglomerate" type of fibrosis.

The occurrence of a type of fibrosis giving a nodular roentgen appearance as a result of exposure to tremolite talc dust is a matter of considerable interest, since nodular fibrosis is traditionally associated only with dust containing free silica. Gardner[8] attributes fibrosis in tremolite talc workers to the contaminating presence of free silica, but inasmuch as the free silica content of the twelve samples of mineral from talc mills and mines analyzed in the present study was found to be practically negligible (less than 1 per cent), it seems reasonable to suppose that the fibrosis observed in these cases is primarily the result of the inhalation of the various silicate minerals present in the dust, namely talc, tremolite and anthophyllite.

Microscopic study has shown that this dust is largely fibrous in character, and it may well be that this particular physical characteristic is responsible for the pathology of tremolite talc fibrosis. The possibility of action analogous to that which occurs in asbestosis is suggested by several facts: first, the chemical and physical similarity between the minerals in this area and those found in asbestos; second, the fact that the disability in tremolite talc fibrosis, like that in asbestosis, tends to be greater than one would expect from the severity of the lesion as seen on roentgenological examination.

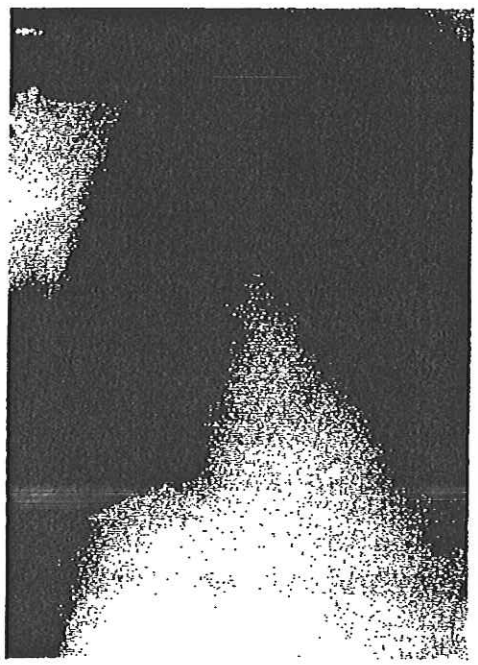

FIG. 17. Same case as Figure 16. Oblique view.

Another interesting feature of the cases showing talc plaques is that radiopaque material in these cases is not, apparently, deposited in the hilar nodes. This suggests that talc dust does not find its way to them in large amounts. If this be true, it would indicate a similarity in this respect to asbestos which, as Gardner and Cummings have shown, tends to be held in the periphery of the lungs.

Whatever the similarity in effect between asbestos and talc dust, however, one conspicuous dissimilarity is the absence of any change resembling "talc plaques" in the lungs of asbestos workers. In fact, as far as we are aware, with the single exception of the German reference[11] given above, such deposits have not heretofore been described in connection with any dust.

SUMMARY

1. A study of the tremolite talc mining and milling industry in northern New York State is reported.

2. Talc in this region is of the massive variety, mingled with tremolite and anthophyllite. Analyses of material from both mines and mills gave consistently a free silica content of 1 per cent or less. Microscopic studies of dust showed the presence of fine, straight, needle-like fibers.

3. Dust counts in mining ranged from 6 to 5,000 million particles per cubic foot; in milling from 20 to 215 million perticles per cubic foot.

4. In a group of 221 tremolite talc miners and millers advanced fibrosis was found in 32 men, giving an incidence of 14.5 per cent.

5. All of the cases of fibrosis occurred among those men who had worked in tremolite talc for ten years or longer (107 men), giving an incidence for this group of 29.9 per cent.

6. The fibrosis found in this study was of a fine, diffuse type with a roentgenographic appearance of granulation or nodulation on a hazy background. It tended to be disabling in character and was frequently accompanied by dyspnea, cough and fatigue.

7. There was also some evidence that this fibrosis was characterized by an increased susceptibility to tuberculosis. Clinically significant tuberculosis was diagnosed by roentgen examination in 3 of 18 cases of tremolite talc fibrosis where there had been no other dust exposure.

8. In addition to fibrosis, deposits of unidentified opaque material in the periphery of the lungs, including the region of the diaphragm and pericardium, designated as "talc plaques," were observed in 6.3 per cent of all tremolite talc workers examined. These deposits occurred independently of other lung pathology and could not be identified with any particular signs or symptoms.

CONCLUSIONS

This study identified tremolite talc as a silicate dust capable, like asbestos, of causing a disabling pneumoconiosis. It reveals distinctive pathological findings associated with exposure to tremolite talc dust which postulate a special etiology for the resulting disease. There is also evidence that tremolite talc fibrosis is associated with an increased susceptibility to tuberculosis.

In the light of these findings, exposure to tremolite talc dust must be considered to constitute a definite industrial hazard requiring control of dust by suitable engineering methods.*

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* Since this paper was written, an article on experimental production of intrapleural adhesions in animals by Hanrahan, Adams and Klopstock has appeared in the Fifty-Seventh Annual Medical Report of the Trudeau Sanatorium. In the case of one rabbit treated with iodized talc, the authors report, "The medial half of the diaphragm contained a subpleural collection of powder, 0.5 mm. in thickness, lying in situ as a semirigid plaque. . . . Mediastinal and diaphragmatic distribution suggested complete lymphatic blockage."

Because of these similarities, the authors of this paper have taken the opportunity to compare this series of films of tremolite talc workers with those of a group of workers showing early asbestosis.* They were impressed by the resemblances in the roentgen appearances in the two groups. The talc fibrosis resembled early asbestosis in its fineness and diffuseness, its hazy "ground glass" quality and, in addition, some in the series of asbestosis films showed a mottled or nodular appearance similar to that seen in the more advanced cases of talc fibrosis.†

Whatever the exact pathology may ultimately prove to be, the study here reported clearly indicates, from a practical standpoint, that the dust encountered in the tremolite talc industry is of a definitely injurious fibrosis producing type which requires control in order to prevent disabling occupational disease. Moreover, although the number of cases here presented is small, suggestive evidence has been found that exposure to tremolite talc dust is associated with increased susceptibility to tuberculosis.

Talc Plaques. In regard to "talc plaques," one possibility to consider is that they represent simply aggregations of actual talc dust which has remained in the periphery of the lung unable to be disposed of in any manner. This supposition makes it difficult, however, to account for the presence of these deposits in a few cases only, rather than in the majority of those exposed.

Since "talc plaques" closely resemble, in appearance, pleural calcifications resulting from traumatic pleuritis or empyema, the thought immediately suggests itself that they are, in fact, deposits of calcium. The dust of tremolite talc contains calcium—tremolite being a calcium magnesium silicate—but so also do other dusts such as cement and marble. Why does tremolite talc dust alone produce the opaque deposits described?

Calcific deposits ordinarily presuppose previous irritation or injury. This fact suggests that tremolite talc dust, therefore, has some unique ability to irritate or injure pleural surfaces, such injury being followed by the deposition of readily available calcium. It is known, for example, that the resolution of intrapleural hemorrhage is frequently followed by calcium deposition, and one is tempted to speculate as to whether the needle-like particles present in this dust may, by tissue penetration, cause multiple, minute, capillary hemorrhages whose resolution results in the appearances described.

The location of the deposits, as seen in lateral, oblique and stereoscopic views, appears actually to be just beneath the pleural surface. This suggests that they may lie in the peripheral lymphatic network and opens up another speculative possibility. In this connection an illustrated article by Lommel[11] in *Deutsche medizinische Wochenschrift* is of great interest. Discussing the familiar "egg shell" appearance occasionally seen in hilar nodes, he reports, in certain cases of silicosis, large calcific deposits in the peripheral parts of the lung which, to judge by the illustrations, closely resemble "talc plaques." His suggested explanation is that calcium (lime) is laid down in inflamed fibrous tissue in the congested lymph spaces which form a network around the lobules of the lung.

The sharply demarcated, yet irregular, borders of the "talc plaques" do in fact suggest that the deposit of opaque material is definitely limited as by the outlines of some irregularly shaped structure such as the walls of lymphatic spaces. It is of interest in this connection that Gardner and Cummings,[6] working with asbestos, report well marked hyperplasia and dilatation of lymphoid tissue in the periphery of the lung in guinea pigs which they believe may be the result of pulmonary irritation. One may speculate as to whether tremolite talc may not produce a similar condition which is then followed by the deposition of calcium already present in the dust.

*Through the courtesy of Dr. W. J. McConnell of the Metropolitan Life Insurance Co., New York City.

†"Mottling" in asbestosis has been described by Merewether[1] and also by Gardner and Cummings.[6]

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1 of

M - 227A

Chart

ROSWELL PARK MEMORIAL INSTITUTE

AUTOPSY REPORT

Name:	RALPH J. BROWN	Chart Number: 131343
Date and Time of Death:	6/29/74 @ 5:30 P.M.	Autopsy Number: 11354
Date and Time of Autopsy:	6/30/74 @ 9:30 A.M.	Prosector: Y. Satchidanand,

DEPOSITION EXHIBIT
KELSE 45
11/9/10

MICROSCOPIC DESCRIPTION

CARDIOVASCULAR SYSTEM
Section of the heart shows mild focal fibrosis.

RESPIRATORY SYSTEM
The lungs show thickening and edema of the pleura. There is infiltration by malignant lymphoma, composed of well-differentiated small lymphocytes. These cells are diffusely infiltrating the lung parenchyma. The adjacent lung shows thickening and fibrosis of the alveolar walls. The alveolar septae show large atypical cells. Several of the alveoli have asteroid bodies and ferunginous bodies. Elsewhere, the alveoli are filled with dense proteinaceous material. In addition, large areas of emphysema are noted. Considerable thickening of the smaller arterioles is seen. Large emphysematous areas are seen.
The main bronchus shows ulceration and infiltration by malignant lymphoma.

DIGESTIVE SYSTEM
Section of the esophagus shows mild dysplasia. There is submucosal edema and squamous metaplasia of the ducts. There are a few dilated vessels. These probably represent radiation changes. The stomach has a well-preserved mucosa. There is no lymphomatous infiltration. The small intestine is unremarkable.
The liver shows mild fat-metamorphosis and mild lymphocytic infiltration of the portal areas. There is moderate degree of autolysis of pancreas.

RETICULO-ENDOTHELIAL SYSTEM
The section of the spleen shows chronic passive congestion.
A single small lymph node shows infiltration by poorly differentiated lymphocytic lymphosarcoma.
The vertebral marrow shows focal hypocellularity and multifocal infiltration by malignant lymphoma. The femoral marrow is hypercellular and shows erythroid hyperplasia. Mild degree of megakaryocytic hyperplasia is seen.

ENDOCRINE SYSTEM
The pituitary gland is unremarkable. The thyroid gland is composed of small and large follicles filled with colloid. The parathyroid gland is unremarkable.
The adrenal glands have well preserved cortex and medulla.

URINARY SYSTEM
Section of the right kidney shows metastatic malignant lymphoma infiltrating the parenchyma. The glomeruli are fairly well preserved. The tubules show autolytic changes.

REPRODUCTIVE SYSTEM
The testicles have atrophic seminiferous tubules, and a few are hyalinized.
The section of the prostate gland shows extensive autolysis.

CENTRAL NERVOUS SYSTEM
Sections of the hippocampus and cerebellum are unremarkable.

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RALPH J. BROWN
6/29/74 @ 5:30 P.M.
6/30/74 @ 9:30 A.M.

Chart Number: 131343
A-11354
Y. Satchidanand, M. D.

FINAL SUMMARY

At autopsy the lungs were found to be very heavy (right lung 1400 gms. and lt. lung 1100 gms). Microscopic examination revealed very interesting features. Extensive fibrosis was noted. This could be attributed to the radiation this patient received for the malignant lymphoma. However, this patient is said to have worked for many years in a talc factory. This explains the "ferunginous bodies" and the "asteroid bodies" seen in large numbers in the lungs. The "ferunginous body" also known as the asbestos body is not specific for asbestosis. It is formed by a deposition of iron salts and protein on particles of asbestos. However, similar deposition is seen in cosmetic talc, aluminum silicate and glass fibers.
Animal experiments have confirmed the above finding. Therefore, the fibrosis can be attributed to both radiation and lung exposure to talc.
A fibrogenic impurity accompanying talc (hydrated magnesium silicate, is tremolite, A mineral form of asbestos. Tremolite is known to form asbestos like bodies and induce interstitial fibrosis.

RALPH J. BROWN
6/29/74 @ 5:30 P.M.
6/30/74 @ 9:30 A.M.

Chart Number: 131343
A-11354
Y. Satchidanand, M. D.

FINAL ANATOMICAL DIAGNOSIS

1. Lymphocytic lymphosarcoma involving right lung, right hilar lymph nodes, and right kidney following lymphosarcoma of left cervical lymph nodes. T08 M9623

2. Bilateral pulmonary congestion and extensive radiation fibrosis (right lung 1400 gms and left lung 1100 gms). T28 E9320

3. Bilateral pulmonary talcosis. T28 M5602

4. Focal acute bronchopneumonia. T28 M4101

5. Bilateral pleural effusion, 300 cc each side.

6. Atherosclerosis of coronary arteries and aorta, moderate.

7. Arteriolar nephrosclerosis, mild.

8. Status Post:
   a) Radiotherapy 3600 rads to left neck, 11/16/71 - 12/22/71.
   b) Chemotherapy - Vincristine and Cytoxan, April - September 1971. E8803, E8829, E8813
   c) Chemotherapy with BCNU and Prednisone, September 1972. E8536
   d) Chemotherapy with Adriamycin, March 1973. E8838
   e) Chemotherapy - Methotrexate, (July 1973) Leukovorin, Ara-C, Cytoxan, and Vincristine. E8830, E8822
   f) Radiation to whole chest (2100 rads, February 1974).

MECHANISM OF DEATH

RESPIRATORY INSUFFICIENCY DUE TO BILATERAL PULMONARY CONGESTION, EDEMA AND RADIATION FIBROSIS.

JOHN W. PICKREN, M. D.
CHIEF OF PATHOLOGY

PER: Y. Satchidanand, M. D.
J. F. Gaeta, M. D.

YS:kb
4/3/75

RALPH J. BROWN
6/29/74 @ 5:30 P.M.
6/30/74 @ 9:30 A.M.

Chart Number: 131343
A-11354
Y. Satchidanand, M. D.

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YS:kb
4/3/75

RALPH J. BROWN
6/29/74 @ 5:30 P.M.
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Chart Number: 131343
A-11354
Y. Satchidanand, M. D.

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M - 227A

Chart

ROSWELL PARK MEMORIAL INSTITUTE

AUTOPSY REPORT

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Date and Time of Death:	6/29/74 @ 5:30 P.M.	Autopsy Number: 11354
Date and Time of Autopsy:	6/30/74 @ 9:30 A.M.	Prosector: Y. Satchidanand,

MICROSCOPIC DESCRIPTION

CARDIOVASCULAR SYSTEM
Section of the heart shows mild focal fibrosis.

RESPIRATORY SYSTEM
The lungs show thickening and edema of the pleura. There is infiltration by malignant lymphoma, composed of well-differentiated small lymphocytes. These cells are diffusely infiltrating the lung parenchyma. The adjacent lung shows thickening and fibrosis of the alveolar walls. The alveolar septae show large atypical cells. Several of the alveoli have asteroid bodies and ferunginous bodies. Elsewhere, the alveoli are filled with dense proteinaceous material. In addition, large areas of emphysema are noted. Considerable thickening of the smaller arterioles is seen. Large emphysematous areas are seen.
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RETICULO-ENDOTHELIAL SYSTEM
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A single small lymph node shows infiltration by poorly differentiated lymphocytic lymphosarcoma.
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ENDOCRINE SYSTEM
The pituitary gland is unremarkable. The thyroid gland is composed of small and large follicles filled with colloid. The parathyroid gland is unremarkable.
The adrenal glands have well preserved cortex and medulla.

URINARY SYSTEM
Section of the right kidney shows metastatic malignant lymphoma infiltrating the parenchyma. The glomeruli are fairly well preserved. The tubules show autolytic changes.

REPRODUCTIVE SYSTEM
The testicles have atrophis seminiferous tubules, and a few are hyalinized.
The section of the prostate gland shows extensive autolysis.

CENTRAL NERVOUS SYSTEM
Sections of the hippocampus and cerebellum are unremarkable.

M - 227A

ROSWELL PARK MEMORIAL INSTITUTE

AUTOPSY REPORT

Name:	RALPH J. BROWN	Chart Number: 131343
Date and Time of Death:	6/29/74 @ 5:30 P.M.	Autopsy Number A-11354
Date and Time of Autopsy:	6/30/74 @ 9:30 A.M.	Prosector: Y. Satchidanand, MD

BRAIN

The dura mater and the leptomeninges are smooth and unremarkable. The sagittal sinus and the cerebral arteries are patent. Serial coronal sections of the cerebrum show no evidence of softening, hemorrhage or any tumor. The ventricular system is patent and shows no dilatation. The cerebellum, pons and medulla are unremarkable. Representative sections are taken and the rest is saved.

JOHN W. PICKREN, M.D.
CHIEF OF PATHOLOGY

PER: Y. Satchidanand, M.D.

YS/ct
7/18/74

State University of New York
Health Science Center at Syracuse

UniversityHospital
DEPARTMENT OF PATHOLOGY

10:52

F.R. DAVEY, MD, CHAIRMAN
AUTOPSY REPORT

NAME: FORSYTH,CHARLES
UH#: 000199311

AUTOPSY NO.: A97-015
PATIENT NO.: AAP-3160

ATTENDING PHYSICIAN: WIDELL,JARED M
SERVICE: ER CARDIOLOGY

PROSECTOR: CHRISTINE FULLER, M.D.
WITNESS: JOHN FALITICO

DATE & TIME OF DEATH: 04/23/97 0857
DATE & TIME OF AUTOPSY: 04/24/97 0845
DATE OF REPORT: 05/26/97

FINAL AUTOPSY DIAGNOSIS

1. Acute myocardial infarction.

2. Chronic ischemic heart disease.

3. Early bronchopneumonia (left lower lobe).

4. Pneumoconiosis (Asbestosis and Talcosis).
   a. Pleural plaques.
   b. Diffuse interstitial fibrosis (Grade 2-3 for histologic grading of asbestosis).

CHRISTINE FULLER, M.D.

JERROLD L. ABRAHAM, M.D.

B14.00

DEPOSITION EXHIBIT
46 KELSE 1/19/10

NAME: FORSYTH, CHARLES AUTOPSY NO.: A97-015
UH#: 000199311 PATIENT NO.: AAP-3160

MICROSCOPIC DESCRIPTION

CARDIOVASCULAR SYSTEM:
Coronary arteries:
Extensive atherosclerosis with focal dystrophic calcification (up to 90% occlusion of LAD and 50-70% occlusion of LCA and right coronary arteries).

HEART:
Acute myocardial infarction (approximately 24 hours in age) with early myocyte coagulative necrosis (intense cytoplasmic eosinophilia and nuclear pyknosis) and sparse neutrophilic infiltration.
Scattered areas of fibrosis and accompanying myocyte dropout (indicative of chronic ischemia).
Numerous hypertrophic myocytes.

RESPIRATORY SYSTEM:
Multiple pleural plaques - focally HYALINIZED and calcified collections of dense fibrous tissue with associated sparse lymphoplasmacytic infiltrates.

LUNGS:
Diffuse interstitial fibrosis most prominant in peribronchiolar areas, with extension into respiratory bronchioles, alveolar ducts, and alveoli. Focal honeycombing is present. There is focal Type 2 pneumocyte hyperplasia, with several pneumocytes containing cytoplasmic hyalin accumulations. Many asbestos bodies are seen, particularly within the lower lobes, embedded within the fibrous septae and also free within alveolar spaces (counts on one slide were 10+). Abundant fine crystalline material which is weakly birefringent, is also present within the interstitium. Early patchy broncho-pneumonia is seen within the left lower lobe. Mild emphysematous changes are noted focally. An iron stain best delineates the abundant accumulation of ferruginous bodies. Interstitial accumulations of strongly birefringent platy crystals consistent with talc are also noted.

NOTE: the findings listed above would correlate with a Grade 2-3 for histologic grading of Asbestosis.
Sections of pulmonary artery reveal moderate atherosclerosis.

CHRISTINE FULLER, M.D. JERROLD L. ABRAHAM, M.D.

B14.00

04/25/97
10:52

DEPARTMENT OF PATHOLOGY
F.R. DAVEY, MD, CHAIRMAN

AUTOPSY REPORT

NAME: FORSYTH,CHARLES
UH#: 000199311

AUTOPSY NO.: A97-015
PATIENT NO.: AAP-3160

ATTENDING PHYSICIAN: WIDELL,JARED M
SERVICE: ER CARDIOLOGY

PROSECTOR: CHRISTINE FULLER, M.D.
WITNESS: JOHN FALITICO

DATE & TIME OF DEATH: 04/23/97 0857
DATE & TIME OF AUTOPSY: 04/24/97 0845
DATE OF REPORT: 05/13/97

GROSS DESCRIPTION:
The autopsy is performed approximately 24 hours after death. Permission is by the wife of the deceased. Authorization states heart and lungs only.

EXTERNAL APPEARANCE:
The subject is a 72 year old male. The body is well developed, well nourished and appears consistent with the stated age. The weight is 75 kilograms. The height is 5' 10". There is moderate rigor mortis, dependent lividity, and algor mortis. The skin is clear. There is a blue and black tattoo on the left forearm. The head is not deformed and there are no scars. The hair is sparse and gray and brown. The sclerae, cornea and lenses are clear. The nose and external ears are unremarkable and their passages are clear. The lips and gums show no lesions and the patient is edentulous. The neck structures are symmetrical, and there are no unusual masses. There is a puncture mark in the right supraclavicular area indicative of previous catheter placement. The thorax has the normal contour and symmetry, and the male breasts and nipples are unremarkable. There is a 19.0 cm curvilinear well-healed thin scar in the left thorax. The abdomen is slightly protuberant. There are no abnormal masses or fluid wave externally palpable. There are two 1.0 cm and 11.3 cm healed scars slightly left of the midline in the mid epigastric region, as well a 21.0 cm scar that extends from zyphoid process to the pubic ramus. The testes are descended and there are no abnormal masses. No inguinal masses are palpable. There is an approximately 1.0 cm dark brown rough raised lesion in the left lower quadrant. Ecchymoses are present in both antecubital fossa as well as on the dorsum of the right hand. There is also a small puncture mark in the right inguinal area consistent with a prior catheter placement. Extremities otherwise show no scars or deformities and there is minimal edema and moderate cyanosis in the lower extremities.

INTERNAL EXAMINATION:
The standard thoracic incisions are employed. The panniculus adiposus measures 1.5 cm in thickness at the thorax. The skeletal muscles are red-brown, normally firm and of normal bulk. The rib cage is intact. There is no subcutaneous emphysema or sign of pneumothorax. The left pleural cavity contains approximately 25 cc of cloudy yellow fluid. The right pleural cavity contains approximately 75 cc of cloudy yellow fluid. The pericardial cavity contains 25 cc of clear yellow fluid. The serosal surfaces are focally dull and gray with extensive adhesions present on both pericardial and pleural surfaces bilaterally.

CARDIOVASCULAR SYSTEM:
The heart weighs 650 grams. The ventricular wall thickness are right 0.4 cm., left 1.3 cm. The muscular wall is minimally hypertrophic. The cardiac chambers are dilated, particularly the left ventricle. The auricles and appendages are unremarkable. The valve ring circumferences are: tricuspid and mitral approximately 12.0 cm and aortic and pulmonic 9.0 cm. The valve leaflets and chordae tendineae are overall delicate, pliable and free of lesion. There is a moderate amount of calcification of the aortic valve leaflets. The commissures are minimally fused. The epicardium and subepicardium are unremarkable. The coronary arteries arise in normal position. The vessel walls are thickened by focally eccentric calcified yellow plaques. The lumina are focally markedly compromised. (Approximately 90% occlusion of LAD and 50-60% stenosis of LCA and right coronary arteries). The myocardium is softened and shows red-brown mottling throughout the vast majority of the left ventricle including the anterior, lateral, posterior, and inferior walls. The endocardium is smooth, transparent and free of mural thrombi. The aortic and pulmonary arteries arise in normal anatomic relation. The ductus arteriosus is obliterated. The foramen ovale is closed. The aortic wall shows mild focal atheromatous plaquing with minimal laminar calcification. There is moderate loss of elasticity. The major branches of aorta are patent and show mild atherosclerosis.

RESPIRATORY SYSTEM:
The lung weights are: right 950 grams and left 650 grams. The lungs have the usual shape and lobar divisions. The pleura is focally roughened, particularly along the lateral edges and diaphragmatic surface with adhesion to the numerous calcified pleural plaques present on the diaphragmatic posterior and inferior walls, and pericardium. There is moderate dark pigmentation. The bronchial tract is intact and free of mass, dilatation or mucosal change. The bronchial lumina contain small amounts of frothy mucoid material. The pulmonary arteries are opened in situ and found free of major thrombi. No emboli are present in the peripheral branches. There is moderate atheromatous plaquing of pulmonary arteries. The pulmonary parenchyma is firm and consolidated throughout all lobes. There is a small focus of prominant induration in the left lower lobe which exudes somewhat purulent appearing fluid with pressure. The hilar lymph nodes are anthracotic and are free of nodular lesions.

04/25/97
10:52

DEPARTMENT OF PATHOLOGY
F.R. DAVEY, MD, CHAIRMAN

FORSYTH,CHARLES
000199311

A97-015
AAP-3160

CLINICAL SUMMARY:
The patient is a 72 year old male with a past medical history significant for a myocardial infarction at the age of 40, congestive heart failure, diabetes, hypertension, asthma, and severe lung disease with occupational exposure to talc, (31 years), as well as a 40 plus pack year smoking history. On 4/22/97 at approximately 3:00 pm he complained of dizziness and experience of dyspnea. For several weeks prior to this event he had been experiencing severe exertional dyspnea and orthopnea. He was found unresponsive and cyanotic by his son-in-law who initiated basic life support and called for paramedic assistance. When the ambulance arrived, the patient was found with agonal respirations and responsive only to noxious stimuli. He was diaphoretic and a heart monitor revealed wide ventricular tachycardia. A finger stick showed a glucose level of 292. He was brought to University Hospital emergency room where an ECG revealed wide complex tachycardia, right bundle branch block, and intermittent ventricular tachycardia. Examination revealed increased JVP, and bilateral pupils fixed and dilated. Antiarrhythmia drugs, including lidocaine, bretyllium, procainamide and magnesium (as well as IV dopamine) were begun. Echocardiogram showed severe left ventricular dysfunction, low ejection fraction (15%),and mitral and tricuspid regurgitation. Lab results included CK = 1099,CKMB = 17.5, CKMM = 4.6. He continued to be hemodynamically unstable with blood pressures falling to 40/32 and heart rate in the low 30's. Additional lab results on the morning of 4/23/97 showed troponin = 8.2 and CKMB = 28.5, and lactic acid = 12. The patient continued to deteriorate, and became unresponsive at 8:55 am on 4/23/97. DNR orders were in place, therefore no further resuscitation efforts were initiated. He was pronounced dead at 8:57 am by Dr. Nair.

STATE UNIVERSITY HOSPITAL

SYRACUSE, NEW YORK

DISCHARGE SUMMARY

PATIENT'S NAME	HOSPITAL NO.	ADMITTED	DISCHARGED
MERRITT, LESTER	416-138-6-029	7/23/82	7/26/82

LENGTH OF STAY 3 days

A. PROBLEMS ON ADMISSION

1. pulmonary asbestosis
2. Past history of gout

B. SIGNIFICANT PHYSICAL FINDINGS

1. bibasilar rales, diffuse rhonchi muscle use
2. serum uric acid 8.3 mg %

C. MANAGEMENT ANDINVESTIGATION OF PROBLEMS

49 year old white male with 23 yr history of talc packing who carries the diagnosis of pulmonary asbestosis first diagnosed 4/81 by open lung biopsy when he presented ~~and~~ in acute SOB and PND. Has had 1 SUH admission since then for worsening SOB and PND. Presently presents to SUH for 3 day history progressive worsening PND and SOB despite 18hr home O2. Additionally ~~complains~~ Complains of 3 days of cough productive of clear, thin white sputum. Hospital course remained uneventful. Patient ambulated in halls without SOB, denied PND and admitted to improvement in cough. WBC remained wnl with no left shift in diffential. Pt remained afebrile, CXR revealed no significant changes from previous films. FEV1 was 1.2L, FVC 1.6 (last FEV_1 6/9/82 was 1.3) Sputum cultures revealed normal flora, gram stain showed 1-4 polys/HPF but no organisms. Nuclear V gram 5/81 showed ejection fraction 35% and patient was placed on digoxin. Admission dig level of 1.5 (therapeutic). Serum pctassium remained therapeutic on his usual Lasix of 60 mg po qd. Serum uric acid increased to 8.3 mg %

D. STATUS AND DISPOSITION OF PROBLEMS AT DISCHARGE

See above.

E. CONDITION OF PATIENT AT DISCHARGE Improved

DISCHARGE DIAGNOSES

Pulmonary asbestosis

MEDICATIONS Digoxin 0.25 mg po qd, Lasix 60 mg po qd, FeSO4 1 tab po bid, Dalmane 30 mg po q hs, Allopurinol, 100 mg po tid

DIET As tolerated

TREATMENTS

LIMITATIONS As tolerated

FOLLOWUP Privately with Dr Auchincloss

ATTENDING Dr. Auchincloss

HOUSE OFFICER Dr. Bishop

AB/jr
D. 7/26/82
T. 7/29/82

DEPOSITION EXHIBIT
47 KELSE 11/9/10

MEDICAL RECORDS COPY

STATE UNIVERSITY HOSPITAL

SYRACUSE, NEW YORK

DISCHARGE SUMMARY

PATIENT'S NAME	HOSPITAL NO.	ADMITTED	DISCHARGED
MERRITT, LESTER	416-138-6-019	5/12/81	5/21/81

LENGTH OF STAY: 9 days

A. PROBLEMS ON ADMISSION

1. asbestosis

B. SIGNIFICANT PHYSICAL FINDINGS

1. rales to ½ way up lungs
2. guaiac ⊕ stools
3. ++ clubbing of nails

C. MANAGEMENT AND INVESTIGATION OF PROBLEMS

The patient is a 48 year old white male with a 23 yr history of packing talc in a factory. In Apiril 1980 a severe episode of PND lead to a hospitalization in Texas; subsequent open lung biopsy lead to a diagnosis of asbestosis. Left heart cath was normal. He now comes to SUH after being home 2 weeks; he c/o severe PND and DOE. He is comfortable at rest, however his resting PO2=50(or less) and his pCO2=50. He is to be sent home with home oxygen at 2 liters/min for 18 hours per day. follow up is with Dr. Auchincloss at chest clinic.

D. STATUS AND DISPOSITION OF PROBLEMS AT DISCHARGE

See above

E. CONDITION OF PATIENET AT DISCHARGE Improved

DISCHARGE DIAGNOSES

Abestosis, Congestive heart failure - mild

MEDICATIONS: Digoxin .25 mg po q am, Lasix 60 mg po q am, FeSO4 325 mg po bid, Allopurinol 100 mg po tid, Dalmane 30 mg po q hs prn

DIET Reg

TREATMENTS Home oxygen at 2 liters/min via nasal cannula for 18 hours per day

LIMITATIONS As tolerated

FOLLOW UP Schedule for chest clinic with Dr. Auchincloss in 1 month

ATTENDING Dr. Auchincloss J H Auchincl

HOUSE OFFICER Dr. Hittman M Hittman

ARLINGTON MEMORIAL HOSPITAL

Name: Merritt, Lester G.
Unit No:
Doctor: Richardson
Admitted:
Operation:
Discharged:
Dictated: 4-17-81
Transcribed: 4-17-81 mb

HPI: This is the 1st AMH admission for this 47 y/o w/m who is visiting his daughter from New York and shortly after arriving he developed acute shortness of breath with PND and orthopnea. Several nights before admission he had to sit up all night to breath. He came to the E.R. and found to be in pulmonary edema, very short of breath, tachycardia, was admitted to CCU and diuresed 1400 ccs. within several hours. He was symptomatically much improved, however, continued to have tachycardia and shortness of breath. It took several days for his x-rays to improve, clear some of his pulmonary edema and the pleural effusion he had. He has a history of being exposed to talc for many years and it was felt that most of his problem may very well be due to this problem. He was taken to special procedures and had a left and right heart catheterization done where the left heart catheterization data was normal without evidence of coronary artery disease, normal left ventricular function. The right heart cath. pressures: pulmonary pressures normal except low pulse pressurein the pulmonary artery and an elevated left ventricular end diastolic pressure. His O2 saturation in the aorta was 87% and pulmonary artery was 57%. Dr. Kuppinger was consulted and recommended a lung biopsy which was done by Dr. Verzosa. This revealed interstitial fibrosis with organizing fibrinous pleuritis and ferruginous bodies consistent with asbestosis. Since he has been exposed to talc for many years this is consistent with that diagnosis. His hospital course has been prolonged due to his very slow response. Most of his time he could just walk a few feet, from the bed to the bathroom, and become very markedly short of breath and fatigued. The last several days he has been able to walk the halls at a slow pace and remain relatively comfortable. It has become apparent that during the 2 surgical procedures and the numerous amount of blood tests drawn he has become anemic with his latest hgb. being around 10.5, crit 32. The latest creatinine was 3-25-81 and was 1.9. Uric acid has been elevated up to 15. His liver function tests have been elevated including SGOT in the 700's, alkaline phos. 141 slightly elevated, and LDH in the 100 range. This is due to passive congestion of the liver. Acid fast organisms were not detected by smears on numerous occasions. Pulmonary functions revealed FEV 1.48 which is 42% of predicted, no response to bronchodilators. Total FEV is 1.84, 40% predicted. His DLCL was 28% of predicted. Severe restrictive ventilatory defect, no bronchodilator response. He is discharged today on Zyloprim 100 mg. daily x 1 week, 1 BID x 1 week, and then 1 TID, Lasix 40 mg. daily, Dalmane 30 mg. H.S. if needed, Feosol 1 BID with meals, and Tylox for pain 1 4-6 h. He is to see me around the 27th or 28th of April prior to going back to N.Y.

James A. Richardson, M.D.

cc: Dr. Kuppinger

DISCHARGE

ARLINGTON MEMORIAL HOSPITAL

Name: MERRITT, LESTER G. 2216-02
Unit No: 11169712
Doctor: KUPPINGER
Admitted: 3-24-81
Operation:
Discharged:
Dictated: 4-6-81
Transcribed: 4-8-81 vls

DATE OF CONSULTATION: 4-6-81.

ATTENDING PHYSICIAN: Dr. James Richardson.

REASON FOR CONSULTATION: Abnormal chest x-ray.

HISTORY: Mr. Merritt is a 46 year old white male ex-heavy smoker who was admitted for acute shortness of breath. Apparently he had recently traveled to Arlington from upstate New York to visit family, after two to three days here he became so severely short of breath, that he presented to the ER complaining of shortness of breath, orthopnea, PND, etc. His chest x-ray findings suggested an acute pulmonary edema and he was admitted to the Coronary Care Unit. In the CCU he was treated with IV Lasix, nasal oxygen and Nitrol plus Digoxin. On this regimen he gradually diuresed and has had progressively less dyspnea. Nevertheless, he is now at rest with his weight fairly stable and apparently in dry condition. He is dyspneic with mild exertion. He is quite dyspneic. He denies cough or sputum production, he has had no chest pain, fever, chills or night sweats. He is currently not being bothered by orthopnea or PND. He did have some peripheral edema when he came in but this has cleared now.

PMH: Is interesting in that he was a 2-2 1/2 per day smoker which he continued untal about 2 years ago. He has no known medical allergies prior to this admission. He has not been a medicine taker. He has no previous surgical history.

FH: Noncontributory.

OCCUPATIONAL HISTORY: Is significant in that he worked for some 23 years in talc mines in upstate New York, near Governuer New York. Seven years ago that operation closed down or was sold. He had a physical examination in Governuer by a local physician who checked him for talcosis and possible disabbility with chest x-ray and pulmonary function tests. According to the patient he was told that he had a little "dust" in the base of both lungs, but that he should have no problems in continuing to work and subsequently he then went to work for a drilling company. He is working with the drilling company and is said to be free of exposure to any dust, smoke, fumes, etc. He has noted for the past two years, modest shortness of breath, has had no clear episodes of decompensations until now.

Examination reveals a white male who appears older than his stated age. He is in no acute respiratory distress.

HEENT: Grossly intact.

NECK: Supple, trachea is midline. There is no adenopathy or thyromegaly. There is no use of excessory muscles of respiration, nor is there any jugular venous distention.

LUNGS: Demonstrate bilateral medium to fine crackles both bases. No egophony or bronchophony is noted. There are no rubs heard.

HEART: Shows the PMI in the midclavicular line near the 6th intercostal space there is a normal S1 and S2. No gallop, murmur or rub appreciated.

CONTINUED ON PAGE TWO.

Name: MERRITT, LESTER G. 2216-02
Unit No: 11169712
Doctor: KUPPINGER
Admitted:
Operation:
Discharged:
Dictated: 4-6-81
Transcribed: 4-8-81 vls

ARLINGTON MEMORIAL HOSPITAL

ABDOMEN: Soft and nontender, the bowel sounds are active. There is no organomegaly, no masses noted.

RECTAL AND GENITALIA: Deferred.

EXTREMITIES: Show significant clubbing and nailbed cyanosis. There is no edema noted.

His chest x-rays on admission show large heart and bilateral alveolar infiltrates, vascular redistribution. The sequence of films then demonstrates progressively smaller heart size and clearing of the large part of the alveolar infiltrates but a harder reticular nodular infiltrate is seen throughout both lungs as residual, this is more pronounced in the bases than near the apices. There is an area of significant pleural thickening at the lateral chest wall. Dr. Richardson did left and right heart caths, I don't have all the data, but apparently arterial blood gases on room air showed an oxygen saturation of 87% while mixed venous gases showed an O2 saturation of 57%. Calculation of the shunt fraction revealed 25% venous and mixture. H's injection fraction done while the patient was on oxygen was 74%. I understand that his PA wedge pressure was 3, his left ventricular endiastolic pressure was 6. Cardiac output by Fick and by thermal dilution did not agree and at this point in time I am not sure which of the two determinations to rely on. The CO by Fick was 2.0 liters and the CO by thermal dilution was 3.9 liters per minute. Neither of these is particularly elevated. Both of these are low. We have one sedimentation rate taken near the time of admission which was elevated at 44, no ANA's, RA titers etc.

IMPRESSION: Widespread interstitial pulmonary fibrosis, uncertain etiology. There is associated left pleural thickening and chronic respiratory insufficiency. Rule talcosis, rule out other forms of pulmonary fibrosis, especially inhalational diseases, rule out pleural mesothelioma.

Pulmonary edema, now resolved. Probably secondary to myocardial decompensation, due to hypoxemia.

RECOMMENDATIONS: See orders.
The patient probably needs an open pleural and lung biopsy.

Will discuss with Dr. Richardson and the patient himself.

ADDENDUM: The patient's pulmonary function test demonstrated severe restrictive ventilatory defect. There was no bronchodilatory response. His diffusing capacity was 7.05 which was 28% of predicted.

M. Kuppinger, M.D.

CC: Dr. James A. Richardson
CONSULTATION

STATE UNIVERSITY of NEW YORK

College of Medicine
Department of Medicine
(315) 473-4480

Upstate Medical Center
750 E. Adams Street
Syracuse, New York 13210

February 11, 1982

Thaddeus B. Oot
Oot & Fallon
501 East Washington Street
Syracuse, NY 13202

Dear Mr. Oot:

I received via Lester Merritt today a request for an updated report to the Workmen's Compensation Board. The question was raised as to whether talcosis results in permanent and total disability in this patient and whether his pulmonary condition aggravates his heart condition. The answer to both of these questions is "yes". The patient's forced expiratory volume in the first second was 1.35 liters today, and this is a very much reduced value. The patient inhales oxygen a great portion of the time. I did not measure the oxygen saturation today because it has been measured in the past and found to be much reduced. Also, it is necessary to remove the patient from oxygen for several minutes in order to have the oxygen saturation a valid reading. Such removal from oxygen can cause discomfort. The patient has an increased heart rate of 100 beats/minute, and I found the blood pressure difficult to hear today. It was 80/60 and has been 100/60 in the past. Thus, the patient has pulmonary and cardiac disability, and this is no surprise because the patient was in this condition in the hospital. In answer to the question as to whether the pulmonary condition aggravates the cardiac condition, I can say that the cardiac condition probably would not exist without the pulmonary condition. The patient has what is called "cor pulmonale", an ancient Latin term which is used to describe the presence of cardiac failure in patients with advanced pulmonary disease. From a medical point of view he has an obvious case of this condition because he has severe pulmonary disease accompanied by a deficit in oxygenation of the arterial blood. These are the only two features that one must have for a plausible diagnosis of cor pulmonale. The management of cor pulmonale has very little to do with treatment of the heart, in contrast to other forms of heart disease, and it is almost solely related to the avoidance of physical exertion and the use of oxygen in the home. Therefore, patients who have heart disease secondary to lung disease are particularly vulnerable to further attacks of severe failure, and the question of ability to work should not even be brought up.

I am glad to say that as a result of the oxygen therapy which I introduced and a very sedentary lifestyle and avoidance of work that Mr. Merritt is in surprisingly good condition. His survival to this point after the catastrophic illness of last spring is a matter of some surprise to me. Any return to work would create the conditions of last spring and would be unthinkable. I am glad that Dr. Aiello concurred with this opinion. Mr. Merritt's advanced state of illness represents the worst case of occupational lung disease that I have seen in more than 10 years, and I think that it shows that ideas that the problem of exposure to talc in Gouverneur, New York have been brought under control must be considered premature.

Yours sincerely,

Howland Auchincloss

J. Howland Auchincloss, Jr., M.D.
Chief, Pulmonary Disease Section

JHA/ms

State University of New York
Health Science Center
Syracuse

College of Medicine

Department of Pathology
(315) 464-4750
FAX (315) 464-7130

JAN - 4

January 2, 1989

Paul Malek, M.D.
Pathology Department
Mercy Hospital
218 Stone Street
Watertown, New York 13601

Re: Murray Baker, Autopsy #A-89-G-3
JA89-196

Dear Paul:

Thank you for preparing and sending the lung tissue samples for my review and use in teaching. These specimens have already been quite educational to the pathology staff, residents and medical students, and have been a welcome addition to my research study of the talc miners.

My observation of the lung samples revealed markedly fibrotic, focally honeycombed lungs with extensive epithelial metaplasia. There is marked evidence of talcosis and asbestosis. Pleural plaques were described by you in the autopsy report. The mass in the posterior, superior portion of the right lower lobe microscopically is a poorly differentiated adenocarcinoma with focal intracytoplasmic positivity for mucin. Your autopsy report described metastatic disease to lymph nodes, liver and adrenal glands bilaterally. I did not receive any sections to document the metastatic disease and would appreciate a recut slide of these to complete my records on the case if possible.

The lung tissue fiber analysis revealed markedly elevated concentrations of asbestos fibers of the type associated with the talc mine. These are mostly anthophyllite with some tremolite and lesser amounts of chrysotile. In addition high concentrations of talc fibers were identified. No amosite or crocidolite asbestos fibers were identified.

Looking forward to hearing further from you. Best regards.

Sincerely,

DEPOSITION EXHIBIT
48 KEASE 1/19/10

Jerrold L. Abraham, M.D.
Associate Professor and
Director of Environmental and
Occupational Pathology

JLA/cd
Enclosure
cc: Victor Ciabotti, Esq.

68-08-73R

COMMUNITY - GENERAL HOSPITAL
OF GREATER SYRACUSE

BROAD ROAD • SYRACUSE, NEW YORK 13215

SURGICAL-TISSUE REPORT

NAME Palmer, Norman

NUMBER 584165

LAB NO. 6021

DATE 9/29/77

DOCTOR Ikins

AGE 45

ORGAN OR TISSUE INVOLVED Right lung biopsy

GROSS: The specimen consists of a mass of lung tissue received which measures 3.5 x 1 x 0.2 cm. The specimen bisected, both halves mounted.

FINAL DIAGNOSIS: Lung sections reveal focal fibrosis, some in relation to blood vessels and many alveolar spaces filled with histiocytes and ferruginous bodies consistent with asbestos fibers.

18283

DEPOSITION EXHIBIT
49 KELSE 1/19/10

SIGNATURE

JOHN T. PRIOR, M.D.
AGNES PALOCZ, M.D.

PHYSICIAN'S COPY

2510T

CONSULTATION BY APPOINTMENT

TELEPHONE 475-8409

TBO

WALTER F. BUGDEN, M. D.
PHILLIP M. IKINS, M. D.
WILLIAM A. BURKE, M. D., P. C.
THORACIC SURGERY
1200 EAST GENESEE STREET SYRACUSE, NEW YORK 13210

February 13, 1978

Mr. Thaddeus Oot
Attorney at Law
501 E. Washington Street
Syracuse, NY 13202

RECEIVED FEB 14 1978

Re: Mr. Norman Palmer

Dear Mr. Oot:

Norman Palmer is well known to you. He has had at least 27 years of exposure to talc dust, and has a lung biopsy which shows asbestos fibers.

This is certainly Workmen's Compensation compensable and he should be retired with the diagnosis of respiratory insufficiency, predicated upon work exposure.

Thank you,

Phillip M. Ikins, M.D.

PMI:f

NORMAN PALMER

MEDICAL HISTORY

He was 45 years old in 1977.

Flexible Bronchoscopy was done in 1977. It was reported by Dr. Eichens that this man has had 27 years of exposure to talc dust and had a lung biopsy which showed asbestos fibers. He should be retired with a diagnosis of respitory insufficiency predicated on exposure to asbestos.

DEPARTMENT OF PATHOLOGY
A. BARTON HEPBURN HOSPITAL
OGDENSBURG, NEW YORK 13669

A-26-80 Weir, Frederick - Age: - Dr. J. Carthy - November 3, 1980

Clifton-Fine Hospital, Star Lake, New York

MUSCULO-SKELETAL SYSTEM:

A tumor is present within the first part of the sacrum immediately below the pelvic brim. The tumor has destroyed the bone in the region so that as the finger is run downwards over the pelvic brim it enters an irregular cavity which is up to 2.5 cm. in diameter and which is filled with necrotic, diffluent tumor material. The posterior layers of the sacrum appear intact. The tumor appears to be infiltrating upwards into the disc between the sacrum and the 5th lumbar vertebrum. Further bones were not examined and the head was not opened in this case as the relatives of the deceased were within ear-shot.

AUTOPSY FINDINGS:

1. Bronchial carcinoma.
2. Metastatic tumor in lungs, subcutaneous lymph nodes, liver, pancreas, left kidney and sacrum.
3. Emphysema.
4. Possible bronchopneumonia, awaiting microscopic.

CAUSE OF DEATH:

Bronchial carcinoma.

MICROSCOPIC APPEARANCES

MYOCARDIUM:

The myocardium is well preserved and shows no areas of fibrosis or necrosis. Significant inflammatory cell infiltrate is not seen within the myocardium or the overlying pericardial layers. The endocardium is of normal thickness. No tumor is seen in this section.

BRONCHUS:

Sections taken from the bronchus serving the left upper lobe show carcinoma arising from that bronchus and spreading through the wall of the structure in the form of thick layers made up of sheets of closely packed cells. The tumor cells are small and display rounded or elongated, darkly staining nuclei which are enclosed in small amounts of pale eosinophilic or slightly foamy cytoplasm. Only moderate nuclear pleomorphism is evident and mitotic figures, although present, are not numerous. In a few areas the tumor cells are spindle-shaped. Here and there throughout the section are seen small numbers of areas of necrosis some infiltrated by lymphocytes and neutrophils. The tumor is similar to that described in a previous biopsy specimen (S-2079x80).

DEPOSITION EXHIBIT
50 KELSE
1/19/10

LU :

In the sections taken from the non-tumorous pulmonary lobes well-marked interstitial fibrosis is a feature in many places. In these regions the normal architecture is obliterated and replaced by thick anastomosing fibrous trabeculae which enclose large irregular cystic spaces. The latter are lined by layers of columnar or low columnar cells although in most instances the lining layers are now lost. The fibrous layers are infiltrated at many points by collections of lymphocytes and also display deposits of brownish pigment and numbers of clusters of asbestos bodies. In one sectinn where the honeycomb pattern is pronounced the irregular branching, dilated air spaces are lined by ciliated columnar epithelial cells. This sometime called adenomatous proliferation of bronchioles is fairly widespread in the sections. Asbestos bodies are noted within a few alveoli and a few of the terminal bronchioles. The lung tissues are congested. In a few alveoli clusters of pigment laden macrophages are noted. Acute inflammatory change is not a feature; granulomatous disease is not present. In one of the sections tiny collections of tumor cells are noted but, as stated, these sections are taken away from the main tumor mass,which is well-demonstrated in the bronchial sections. Special stains reveal much of the pigment within the lungs to be iron and, of course, the asbestos bodies react positively with the iron stain. Other preparations show the presence of strands of smooth muscle within the thick fibrous trabeculae in the honeycombed areas.

PANCREAS:

Sections confirm the presence of metastatic tumor within the pancreas and the tumor is similar to that described above. The island of normal pancreatic tissue seen shows autolytic changes but is otherwise well-preserved and shows no areas of necrosis or inflammation.

LIVER:

Likewise metastatic tumor within the liver is confirmed. The surrounding liver tissues are congested and edematous in appearance. The liver cells are well preserved and show no fatty or other degenerative changes.

KIDNEYS:

Section from the left kidney shows the presence of metastatic tumor. The enclosing kidney tissues are congested. Glomerular disease is not in evidence and the cells lining the convoluted and collecting tubules, although autolyzed, show no other degenerative features. There is partial fibrosis of the kidney tissues immediately adjacent to the tumor deposits.

PLEURAE:

A pleural plaque is demonstrated in a section taken from the thoracic wall. The plaque is made up of partially hyalinized, laminated, dense fibrous connective tissue of low cellularity. The fibrofatty tissues adjacent to the plaque and also the skeletal muscle layers show a patchy infiltration by lymphocytes and plasma cells.

DEPARTMENT OF PATHOLOGY
A. BARTON HEPBURN HOSPITAL
OGDENSBURG, NEW YORK 13669

A-26-80 Weir, Frederick - Age: - Dr. J. Carthy - November 3, 1980

AUTOPSY FINDINGS:

1. Small cell, poorly differentiated carcinoma of lung.
2. Metastatic tumor in lungs, subcutaneous lymph nodes, liver, pancreas, left kidney and sacrum.
3. Chronic interstitial fibrosis of lungs with honeycombing. (Fibrosing alveolitis).
4. Asbestosis.
5. Pleural plaques.

CAUSE OF DEATH:

Carcinoma of lung. (Bronchial carcinoma).

Hugh F. Frame, M.D., Pathologist

RECEIVED
OCT 26 1981
GUARDIAN CLAIMS SERVICE

ac

cc St Joe Resources
10-26-81

cc Spec Funds
3-4-82

cc WCB
3-4-82

A-94-5F McGuinness Thomas Eugene Age: 74 September 2, 1994

PREAMBLE:

Autopsy is performed by me, Hugh F. Frame, M.D., in the preparation room of the French Funeral Home in Gouverneur, New York at 9:30 A.M. on September 2, 1994. The autopsy is authorized by Dorothy C. McGuinness, the wife of the deceased and this authorization limits the examination to the lung or chest area only. I am assisted at the autopsy by two assistants of Mr. French who identify the body to me as that of Mr.Thomas McGuinness.

EXTERNAL APPEARANCES:

The body is that of an elderly white male who appears well developed and well nourished. No evidence of great loss of weight is seen. Numbers of ecchymoses are seen within both antecubital fossae and within the skin of both forearms some in conjunction with needle puncture marks. The body has been embalmed via the right carotid vessels.

INTERNAL APPEARANCES:

Widespread, dense adhesions are present between the pleural layers throughout the left thoracic cavity. The visceral and parietal pleural layers on this side are firmly adherent throughout with obliteration of the pleural cavity. No pockets of fluid or pus are found between the layers. The adhesions are so dense that sharp dissection is required in many places for removal of the left lung from the cavity. In many places, therefore, where sharp dissection is required, thin layers of lung tissue or visceral pleura are left firmly adherent to the chest wall and dome of the diaphragm so that it is not possible to inspect the inner layer of the thoracic wall for pleural plaques. In areas where the two pleural layers can be separated the pleurae are seen to be thickened and opaque and white in appearance and are thickened up to 1 or 2 mm. in thickness.

Pleural adhesions are less widespread within the right thoracic cavity and occur only over the posterior aspect of the right upper lobe and throughout the apex of the right upper lobe. In these regions the adhesions are dense and difficult to separate but they are separated without sharp dissection. At other levels the pleurae on this side are smooth and glistening. No acute pleural reaction is seen in the right thoracic cavity.

The trachea and bronchi are of normal dimensions and are lined by smooth, glistening mucosae. No tumors can be demonstrated arising from these structures or from the primary bronchi and bronchi within the hila of the lungs. Both lungs are expanded and no areas of collapse of lung tissue can be seen. Both lungs show diffuse emphysematous changes in that throughout the lung tissues are seen numerous tiny dilated air sacs which measure between 1 and 3 mm. in diameter. No large emphysematous bullae are found. No fibrosis of the lungs is apparent either in the form of fibrous nodules or longer fibrous bands and no old granulomata or calcified nodules are demonstrated within the lung tissues. No tumors are discovered. Within the apex of the

left lower lobe, however, an irregular nodule of solidification of the lung tissues is found. This irregular nodule measures up to 2.8 cm. in greatest dimension and is firm or hard to palpation. In the solidified area the lung tissues are gray or black in appearance and a central area of cavitation is seen on sectioning the nodule. The irregular cavity measures up to 1.5 cm. in diameter and contains a small quantity of gray or black fluid. No other such lesions are found within the lungs and no areas of bronchopneumonic consolidation are palpable. The lung tissues are grayish red in color and show a moderate anthracotic mottling in most areas. Pulmonary congestion and pulmonary edema are not noticeable but this is an embalmed body.

A prominent feature in the examination of the lungs and bronchi is the presence of numbers of enlarged calcified lymph nodes within the tracheo-bronchial groups. The largest of these nodes measures 3 x 2 x 1.5 cm. in diameter and the smallest which are seen enclosed within the hila of the lungs on both sides measure up to 8 mm. in diameter. Most of these enlarged lymph nodes are completely calcified and hard or rock-like to palpation. The larger nodes will not yield to sectioning by any instrument. Numbers of the smaller lymph nodes can be sectioned and show partial or complete replacement by crumbly yellowish calcified material. No caseation or suppuration is discovered within the nodes which can be sectioned and no tumor is apparent.

The heart is not examined in detail. The pericardial sac contains approximately 15 ml. of clear, pale yellow fluid and the pericardial layers appear free from disease. Myocardial hypertrophy is not prominent within either ventricle.

MICROSCOPIC APPEARANCES

Both lungs show diffuse, vesicular emphysematous changes. At some levels little fibrosis can be seen but, at other points irregular islands of scarring or fibrosis can be seen. The dilated air sacs vary in size and some, particularly in association with the fibrosed areas, are quite large with attenuated walls. In some instances the walls of the distended alveoli have ruptured. The solid nodule found within the apex of the left lower lobe is made up of dense fibrous connective tissue which alternates with islands and layers of closely packed macrophages. The fibrous tissue seems to vary in age from place to place and, at some points, the fibrous tissue stains brightly eosinophilic and is relatively acellular. The closely packed macrophages are dusted with grayish or pale brown pigment which, under polarized light, is seen to be doubly refractile and made up of tiny spots or small needle-shaped bodies. The fibrous nodule also shows irregular foci of black or gray pigment which is not doubly refractile. Rare small collections of lymphocytes are scattered throughout the fibrous nodule. The smaller fibrous scars seen elsewhere in the lung sections show similar collections of macrophages containing doubly refractile material and small deposits of blackish pigment. No areas of caseation are seen in the fibrosed areas and multinucleated giant cells are not prominent. No tumor is made out in these lung sections. So-called ferruginous or asbestos bodies are easily found within the lung sections and can be seen singly or in clusters within alveoli in many places and also within the interstitial framework of the lungs at some points. The visceral pleural layers, where seen, show well marked fibrous thickening.

Sections are taken from lymph nodes and also the large calcified lymph nodes are sectioned and decalcified. The nodes show replacement or partial

replacement by rounded masses of acellular eosinophilic material throughout which, in some sections, can be seen numbers of multinucleated giant cells. Pigmentation of these nodes is not prominent and no doubly refractile material can be demonstrated within the nodes. Within the large, calcified nodes the nodes are completely replaced by acellular eosinophilic material which has a whorled appearance at some levels and which resembles old, partially calcified caseation. No active granulomata are demonstrated within the sections. The fibrous nodule within the apex of left lower lobe does not appear to be granulomatous in origin.

AUTOPSY FINDINGS:

1. Pleural adhesions, marked, left thoracic cavity.
2. Diffuse pleural fibrosis, mainly left thoracic cavity.
3. Emphysema with pulmonary fibrosis.
4. Mixed dust fibrosis with asbestosis.

Hugh F. Frame, M.D.,
Pathologist

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Health Science Center
Syracuse

Department of Pathology
(315) 473-4750

November 2, 1989

Victor J. Ciabotti
Setright and Ciabotti
313 Montgomery Street
Syracuse, NY 13202

RE: Papineau (JA88-205)
Bracy (JA88-221)
Gibson (JA89-012)

Dear Mr. Ciabotti:

I appreciate the opportunity to analyze the lung tissues from these three former talc miners. The results of the analyses are summarized in the enclosed abstract. Case 4 in the table refers to Papineau, Case 5 refers to Bracy and Case 6 refers to Gibson. All three of these patients showed marked asbestosis plus talcosis. All three had calcified parietal pleural plaques. And, in addition, Gibson had silicosis.

If you need more detailed data or explanations, please let me know.

Sincerely,

Jerrold L. Abraham, M.D.
Associate Professor and
Director of Environmental and
Occupational Pathology

PS If you have any of the occupational history regarding Papineau, I would appreciate it since my file is limited except for the pathology.

JLA/ja
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DEPOSITION EXHIBIT
52 KELSE
1/19/10

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