Laurentian Room  
Best Western University  
95 East Main Street  
Canton, New York  

Wednesday,  
May 29, 2002  

The parties met, pursuant to the notice,  
at 9:06 a.m.  

PARTICIPANTS  

From MSHA:  

Jim R. Petrie, Moderator  
Sharon Ainsworth  
Al Ducharme  
Debra Janes  

Speakers:  
Mary E. Hall  
John Kelse  
Dana Putman  
Peter Rocca  
Jody Tosti
MR. PETRIE: Good morning, my name is Jim Petrie. I'm the Northeast District Manager for the Mine Safety and Health Administration. I'll be the moderator for this public meeting. On behalf of Dave Lauriskie, the Assistant Secretary of Labor for Mine Safety and Health, I want to welcome all of you here today.

Also here with me are several other individuals from MSHA. We have Sharon Ainsworth to my right. She's with our technical support organization. Debra Janes, who is back at the table there. Debra is with our Standards office, and Al Durcharme on my left. Al is from our Solicitor's office.

This is the fourth of seven public meetings. The previous meetings were held in Pittsburgh, Pennsylvania; Spokane, Washington; and Vacuville, California. The remaining meetings will be held on June 5th in Phoenix, Arizona; June 12th in Virginia, Minnesota; and June 20th in Charlottesville, Virginia.

The initial announcement of these public meetings was contained in the Advance Notice of Proposed Rulemaking published on March 29, 2002 in the Federal Register. I believe we have a copy of that back at the table where Debra
is sitting.

A subsequent Federal Register notice published on April 18th announced that the date of the Charlottesville, Virginia was changed to June 20th, and a public meeting will be held in Phoenix, Arizona on June 5th. That subsequent Federal Register notice is also on the table back there.

The purpose of these meetings is to obtain information from the public that will help evaluate the following five issues: whether to lower MSHA's asbestos permissible exposure limit; whether we should replace our existing fiber analysis method referred to as Phase Contrast Microscopy with a more sensitive method, which Transmission Electron Microscopy; whether we should implement safeguards to limit take-home exposure; whether our field sampling methods are adequate; and how our samplings results are being used. And lastly, what is the likely benefit and cost impact of any rulemaking action we would take on these issues.

These five issues were discussed in the March 29th Federal Register document. The scope of these issues we are addressing with this advance notice of public rulemaking and it's limited. Therefore, this public meeting will be limited to hearing public input on the five issues that I must mention.

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In the Advanced Notice of Public Rulemaking we asked several questions relating to each of these five issues. We are particularly interested in responses and information related to these questions.

Now I'd like to give you some background, which has lead us to be here today. MSHA's current asbestos standard for coal mining, and for metal, and non-metal mining is two fibers per cubic centimeters of air. These standards date from the mid-1970s. In 1980 we requested that the National Institute for Occupational Safety and Health or NIOSH, investigate health problems at vermiculite operations around the country because our sampling data at that time showed higher than average asbestos exposure among the miners there.

The results of the NIOSH study were published in 1986 and verified that our sampling results indicated high occupational exposure prior to 1974 at a vermiculite operation in Libby, Montana. The highest exposures were in the mill. The MSHA report showed that in 1974 the mine began to use a wet process to concentrate vermiculite in the mill and occupational exposures dropped markedly.

The asbestos-exposed miners employed at the vermiculite mine in Libby, however, inadvertently carried the asbestos fibers home on their clothes, and in their
personal vehicles. Thereby, continuing to expose themselves and family members.

At that time, we had encouraged the operator to change from dry to wet processing of the material, and also, to reduce take-home contamination by installing showers and requiring the miners to change clothing before leaving the site.

In November 1999 a Seattle newspaper published a series of articles about the unusual high incidents of asbestos-related illness and fatalities among individuals who had lived in Libby, Montana. Because MSHA had jurisdiction over the mine, the Department of Labor's Office of the Inspector General began evaluation of MSHA's role at the Libby mine.

The findings and recommendations of the Office of the Inspector General were published in March 2001. Three of their recommendations would require additional rulemaking by MSHA, and those issues are the subject of the public meeting today.

The Office of the Inspector General recommendations were that MSHA lower the existing permissible exposure limit to a more protective level. That MSHA use a more sensitive analytical method, Transmission Electron Microscopy to quantify and identify fibers in our...
samples rather than Phase Contrast Microscopy method
currently use, and that MSHA address take-home contamination
from asbestos.

Recently, MSHA adopted new asbestos sampling
techniques, and we have increased the scope of sampling for
air-borne asbestos fibers at mines in an attempt to better
determine miners exposure levels to asbestos. Our efforts
have included taking samples at all existing vermiculite,
taconite, talc and other mines to determine whether asbestos
is present and at what levels.

Since the Spring of 2000, we have taken almost 900
samples at more than 40 operations employing more that 4000
miners. Our preliminary review and analysis of these
samples show there are very few exposures occurred during
the sampling period, which were above the OSHA eight-hour
time weight average of .1 fiber per cubic centimeter of air.

The sampling results are now available to the
public on our website at http/www.MSHA.gov. Also, the
sample results will be made part of the rulemaking record if
we move forward on this.

The issues surrounding asbestos exposure are
important to MSHA, and we will use the information provided
to us at these public meetings to help us decide how best to
proceed to address these five issues. So we want to hear
your views. These meetings will give mine operators, miners
and their representatives and other interested parties an
opportunity to present their views on these five issues that
are considering for potential rulemaking action.

The format of this public meeting will be as
follows -- formal rules of evidence will apply and this
meeting will be conducted in an informal manner. Those of
you who have notified MSHA in advance of your intent to
speak, or have signed up to speak today will make your
presentations first.

After all scheduled speakers have finished, others
can request to speak. When the last speaker is finished, we
will conclude this public meeting. If you wish to present
any written statements or information today, please clearly
identify your material. When you give it to me, I will
identify the material by the title as submitted.

You may also submit comments following the
meeting. Please submit them to MSHA by June 27, 2002, which
is the close of the comment period. Comments may be
submitted to MSHA by electronic mail, fax or regular mail.
Please note that MSHA headquarters office in Arlington,
Virginia will be moving on June 10th, and therefore, we will
have a new address, telephone and fax information. We will
provide this information for those of you who might want it
in the back of the room.

A verbatim transcript of this public meeting will be made available upon request to the public. If you want a personal copy of the meeting transcript, please make arrangements with the court reporter, or you may view it on MSHA's website. We will put it on our website as well. It will be posted there within five days after this public meeting. The procedures will also be the same for other public meetings we will be conducting.

We will begin with persons who have registered or have requested to speak. And to ensure that we obtain an accurate record when you speak, please begin by clearly stating your name and organization for the record.

Our first speaker today is -- okay, are there any other speakers, he had requested to go later. Ms. Mary Hall, would you like to speak? Would you step forward, please.

MS. HALL: My name is Mary E. Hall, 25 Main Street, Philadelphia, New York. I'm the wife of the deceased Lynn D. Hall. He was an employee of the W.H. Loomis Talc Company, Philadelphia, New York. Also, the St. Joe's Lead Mines.

From 1941 to 1953, he was employed -- I believe those were the dates -- at the W.H. Loomis Talc Company.
Somewhere around that time, he also worked in the St. Joe's Lead Mines. At that time, he fell several feet one evening caused by dynamite fumes. At that time, he couldn't go back to work. They told him the best thing he could do was to get out in the country in the fresh air, and stay out there because he had exposures. They did tell him that. So he never went back.

He tried at that time to continue to work in an environment where there is lots of fresh air, but gradually we moved into the village. And at that time we moved because his health was getting bad, bad, bad. He was on a continued concentrator -- oxygen concentrator, plus if went anywhere, he had to take portables with him.

He enjoyed boating, and a lot of things, so we were able to take portables and do those things with him.

It was very hard for him to live at that time. It got terrible. He lost 90 some pounds. He was doctoring with doctors in Ogdensburg, Dr. Loinaz -- a group of them. and then, they turned it over to a lung specialist.

At that time, I guess, it was too late. from what the lung specialist told us. He wished he'd came a lot earlier. He might have been able to relieve him of a lot of his pain and distress he was going through. But I believe from the time -- we moved uptown in 1981, he was
progressively going downhill, downhill, downhill, due to this talc exposure.

He had to go to several hearing in Syracuse. Finally, they brought some mineralogists up from Kentucky and they witnessed his health records, and whatever was available at that time. And they gave a diagnosis that he was exposed to asbestos, and what he had I believe started with "M". I can't say the word.

MR. PETRIE: Mesothelioma?

MS. HALL: That's right. But he suffered terrible. He did go to hearings as long as could, then they brought them into Watertown where it was closer. He passed away in 1985. After that, I went to hearing, I think, in Syracuse and then they brought them into Watertown. I had to go to regular meetings there with an attorney who -- associations. And then finally I settled on some much semi-weekly to me, which was -- it's hard to survive off that, I'll tell you, because it was based back in the '50s on the wages they earned at that time.

We had some money saved. Every bit of it we had was used for his health. We had to pay those bills. He had no insurance. We'd had insurance, and they dropped him because of the bills came to so much that they wouldn't carrying him on it. So they took me off, too. Well, then
we started in our case in Syracuse because I was going in
the hospital so much.

So I had to go through a series of tests myself at
Syracuse because they thought I was exposed to talc, which I
do have a case, too, 75F. This is 75 -- mine is 75F. I
just recently in the last year started on some machines
where I have to get extra -- it's a machine and it has a
hose that I have to use it all the time -- quite often.
They tell me to use it 5 times a day that makes me breath
easier and it opens up my lungs.

But they did tell me down in Syracuse and also, in
Florida. I had to go to Florida. I lost a brother down
there this winter, and I had to go into the hospital two
days after I got down there. And they took one of the x-
rays of mine, and when she came out, she said, "Have you
ever been exposed to dust of any kind?" I said, "Yes, my
husband used to come home when he worked for Loomis with his
clothes just white. And his dinner pail. His car was
white. He was bringing that home every day to his children
and to me. We had two little ones at that time.

We didn't realize at that time what it was doing
to the family with the talc all over his clothes, and I had
to wash them. His car was continuously covered with talc.
We lived in an old house in Fowler, New York. We lived
there with those two children. He worked at the talc mine at that time, and then at the St. Joe's Lead Mines.

All I can say is he had a brother that lived away and he came home to see him one time. He couldn't believe it was his brother because he'd failed so. That talc is terrible. I tell all my family, if you have any children, don't use any talcum powder or anything that has talc in it. Keep away from the talc, even the sand has it now. There are so many places of exposure that people don't realize, but I have begun to realize a lot of it.

The death is terrible. That's all I can say. My husband died at 58. I had a son left at home, and he seen his father go through this. I wish he had been able to come with me today. It would have been a great help, but he wasn't able to because he has a business out of state.

All I can say is that I hope they do change the fiber or change whatever they need to on this talc because it is doing something to workers. It did. I don't know about right now, but I do know then that the exposure was terrible. They had no ventilation. They had no bathrooms at that time where they could change before they came home. That's why we all got so much exposure, I believe -- the families did.

I believe that's -- I probably could tell you a
lot more, but my memory right now -- I guess that will be it for today.

    MR. PETRIE: Thank you very much for your presentation. You have our deepest sympathy of the loss of your husband and your own personal illness.

    MS. HALL: I will just pray each and every day that something is done to help the workers of today so it doesn't happen to them.

    MR. PETRIE: I just have one question. Where is the location of the operation where your husband worked?

    MS. HALL: It's on Popple Hill, this side of Fowler.

    MR. PETRIE: It's here near Canton?

    MS. HALL: Huh?

    MR. PETRIE: It's here near Canton?


    MR. PETRIE: Okay.

    MS. HALL: The mill is still there. It's sits back from the road because they -- it used to be closer to the road, and when they put the new highway in, it sits back in a ways on a hill. That's where he got so much of his

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work done as a packerman. That's where he got exposed so much. They said he was the best packerman he had, and they showed him with --

MR. PETRIE: Thank you very much.
MS. HALL: Thank you.
MR. PETRIE: Next, Peter Rocca? Did I pronounce that correctly?

--

MR. ROCCA: I've been in the talc mining industry since I was 18 years old. I first worked when I was going to college in 1948 for St. Joe Lead at Edwards for a short time. And my first talc mining experience as an assistant engineer at the Loomis Talc Company, an underground mine -- several underground mines. One at the site of the current open pit in Fowler.

In 1954 I went to work for the International Talc Company as an assistant mining engineer and worked my way up through the years until -- when they closed, I was the general mine superintendent. The current open pit mine in Fowler was totally my invention, and the equipment that's there I set up myself and --

MR. PETRIE: Excuse me, if you could speak up a just a little louder. I'm not sure if the people in the audience here can hear you.
MR. ROCCA: My whole point of being here is to talk about asbestos as a specific term. I compare it to banning of certain bullets. Apparently, they kill you deader than others or something of the sort. But in that open pit mine -- I worked at the Fowler mine -- a talc mill which we sold in competition was asbestos.

At the open pit mine I have seen what we call petrified wood. Lens in the ore that long (indicating), and 3 or 4 feet long and 8 inches in diameter. We must have taken pieces of those in the Engineering office. We battered the end of them, and used them for brushes to clean off our drawings.

In the underground mine, which is part of the open pit there now. We found the same thing in the ore. We had to be very fussy about catching it because we didn't want the long fibers in the particular ore that we were operating. I worked -- did the geology work and I worked quite closely with our chemist in the lab, and one thing our 75 year old chemist always told me. He would show me under the microscope. He said, "No matter type of talc it is, no matter how granular it is, when you grind it down, and you look at it under the microscope it's fiber.

That's what the doctor tells me is wrong with lungs. I try to get as much exercise as I can, and my
breathing, actually, according to my doctor, is improved a little in the last year. But he said that's not your problem. Your problem is that your lungs are so scarred that there is no oxygen going into your lungs.

So what this lady described, and I'm looking forward to in a few years, my retirement is not what I thought it was going to be. I'm very limited in my activities, and I certainly don't look forward to a long, happy life. I'll be 74 years old this year. My father lived to be 94, and at 90 years old he was out working eight hours a day in his garden. And believe me, I couldn't do that now.

But the whole point I want to make is that as these hearings -- I don't know from reading the Register it's going to include more than just strictly asbestos and it certainly should. Whether it's under this law or another one, eventually something has to be done to protect people. The one term that everyone uses that more or less baffles me is "miners."

Actually, I did work in the mine and I did work around the mills, too -- engineering work, but the exposure was in the mills where the stuff is grown. The mines, since the 1930s, it required wet drilling, and the exposure is not that bad. The biggest exposure we had was not because
things were done properly, but when -- our crew was on a bonus system. And if they were going to blast chunks of ore that they were loading that were too big, and the black ore and they would drill a few pin holes.

They didn't want to bother to get a water hose and puff it up. If you caught them doing it, of course, you made them do it. But this was a normal procedure was that they just didn't bother with that water hose. So therefore, they -- you drill a hole over your head and that stuff coming down on you, and you look at a man and you can't tell who he is. His face is completely white, and the mills are the same way.

In my travels to the Mining Engineers Society we went up into Canada in Quebec at an asbestos mine up there. At the time it was the most modern thing that had ever been developed. The ground was wet -- the material was wet coming out of the mine. In the mill they had something like 3500 force-blower fans on top of the building. The building was under a complete vacuum. You had to go through vacuum locks in the building. Every work station was covered with a hood. As far as I was concerned, that was cleaner than my home ever was.

But I came back, and looked at the conditions our people were working under and it just totally flabbergasted
me the difference. To me, I couldn't see any difference
between talc and asbestos, and I still don't as far as the
problems with your lungs. I'm one of the few miners and
employees that are left alive at my age, most of them are
long gone.

When I left the mines, we had people who were in
their '40s, who had gone from the mine work to the mill a
couple of years. And the minute they quit working, New York
State told them you're not disabled enough, so you can't get
disability. You can't get compensation, but you're disabled
enough so you can't draw unemployment. So they sat for a
couple for a years with no income of any kind, and they just
sat.

If they went out, and mowed their lawn, someone
from the State insurance fund saw them, and turned them in
at a hearing and said this man was working. He's not
disabled. That's what they went through. I didn't want to
go through that, so I worked on my own. I didn't claim
disability until about 12 years ago. It took me nine years
before I got anything.

In the meantime, I worked on my own on odd jobs.
I did everything, worked construction, operated equipment --
whatever I was able to do. It had to be, naturally, not a
permanent job. It had to be temporary jobs because if you

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told anybody you worked for 20 years in the talc industry, you could say all you wanted -- that's wasn't what kept it there, but you couldn't get a job; and that's the way my life went on.

It's a sad thing to have to look at that right now and realize that we're still trying to combine this thing to strictly asbestos, rather than just that it's killing people. I really hope that something happens to change the limits and change the -- especially home-affiliated dust.

I have three grown children, They all have breathing problems, every one of them -- asthma. I came home from work with my coveralls where I worked in the mines with the dry talc on them, and washed them in the same washer that their clothes were washed in.

In my last years I had a company vehicle to drive as a personal vehicle. My children were in that. That vehicle -- the seats and everything were so saturated with talc dust that we drove with the windows opened most of the time, and it's another feature that's coming up now that needs to be -- I guess, it's going to be covered under this current program. I've taken up enough of your time. Thank you.

MR. PETRIE: Thank you, Mr. Rocca. I just have one quick question. You may have mentioned it. When were
you last employed at the talc operation?

MR. ROCCA: When the Vanderbilt Company took over the operation in 1974.

MR. PETRIE: 1974?

MR. ROCCA: In fact, when they announced that our properties had been sold, my general manager told me, you're one person that doesn't have to worry about a job because with your background here, and your knowledge of the talc and your knowledge about the open pit, you'll never have to worry about a job. They never interviewed me for a job. They didn't interview anybody.

MR. PETRIE: You had started in the industry in what year?

MR. ROCCA: I started in 1951.

MR. PETRIE: '51? Over that time period, did you note any kind of changes, and controls, or exposures, use of respiratory protection -- anything of that nature?

MR. ROCCA: They tried to. The analysts at International Talc -- especially, whoever handled the fibrous talc, they tried to use battery-operated breathing apparatus, and most of the employees' lungs were so bad that it restricted their breathing to the point where they couldn't use them. But I wasn't -- I wasn't, basically, associated with the mining.
In our open pit mine -- I don't know how they handle it now, but was strictly a dry drilling operation and considerable amount of dust from it -- crushing operation the same way.

MR. PETRIE: Does anybody else have any questions -- Allen, Sharon, Debra?

MR. PETRIE: Thank you, Mr. Rocca. All right, next we have John Kelse with R. T. Vanderbilt. We'll have to take just a moment to make sure this projector is set up. Why don't we go off the record momentarily while we do that, and we'll go back on in just a few minutes.

(A short recess was taken at 9:39 a.m.)

MR. PETRIE: We're going to reopen the meeting at this time. Mrs. Hall wanted to make one additional statement. We'll ask her up to the table here to do that, and then Mr. Kelse will make his presentation. Go ahead, Mrs Hall.

MS. HALL: I'm Mary Hall from Philadelphia, New York, wife of deceased Lynn D. Hall of the same residence at the time of death. I would like to add on to what I've already said that prior to meeting my husband, he had worked -- when he was about 15 years old, they had hired him a place called Talcville. I understand there was a talc mill
at that time at Talcville.

Back in I would say probably the late '30s, 1940, somewhere in there. This was stated on his settlement claim. It was St. Mark's Liquid Corporation they called it. That was the name of it. That talc mill is not being operated any more, but it was at that time. And I noticed, when I was going to hearing, that this appeared all the time -- St. Mark's Corporation, and I went to inquire where it was. They said it was in Talcville, New York.

I studied back and found out that during our court hearings that he had to have been about 15 years old when they hired him under age. So that was the beginning of his talc days. So I needed to add that, and I thank you very much.

MR. PETRIE: Thank you, Mrs. Hall. We've had one additional speaker sign up. We will go ahead and ask this individual to speak before Mr. Kelse. I'm not sure if I can read the writing here Dana Partman?

MR. PUTMAN: Putman.

MR. PETRIE: Putman, sorry.

MR. PUTMAN: The only thing I want to say is that I worked for International Talc from around 1970 to 1974, and I worked for Gouverneur Talc, and there's a vast difference in the air quality of inside the mill buildings.
between International Talc and Gouverneur Talc. There is just no comparison.

The dust was very visible all the time in the International Talc Company mills and the air is very, very much better -- it's excellent in the Gouverneur Talc Company mills. That's really all I wanted to say.

MR. PETRIE: Let me ask you just one or two questions here. When you worked at International Talc, were employees at that time using respirators?

MR. PUTMAN: Some of us did.

MR. PETRIE: How about currently?

MR. PUTMAN: We're required to now.

MR. PETRIE: Can you state your address for the record, too, please.

MR. PUTMAN: 4478 State Highway 58, Gouverneur 13642.

MS. JANES: It's Dana Putman?

MR. PUTMAN: Right.

MR. PETRIE: Thank you, Mr. Putman. Did anybody else have any questions for Mr. Putman?

--

MR. PETRIE: Well, with that, we'll go to the last speaker who has signed up. Mr. Kelse?

MR. KELSE: My name is John Kelse. I'm an
industrial hygienist, and I manage the Corporate Risk Management Department for the R.T. Vanderbilt Corporation in Norwalk, Connecticut.

Some of my duties are basically health safety and environmental product risk -- sort of the whole ball of wax. I've been with the R.T. Vanderbilt Corporation since 1985. And since the day I came in, it seems that a good deal of my time has been syphoned to talc issues and asbestos issues associated with our talc operation which is just a few miles down the road.

So given the location of this meeting today in Canton, New York, I more or less anticipated that the focus would be, as you would expect it would be in this area, on the mining -- common historical mining from this region; particularly, the talc operations. And for decades, those talc operations have been the subject of a number of federal inquiries and investigations, and an entire OSHA hearing 10 years ago. A lot of those issues are much bigger than the talc.

They have to do with definitions and fiber risk and what's important in terms of fiber toxicity, and much bigger issues than talc. But certainly, a lot can be learned from the talc experience in regards to those types of subjects. Some of those subjects are pertinent, I think,
to some of the analytical issues that MSHA is asking in this particular rulemaking.

Now the five questions that you've asked are excellent questions. I hope to comment on those in the weeks to come. The reduction of the PEL, which, incidentally, I'm in favor of; better control of take-home dust when you're actually dealing with asbestos. I'm certainly in favor of that.

The use of TEM, Transmission Electron Microscopy as an adjunct to light microscopy. I'm certainly in favor of that. However, I would encourage its use for qualitative purposes and not quantitative purposes. I will explain that in later comments probably through some trade associations. Probably a technique similar to the one OSHA uses, a sort of differential fiber counting, and use of various tools, depending upon the population of particles that you see.

In other words, we'd recommend using dimensions as kind of a screening mechanism similar to the way you use just 3 to 1 fiber counts. If you get more than 1, then you go ahead, and you have them analyzed for TEM now to go with the tube. But if you drop the PEL to .1 or .5 or something like that, you're not really going to be able to do that anymore.

I think that if you use better sizing criteria,
other than 3 to 1, and use populations --

MR. PETRIE: Excuse me one second. Can you speak up a little louder. We have some noise out in the hallway there. Some of the individuals are having difficulty hearing.

MR. KELSE: Okay.

MR. PETRIE: Thank you.

MR. KELSE: So at any rate, I will comment on those questions. But as you heard this morning, for decades, the ore from this mine has been accused of containing asbestos, and more importantly, as imposing an asbestos-like risk.

I really won't address the mineral issues, although I do have some slides. If you want, I can go through some of those, but I think it's pretty clear by now that the industrial grade talc that's mined at Vanderbilt isn't, in fact, an asbestos-containing material. I've left some supporting documents on that topic.

Because it's been suggested that the health experience of these talc miners reflects an asbestos-type risk, however, and because regulatory agencies have been periodically encouraged to regulate it has as asbestos, whether it contains asbestos or not, it's important to ask whether the health experience of these miners really is
reflective of an asbestos risk, mineralogy aside.

So to address that, I brought along some slides.

I'll pretty much stick to a prepared script so I don't stray. It's all to easy for me to do that. I can go off on tangents on this topic. I don't want to do that. I want to keep this to about 20 minutes and run through these slides.

First, what I'd like to go over, I'll go over the facility's pulmonary cancer experience. Remember, I'm talking about Vanderbilt talc here. I didn't work for Loomis. I didn't work for International. I don't know what their experience was. I'm talking about Vanderbilt. The only talc mining operation currently in this region. There are no others, just Vanderbilt. Then I'll briefly address the non-malignant respiratory disease experience.

(Slide presentation.)

MR. KELSE: This is a very busy table and very difficult to see. My other slides will be a lot easier to make out than this. But it's an extremely important slide because it reflects the most up-to-date breakdown of lung cancer deaths that we have among everybody that had ever worked at Vanderbilt talc.

MR. PETRIE: If you can excuse me for just one more second, let me see if we can turn these front lights off so we can better see them.
MR. KELSE: Sure. I don't know if I can focus
that. I'll try.

(A short recess was taken at 9:57 a.m.)

MR. PETRIE: We'll go back on the record.

MR. KELSE: Are we back on?

MR. PETRIE: Yes.

MR. KELSE: Again, I apologize for this slide.
It's extremely difficult to read, but it does reflect the
most up-to-date breakdown of lung cancer deaths that we
have. This covers anyone who had ever worked in the
Vanderbilt mine or mill for any length of time since its
opening in 1948 through 1989. That's a total of 118 over a
42 year period.

Now over the years, there has been no less than
six mortality studies of this relatively small group of
miners. So it pretty much places them among the most
studied miners in the world. The 31 cases listed here does
show an overall excess of lung cancer at approximately two
and a half times the expected rate.

This a moderate, but significant excess, and one
that is seen in all of the studies. If you look no closer
than this, you might conclude that the exposure to this
talc, whatever it contains, is likely responsible for these
lung cancer deaths. Just as excessive exposure is linked to
l lung cancer deaths, the belief that this talc poses an
asbestos-like risk originated from these studies.

However, to truly establish a causal association,
you need to look a little closer. And when you do, you'll
see some very interesting things. One of the first things
that jumps out at you is the much higher number of cases
among miners versus millers. That's important because, as
you've heard others mention here, dust exposure over the
years show overall dust levels to be about the same in the
mine and the mill with some historical reports showing
higher dust in the mill.

There are slightly more millers than miners, about
15 percent more, who ever worked at this mine. And the
average years worked for both groups is similar. So if the
cancers are linked to the dust exposure, we would expect to
see more cases among millers. But that's not what we see.

There is also a very high percentage of cases with
very minimal dust exposure time or tenure on the job. In
fact, 55 percent of all of the cases worked less than a
year. Forty-five percent worked less than six months. And
you'll see cases with one day, four days of exposure to the
talc in their entire working lives.

If the dust is so potent as to cause lung cancer
with such minimal exposure -- one day, four days, we would

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certainly expect to see those exposed longer to show even
higher lung cancer rates, but we don't. In studies of
asbestos workers, we do.

Also, smoking histories -- always important
whenever lung cancer is being studied, was obtained for a
case control study. The case control study ran to 1985. For
these lung cancer death, every case was a smoker. For
deaths after 1985, we don't have reliable smoking histories,
but I wouldn't be surprised if every one of those lung
cancer cases were smokers as well.

Just as importantly, the researchers found that 73
percent of the non-cancer cases, the controls used in the
study were also smokers. So in other words, we've got a lot
of smokers in this mining population.

This table gives you an idea of how prevalent
smoking has been among these miners compared with national
norms. Our smoking records are less reliable prior to 1980,
but I'm sure the rate was equally disproportionate -- about
twice the national average.

Some researchers feel smoking alone could not
account for all the excess. Others feel strongly that,
indeed, it could. That it is, in fact, the more plausible
explanation. But whether smoking, in whole or in part, is
the reason for the persistent cancer excess, the next
observation, I think, is very key.

The most recent mortality study included an
analysis that all prior studies did not. That was an
historical dust exposure assessment. This assessment showed
that the cumulative dust exposure from the lung cancer
deaths was 31 percent below the dust exposure for all
decedents. In other words, we see an inverse dust expose
response relationship that further confirms what was
suggested from the 10-year data, or time on the job
experience.

In asbestos exposed workers, those with increased
cumulative exposures do show increased lung cancer rates.
In other words, you do see an exposure response
relationship. You do not see that in Vanderbilt talc
workers.

I believe this is about as strong as epidemiology
gets short of a no-excess finding when it comes to
cause/effect determinations.

(Slide presentation.)

MR. KELSE: This is an interesting slide. Also,
one I need to apologize for. It's very hard to see this.
What this does is compares lung cancer in non-malignant
respiratory disease mortality among Vanderbilt talc workers,
and Vermont talc workers.
Now I know it's difficult to compare one epidemiology study with another, but the comparison here, I believe, is pretty reasonable. Both groups have similar number of people; similar exposure years; similar overall dust levels; silica exposure isn't an issue in either study. And when you look only at the talc workers in both groups with more than one year exposure, the overall lung cancer rate is no different. In regard to non-malignant respiratory disease, it's actually lower in New York.

I put this comparison up because some of the mineral components in New York talc, incorrectly characterized as asbestos by some, or just bad as asbestos by others, aren't present in Vermont. So it doesn't appear these controversial mineral components make much difference.

Incidentally, the moderate lung cancer excess in Vermont talc workers was not attributed to the dust by the researchers, which was NIOSH in this case. It turns out that there was also an inverse exposure response seen in Vermont. So factors other than the dust were cited as the likely cause of the lung cancers observed.

Well, beyond human mortality studies, it's always good to have animal study or two that supports or doesn't support the epidemiology. This table reflects the effects of a rat pleural implementation study by Moral Stanton of

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the National Cancer Institute. Dr. Stanton was testing the theory that morphology particle dimension was most key to fiber toxicity, if not the only consideration.

It turns out that among all the samples Stanton tested, I believe 72 in all, carefully measuring the particles in each samples, he tested an off-the-shelf sample of Vanderbilt talc as well as platy talc. As you see, the Vanderbilt samples produced no tumors. The Platy talc, just the background level of no experimental significance.

But note the middle column. The Vanderbilt sample contained some very long, thin fibers like the asbestos samples. Those fibers are not the elongated, affable cleavage fragments common in this talc. Those are too short and too fat. These fibers are talc fibers. They are relatively rare, but they are observable in Vanderbilt talc.

According to Stanton's hypothesis, this sample should have yielded at least a 60 percent tumor rate, but no tumors were produced. Some have reasoned that the Vanderbilt talc didn't produce a carcinogenic response because there are too few of these fibers in the talc.

In the past we responded to that with, well, maybe. But it is what it is. Still, it is an important question as it does speak to broader fiber risk issues and theories. So we did have a cell study conducted with a
concentrate of these fibers to be tested against an equal
amount of asbestos.

(Slide presentation.)

MR. KELSE: Another slide you can hardly read.
The results of that comparison study is reflected here. The
talc concentrate sample acted differently than the asbestos
sample on appropriate cell cultures, which happened to be
rodent tracheal epithelial and pleural mesothelial cells.
Again, suggesting that more dimension is likely involved in
fiber toxicity.

I might add that these fibers described as
academic curiosities are not easy to find in the air
samples. Also, although not pertinent to MSHA, this talc is
used in paints and ceramics primarily. The particulate in
this talc is bound in the matrix of these products. This
very, very little, if any, public exposure to this material,
unlike vermiculite or platy talc used in talcum powder.

These are the results of a second animal study by
William Smith of Fairleigh Dickinson University. Dr. Smith
also tested Vanderbilt talc against asbestos. He even took
a concentrate of the non-asbestos form, tremolite, prevalent
in the talc and tested that against tremolite asbestos, the
real thing.

The results were the same as Stanton, tumors for
asbestos, no tumors for Vanderbilt talc and no tumors for
the tremolite cleavage fragments. The mineral component in
this talc most often confused with asbestos.

Knowing that the situation in Libby, in part,
prompted the MSHA rulemaking, it should be noted that
Dr. Stanton tested the vermiculite mine in Libby. The Libby
samples produced tumors comparable to the asbestos samples,
while the Vanderbilt samples produced no tumors. That date
is not on this table, and unfortunately, was not published
by Smith. However, it is now public record that a sample of
the vermiculite was provided to Smith, and that he actually
got as many tumors with the vermiculite as he did with the
asbestos samples.

Before I switch gears and move to non-malignant
respiratory disease, I'm well aware that several cases of
mesothelioma are said by some to be linked to Vanderbilt
talc. I'm always at a loss as to what to say about that
because I'm not aware of any mesothelioma cases that have
been reasonably linked to this talc. I use the qualifying
term "reasonably linked" because we do know that such cases
have been reported.

Two were reported, in fact, in the mortality
studies. In the cases we are aware of, either the diagnosis
was questioned when further investigated, or the latency was
far too short to implicate Vanderbilt talc, or there is a work history of actual asbestos exposure.

When this issue was raised during the OSHA rulemaking in the early '90s, we found that most cases reported never worked at Vanderbilt talc. One case in the most recent mortality study, for example, involved a man who worked for two-weeks in 1948 as a surveyor at the Vanderbilt site with little, if any, talc exposure.

This man then went into the oil business and tore oil burners out of homes during the '50s and '60s. In another case only a 15 year latency elapsed from the first exposure to Vanderbilt talc and death. The latency period didn't fit. In a more recent case the second pathologist found the case unlikely to be mesothelioma after reviewing the tissue and disease process involved.

Before we could accept that such a risk is linked to this talc, we would want the diagnosis confirmed because it is not an easy diagnosis to make. We would also want to confirm that the cases are actually linked Vanderbilt talc, and we would want to know about other possible exposures. I don't think these expectations are unreasonable.

I should also point out that the animal studies, not the cell study we just discussed, are pleural injection and implantation studies. Animal studies of this sort are
typically viewed as having more to do with pleural tumor
induction or mesothelioma risk than they do with lung
cancer. In these studies Vanderbilt talc did not produce
pleural tumors while asbestos while under the same
conditions did.

While I don't think this is a factor here, I also
want to point out that many older mining facilities do
contain real asbestos. Our own talc facility, Vanderbilt,
which was built in the late 1940's is no exception. I found
asbestos-containing installation on boilers, steam lines and
dryers. I've seen asbestos-containing brake linings used on
shusher machines, asbestos-containing floor tiles. Even the
use of asbestos as a filtering aid in the mine laboratory.

Much of this has been removed, encapsulated or
otherwise replaced with non-asbestos material. But it is
important to understand the pervasiveness in older plants.
Something that has nothing to do with the ore itself.

This brings me to non-malignant respiratory
disease and the question, do we see a lot of dust-linked
lung disease suggesting that asbestos, or something just as
bad is present. As with the cancer experience, we actually
know a great deal about the pulmonary status of our miners.

Radiographs are routinely obtained and date back
to the opening of the mine in 1948. Over the years, they've
been reviewed by many pulmonary specialists. Pulmonary testing is also routinely conducted. A very experienced occupational dust disease pulmonary physician and a former director at NIOSH has reviewed the chest x-rays and pulmonary function tests of all our talc workers every two years for the last 18 years.

I think this statement by Dr. Palick, now at the University of North Carolina School of Medicine, pretty much cuts to the chase. Please note, if you can read this, that Dr. Palick does not feel he is dealing with an asbestos-like dust risk. Note that he finds very, very little in the way of pneumoconiosis among these talc workers, and very little progression when some evidence of dust involvement is observed.

In fact, at the end of 1999, note, he finds only one worker with evidence of pneumoconiosis. Our most recent surveillance effort, which we just completed, shows the same results. Remember, this assessment is from someone who has actually looked at these talc workers over an extended period of time. It reflects actual observation.

Frankly, I believe our pulmonary experience with dust is among the best in the mining industry, not the worst. Dust disease is certainly possible with over-exposure to Vanderbilt talc, just as it is with durable
mineral particulate of a respiral size of any dust. Certainly some dust like asbestos, or crystalline silica pose an elevated risk because less exposure is needed to result in harm.

It's important, however, not to improperly attribute one dust risk to another simply because some level of risk exist for both. When we do see evidence of interstitial scarring, parenchymal opacities consistent with pneumoconiosis, it has almost always been among miners who had, had previous exposure in other area talc mines now no longer operated. Smoking has almost always been involved as well. We do tend to hire miners with prior experience. It's a double-edged sword, unfortunately.

(Slide presentation.)

MR. KELSE: This slide underscores the important of dose or exposure level. You've heard some testimony this morning about coming home covered in white and your car is covered in white, and I don't doubt that for a second. When you compare the dust exposure associated only with the Vanderbilt mine to the dust exposures associated with other area talc mines, you can see why miners exposed to these much higher dust levels might well show dust-linked problems. Happily, such exposure no longer exists. And these are exposure levels that go back into the '50s and
'60s. It's not yesterday.
The Vanderbilt dust levels have to do with the use of wet drilling and a variety of mill dust controls not present in these other mines. Not so modern or innovative today, but certainly in the '50s and '60s, it was a radical improvement over mining practices at the time.

One x-ray finding that some people fail to differentiate, and wrongly link to asbestos exposure in this talc mine are pleural plaques. The fact that exposure to all talc, including cosmetic talc can result in pleural plaque and thickening is not understood by some physicians who link this only to asbestos.

Plaques are typically seen after 10 or 15 years of exposure in asbestos mines and well as in talc mines. We do see this in our talc workers as well in about 4 to 6 percent of our group. It's important to understand, although this is one condition all talc exposure share with asbestos. Pleural plaques are not pre-malignant lesions. Clinically, they are reported to have nothing to do with the evolution of mesothelioma or lung cancer. That's a different biologic process with different end points.

These pleural effects are merely a marker of exposure to talc, or asbestos, and likely other dust as well. As this table reflects the pleural abnormalities that
we do see in our talc workers are not associated with
pneumoconiosis or pulmonary restriction; although,
pronounced pleural thickening can affect pulmonary function.
We don't have any one with pleural thickening. We have seen
a couple of cases in the past, although it was relatively
rare. This underscores the distinction between this pleural
abnormality and actual impairment.

In regard to pulmonary function specifically, we
do see a thoroughly high prevalence of mild to moderate
obstructive pulmonary impairment with very little or no
radiographic evidence of an underlying dust involvement. I
think it's pretty clear here that our experience here is
most closely linked to the elevated smoking prevalence that
I mentioned earlier.

The amount of smoking that persists among these
miners does bother me. We do offer smoking cessation
assistance. We don't get many takers, unfortunately.

I'm very glad that our miners and millers are
among the most studied in the world. I'm glad we've
conducted the type of medical surveillance that we have, and
happy that so many mineral scientists, health researchers
and physicians support us and stand behind us.

There are a lot of lessons to be learned from this
seemingly endless saga. This, I believe, are among the most
important. Substances should always be called by their proper name and regulated on the basis of reasonably demonstrated risks. We need more clarity in our exposure descriptions, not less. To do less, I believe, actually compromises worker protection because it obscures our ability to accurately identify cause/effect associations and properly attribute current and future risks.

When the word "asbestos" is thrown about loosely, the very survival of a company, people's jobs can be put at risk when this emotionally charged word is used. It is important that it be used properly. Prudence to err on the side of safety is a good thing. Unbridled prudence, however, can produce witch hunts. Good science is critical if we wish to minimize bias and control the diversion of limited resources to lower-level risks.

I want to say that there is no question in my mind that over-exposure to Vanderbilt talc, International talc, Loomis talc, anybody's talc or just about any durable respirlar particulate can cause problems. We've seen it. There is no question.

The fact that this talc in this region is a very complex mineral blend. That it is understandable that people confuse it does not mean that you can attribute, make assumptions or do circular reason. Well, it contains
asbestos so, therefore, it's got to be an asbestos risk. Okay, it doesn't contain asbestos, but it seems like we have an asbestos risk so, therefore, it's as bad as. So you keep going in this circle that never ends. That's why every single time -- every time there's a federal -- the record is opened by any federal agency to discuss asbestos in any way, shape or form, it seems Vanderbilt is at the table. It seems like the door is open and right away, everyone rushes in to talk about definitions and changes, and maybe they should be considered. But I think you need to call substances what they are. If you have a fiber that works or acts just as bad as asbestos does, you need to put that on the PEL table and say "treat as asbestos," but you don't call it something it isn't. The fibrous actinilite is as bad as tremolite asbestos is, you should regulate fibrous actinilite as severely as you regulate asbestos because it's been demonstrated to be just as bad. But you don't get a whole category, or a group, or blob things together because I think that more than fiber dimension is involved. I think psycho-chemical properties have a link to this. Nobody knows what the actual mechanism of asbestos path in the genisicity is. A lot of asbestos workers who die of lung cancer
also happens to be smokers. So it's not surprising on our

table just about everybody was, if not everyone was, but
that's not unique. That's also seen among asbestos workers.

It could be that these fibers, because they act almost like
magnets, attracts some of the carcinogens and cigarette
smoke hold the particles, the particles go to the air
exchange region of the lung and then are broken down,
encapsulated, digested, produce active oxygen radicals,
produce cellular diversities that ultimately end in
aberrations that end in cancer.

Nobody is absolutely sure, but that's all the more
reason why every single exposure that you look at you need
to very carefully characterize that exposure. It doesn't
mean it's an excuse, or a reason not to regulate or control
it. But it's not an excuse to develop sweeping definitions
and drag all sorts of things in that there's evidence that
they don't act the same way.

That's the reason why I felt compelled to come to
this hearing so that it is clear what we know about the
experience of our miners and millers. I don't know what the
experience with Loomis Talc was. I don't know what the
experience at International Talc was. Are some of the areas
that we mined similar to those areas? Yes, they are.

Are some of the mines that were operating in the
'40s, '50s and '60s still operating? No, they're not. So you have to look at it today. Even if you believe that the dust caused excess lung cancer among the miners, the underground mine was closed in 1995. I don't know really what more to say about that.

I do have slides that do discuss the mineralogy that shows the difference between cleavage fragments and asbestos. It shows talc fibers, and things of that nature. I didn't plan on using those because it's really not pertinent to the five questions that MSHA asked. But if you have an interest in seeing those, and getting an idea of the distinction, you know, what's the difference between these minerals -- what do these terms mean?

I suspect you're to hear more of that probably from the crushed stone industry would be very adamant about not being inclusive of cleavage fragments, for example. You'll probably hear that in Virginia.

MR. PETRIE: It would be up to you whether you want to present those into the record.

MR. KELSE: I think I'll probably hold off because I suspect that, that's going to be a major presentation in Virginia. I think they'll probably be some mineralogists that are going to be prepared to sit there and talk about this 3 to 1, longer than 5 business and how you probably
need to look at things at a much higher aspect ratio, and
look for populations and stuff that -- particles that were
actually closer to the actual dimensions of real asbestos
and use that as a screening method before you go to sublight
work and spend a lot of money and time.

If you can't see dimensions like that under light
acrosophy, you probably don't have an asbestos environment.
So if you did see that type of population, then you'd want
to take it to the next step, and you'd want to get it
analyzed thoroughly with -- would sublight work.

That's it. To the best of our knowledge, that is
the health experience of Vanderbilt talc miners, past and
present.

MR. PETRIE: The slides that you have shown this
morning, will you be able to provide us with copies of those
for the record.

MR. KELSE: Yes, they're in the folder.

MR. PETRIE: They're in here? Mr. Kelse also
presented several documents for the record. I would just
like to go through and read the title of those documents
into the record. I'll do that at this point.

The first one is just entitled "Public Comments;
the second one is, Mortality Among Workers at a Talc Mining
and Milling Facility; the third is, A Nested Case Control
Study of Lung Cancer Among New York Talc Miners; next is, Similarities in Lung Cancer and Respiratory Disease Mortality of Vermont and New York State Talc Workers; next is, Relation of Particle Dimension to Carcinogens and Affable Asbostes and other Fibrous Minerals; next is a Reanalysis of the Stanton et al. Pleural Sarcoma Data.

The next one is, Biologic Test of Tremolite in Hamster; next is Mineralogical Features Associated with Cytotoxicity and Proliferative Effects of Fibrous Talc and Asbestos on Rodent Tracheal Affable and Pleural Mesothelia Cells.

The next one doesn't have a title per say, but it's dated 11/29/02. It has was I presume is the name of the author, Brian Boehlecke, MD., MSPH. The next one is a letter dated July 6, 1995 to Dr. Morgan from a Dr. Garcia. The next one is a submittal to an OSHA docket by our R.T. Vanderbilt Company. The docket is H-033D.

The next document is, The Regulatory and Mineralogical Definitions of Asbestos and their impact on Amphibole Dust Analysis. The next document is, the Asbestiform and Nonasbestiform Form Mineral Growth Habit and their Relation to Cancer Studies. And lastly, Asbestos, health risks, and tremolitic talc, the never-ending Saga.

Thank you, Mr. Kelse.

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MR. DUCHARME: I have a question.

MR. PETRIE: Okay.

MR. DUCHARME: Mr. Kelse, it was unclear to me when you were talking before your slide presentation, you referenced, and it could be that just I didn't hear you clearly, but you referenced fiber aspect ratios. Can you clarify that again, please?

MR. KELSE: Well, I think you'll hear that addressed quite a bit in the weeks to come, but I know the first issue with Vanderbilt talc had to do with what's known as nonasbestiform affables. This talc contains upwards to 50 percent tremolite. It's nonasbestiform cleavage fragment material. It's common soil rock producing mineral.

Part of that issue, which was the subject of a major OSHA rulemaking in the early '90s was that you basically defined asbestos as one of these six minerals. You know, serpentine, chrysotile and five affables.

Then you measured this in the air by taking an air sample and counting those asbestos fibers that were 3 to 1 in aspect ratio along with the 5 micrometers. So many fibers per cc and then you'd compared that to a standard and you were either above it or below it. It's very simple, very easy to understand.

The problem was that when OSHA put this standard
on the books, I think, in the '70s they really didn't -- a lot of people thought this fiber counting business was also a definition. So if you have, say, for example, tremolite common soil rock, like tremolite is a common crushed stone, for example, 99 percent of the time it's just random crystal growth. It's single dimension crystal growth bundles. It's not in the asbestiform growth or mineral crystal growth habit. So therefore, that tremolite is not asbestos.

But no one -- because a lot of people never really took courses in mineralogy had no idea that this distinction existed. So you take this material, and you look at it, and you get the chemistry, and it says it's tremolite. And then you break it up, and get particles that will be 3 to 1 or longer 5 micrometers. They're just chunks, you know, schoolbus size things. And you look at it under the light microscope and you go, oh, tremolite -- one, two, three fibers per cc and they call it asbestos.

That was commonly done with our talc because 50 percent of the talc is this material, so you're going to see a lot of it. Not only is it common in our talc, but it's typical waste material in cooper, taconite, gold and crushed stone. In fact, the whole aggregate industry hangs on this. So if you start defining asbestos as, you know, 3 to 1, longer than 5 of any of these minerals, whether they're...
asbestiform or not, you end up regulating the major portion
of the crushed earth as asbestos.

The health data doesn't support that at all. It's
all in the other direction. So there is no justification for
doing that -- no health justification for doing that. That
took almost 10 years to straighten that out, just to get
people to understand that. And to get OSHA to say when we
regulate these six minerals, we mean the actual asbestiform
variety of these minerals, not cleavage fragment.

They were originally going to include cleavage
fragments, which would have been horrendous. It just would
have been unbelievable what would have happened had they
done that.

Fortunately, the risk is very easy to show, and
our data -- the data I showed you was part of that
rulemaking. Because of our experience, our miners are
exposed to these cleavage fragments as anyone, if not more.
So if these things acted like asbestos, it would have been
horrendous, and you would have seen it in our miners. It
would have blown Libby away. Libby would be nothing in
comparison.

MR. DUCHARME: Thank you for clarifying that.

MS. JANES: I have a couple of questions. I'm
Debra Janes. I'm with the Office of Standards. And
basically, in those various EPI studies that you put forth in the record, because I haven't read them yet, they list the various ICP codes across time that, that lung cancer was grouped as because lung cancer definitions have changed over time. And if you're looking at historical data, would that all be -- those would be in the studies?

MR. KELSE: Yeah. They were the typical EPI approach where you basically send and get death certificates, and the neurologist confirms the cancer on the death certificate.

MS. JANES: Right.

MR. KELSE: You have to go through that whole process. As you know -- I mean, those are very difficult studies to do. We had six of them. It's unusual to find one, let alone six.

MS. JANES: Could you explain some of this medical surveillance that you do on your workers because you were saying that you do x-rays as well as lung function tests? Do you have like beginning of work lung function tests, and then you do a yearly exam or something along those lines?

MR. KELSE: Yes. Every two years.

MS. JANES: Can you go through what your medical surveillance program is.

MR. KELSE: Well, I tried to summarize the data
from the x-rays. I used Dr. Palick comments to summarize it. I showed you the pleural plaque experiences he saw in the x-rays. Then I showed you the pulmonary function data in terms of obstructive/restrictive, and then, whether or not those cases, you know, were smokers or not, and whether or not those cases showed any underlying enthelial dust-linked involvement. So those are in the file.

MS. JANES: Those are in the files?

MR. KELSE: That's right up to date. That's of today.

MS. TOSTI: Was that the slide with the 25 percent of non-within the limits and then 70 percent were smokers?

MR. KELSE: Out of that group?

MS. TOSTI: The pleural plaques.

MR. KELSE: No, pleural plaques represented about 4 or 5 percent. Where you have 4 or 5 guys out of maybe 100. The not within normal limits in the pulmonary functions for various indices would fall below for about 25 percent of the group. Most of those reductions are obstructive rather than restrictive. Obstructive usually means like emphysema, and it obstructs the airway. Restrictive is usually more indicative of a dust disease, meaning that there is fibrotic development in the lungs, and the lung is not as elastic, so it restricts.
So when you see a lot of restrictive pulmonary function data in a dust environment, that's more suggestive of the dust link. If you see more of an obstructive environment, and a lot of smoking with no indication in the x-ray of epithelial involvement, it indicates that dust is not causing the pulmonary function problem.

MS. TOSTI: Any idea of how many people were actually tested 25 percent of?

MR. KELSE: Everybody. We do it every two years. A miner can decline the test, but I think maybe one or two, but that's it. We have a very good participation, which is good. It's a wise thing to avail yourself of those tests.

MS. TOSTI: How many people employed at Vanderbilt at any given time?

MR. KELSE: Dana, what do we have now? We used to have about 170. I think we've reduced to about 100 now.

MR. PETRIE: Excuse me, could you state your name and affiliation for the record.


MR. PETRIE: Thank you. Your medical evaluations are done annually?

MR. KELSE: Every two years.

MR. PETRIE: Every two years? Do they include x-
rays spirometry?

MR. KELSE: Sure.

MR. PETRIE: Interpretation by B readers?

MR. KELSE: Yes. In fact, the x-rays are first read by the hospital radiologist, and then several weeks later they're read in separately by Dr. Palick. And then he compares, and if there is any disagreement -- usually, there is pretty good agreement. There is always one or two. I get the radiologists together to iron it out before we have the employee see the hand-ons physician so that he gets the best information possible.

MS. AINSWORTH: You mentioned that cleavage fragments shouldn't be counted under the NIOSH PCN 7400 analytical method?

MR. KELSE: Not if you're looking for asbestos, but the 7400 method is just a fiber count. It would include all those things. To me, it's ludicrous. I mean, what's the point? What do I do with fibers per cc when they include all kinds of stuff and what am I suppose to compare that to? You know, 15 fibers per cc of everything compared to what -- asbestos? I don't know what to do with that number.

This whole issue of treating 3 to 1, no longer than 5 is really an interesting topic, and you'll hear more
about it. But to the best of my knowledge, it was never a risk base.

MS. AINSWORTH: But you mentioned that you didn't think all analysis should be done by TEM. So do you have some idea of how to distinguish when a sample should be looked at thoroughly for the chemical analysis to determine if it's asbestos and when you should just ahead and count by TEM and say it's okay.

MR. KELSE: Well, I think you should use sublight, but because it's expensive and time-consuming, what I think is a better idea is to have some type of -- come up with some type of a screening method where can be pretty sure you may have asbestos. Then you'd want to confirm that with sublight.

MS. AINSWORTH: What would that screening method be if it isn't fiber counting by PCM?

MR. KELSE: It would be, but I think when you look at asbestos -- I shouldn't go through these slides.

MS. AINSWORTH: I understand --

MR. KELSE: Real asbestos is, as you know, a fiber of bundles. And these bundles can be different in thickness, but in general there has been several published papers of people who have sized and measured asbestos in lung tissue in the air in bulk samples. We'll submit some
of those studies to you. Several people, in fact, Dr. Rich Lee, R.J. Lee Group put a paper together in which he essentially assembled all this information and said, well, now look, if this is the population of fibers that you see when you really have asbestos. You know, they tend to be longer than 20 micrometers. They tend to be less than 1 micrometer in width, in fact, maybe half a micrometer. They always tend to be less than 1 micrometer.

If you see, you know, 10 percent of the fibers on a cassette that are longer than 20 and less than 1 micrometer in width, you'd be well advised to take that and do sublight work, and positively identify what those fibers are because there's a good chance that you're dealing with asbestos.

If you looked at that and you don't see any fibers that meet those dimensions, you're wasting your time taking it to sublight work.

MS. AINSWORTH: That's what I wanted you to clarify because that's currently what the NIOSH procedures say to do. Am I right, Clayton?

MR. KELSE: Yeah, well, see 3 to 1 was a -- from what I understand was imported from the U.K. to get consistency among fiber counters for light -- it was all over the map. Some people were doing 5 to 1. They were
using all different things. It was like apples and giraffes and you couldn't compare anything. So somebody said, well, let's settle on a fiber definition and when we have a asbestos, a priori -- we have asbestos, a good one is 3 to 1, longer than 5. We'll count every asbestos fiber in there if we use that. And you certainly will, and if you have an asbestos exposure of 3 to 1, longer than 5, it's fine. There's nothing wrong with it.

If you use 10 to 1, longer than 10, you'd probably count the same ones to, but the point is that it's okay. When you take that and you put in a mining environment where you have a bigger variety of mineral particles of different types, I think you can get yourself in a lot of trouble just clinging to 3 to 1, longer than 5 if you don't have some additional guidance. There's an ASTM method right now that's being considered, and there's an appendix to this method. The method is similar to 7400 method where is PCM and its 3 to 1, longer than 5.

And it says, just like the Myers Method say, this is not specific to asbestos, so it can include a lot of other things. This method does the same thing, but then it says, but if you're using this for asbestos -- if that's what you're interested in. If that's what you looking at, go to Appendix 1 and apply these other dimensional criteria.
Then you go to Appendix 1 and it says if you have so many fibers such as percent that meet this size dimension or a population in this dimension, then you need to go to sublight to confirm what you have. PCM will not confirm it. You know, will never, never confirm it. So you do need TEM.

The problem with using TEM for quantitative purposes is that you -- you know what that's like. The PCM is this universe. PCM is way down here some place. You're looking at some minuscule area, and you're trying to extrapolate from this universe. In a mining environment I think that can be a problem.

Secondly, in terms of health studies for asbestos workers and so forth, they were all based on 3 to 1, longer than 5 asbestos exposures. They're based on light microscopy. So you've got so many fibers per cc based on light microscopy. Well, how does that correlate with fibers per cc with TEM. You don't know. And you're not going to know, so you don't know what it means. So that's why I don't think TEM is good for quantification. If you wanted to keep TEM data, I look at a PCM. I get this. Then I looked at TEM and I got that. Then as time goes on, you begin to see if there's a correlation. Then maybe the TEM data might, in the future, be useful for quantitative purposes. But right now you don't have correlating data.

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So right now to TEM should be used for qualitative purposes where you can see the fibular structure that you're not going to see with PCM. You can tell whether it's asbestiform or not. You can make some other determinations, but you're not going to get PEL. You definitely should use TEM. I just can't imagine you using it for quantitative purpose, even though the General Accounting said that, but I don't think they know what they're talking about when it comes to quantification. That's a long answer for a short question. I'm sorry.

MR. PETRIE: Okay, thank you. Are there any other speakers? No.

MR. ROCCA: Let me ask Mr. Kelse a question.

MR. KELSE: Sure.

MR. PETRIE: Yes, Mr. Rocca, if you'll come up to the table there?

MR. ROCCA: I saw a chart there that commented about cancer deaths from the talc employees, and basically commented on smoking. I wonder if you're -- I'm sure you're aware of a study that was done a few years back that stated that the combined effects of smoking and talc were 27 times worse than either one. So basically, what you're saying is because a person was engaging in a perfectly legal occupation like smoking, he shouldn't have been working in
your talc mines apparently.

MR. KELSE: I don't think it's a good idea for anybody exposed to dust to be smoking because smoking -- you know, there is a whole variety of things. But what happens is that when you smoke, you're right, studies generally show that among smokers the same dust exposure -- if I had the same dust exposure and had a guy who smoked and a guy who didn't smoke, the guy who smoked tends to be more susceptible to the dust because his defensive mechanisms for dealing with ciliary escalator and all these things are compromised by the smoking. So the same dust exposure will have more of an impact on the smoker than it would have on the non-smoker. That's not to say, you know, you don't have the right to smoke. But the point is if you're operating a mine and know that if the person smokes he's going to be more susceptible to being injured by the dust. If you're conscientious, you'd think, well, I'd probably would like to see that person not smoke or it would be better if he didn't, or maybe I shouldn't hire him and put him at a higher level of risk because I need to be thoughtful about that person's health.

MR. ROCCA: That was my point was that if the danger is that much greater from a smoker in this environment, shouldn't smokers be allowed in that
environment? I mean, we're talking about a civil liberty --
MR. KELSE: I don't think so.
MR. ROCCA: We're talking about a civil liberty
deal, but you're saying the -- basically, what they're
saying is a man has a right to kill himself if he wants to,
you know. That was my only comment.
MR. KELSE: I kind of agree with you. It bothers
me, as I said. It really, really bothers me.
MR. ROCCA: I smoked, not heavily, but in 1964
when I saw the Surgeon General's report I quit right there.
That was the thing that saved my life probably.
MR. KELSE: Well, you can see it on -- I don't
know if you can make out some of the tables when you looked
at those pulmonary functions tests and you see that those
things are obstructive, not restrictive and you know what
that is.
MR. ROCCA: You see, it's like my case, though,
we're not talking about asbestos. We're talking about
fibers which have damaged my lungs. You say I wasn't in
asbestos. Whatever it was that ingested into my lungs have
destroyed my lungs.
MR. KELSE: Well, if you're over-exposed to talc,
that definitely can happen. There's no question about it.
MR. PETRIE: Thank you, Mr. Rocca. If there are
no other speakers, I want to close this meeting. The address for headquarters after they move here on June 10th is going to be on this yellow sheet of paper that I'll just sit on this table. I thought we had copies of that, but we don't. So with that, the meeting is closed and thank you all for coming.

(Whereupon, at 10:54 a.m., the hearing in the above-entitled matter was concluded.)

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REPORTER'S CERTIFICATE

DOCKET NO.: N/A
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HEARING DATE: May 29, 2002
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I hereby certify that the proceedings and evidence are contained fully and accurately on the tapes and notes reported by me at the hearing in the above case before the Mine Safety and Health Administration.

Date: May 29, 2002

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