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DOCUMENT DESCRIPTION: Memo to Dick Swackhamer, NERO from Chuck Jacobson, CARM RE Asbestos in Playsand with Attachments - OSHA Testimony & Report - Shifting Definition of Asbestos

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Subject: asbestos in playsand

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To: Dick Swackhamer, NERO

From: Chuck Jacobson, CARM

Subject: Asbestos in Children's Playsand

On June 18 Amy Rock in Health Sciences received a phone call from a Dr. Abraham, a pathologist in Syracuse, NY (315) 473-4750, who reported that he had found asbestos fibers in his children's playsand. He reported that it was Basins Playsand packaged by Basins Inc., Syracuse, NY which is owned by Georgia Marble, Atlanta, GA. Amy requested that Dr. Abraham send one pound of the sand to Dr. Langer of Mt. Sini Medical Center, NY, NY and one pound to the Health Sciences laboratory. The one pound sample was received at Mt. Sini on 6/19/87. Also on 6/18 Amy received a phone call from Richard White, Loss Control Officer, Wegman's stores, Rochester, NY who reported that Dr. Abraham had purchased his Basin's Playsand from Wegman's and that as a result of being notified by Dr. Abraham of the asbestos they have pulled the playsand from the shelves of their 35 stores. On 6/19 I spoke to Richard White who advised me that they were having a sample of the sand analysed by U.S. Testing, Hoboken, NJ. The contact at U.S. Testing is Ellen Noyes (201) 792-2400 Ext. 336.

On June 19 Dale Ray, Economics, 492-6962, spoke to Basins, Inc. and to the parent company Georgia Marble. The parent company has received a sample of sand from Basins and is having it analysed in Atlanta. They also reported that Basins has stopped distribution of the sand. Basins, Inc. mailing address is P.O. Box 479, Gouvernour, NY 13642. They report they are actually located on Route 58, Hailesboro, NY, telephone (315) 287-0780.

*shows
good
conclusion
& thoughtful
action*

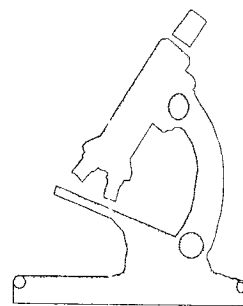
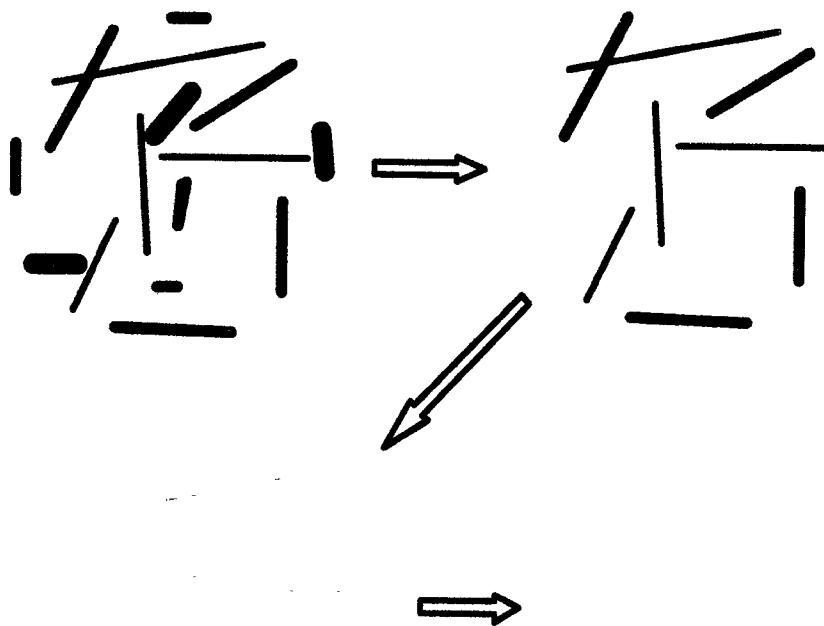
We need to get someone up to Basins ASAP to make an inspection and collect an official sample of the playsand. We will have to determine if any of the sand is shipped interstate and a complete customer list. Are there any other brands involved, including any private labeling done by the firm? How long have they been getting sand from this location? What are they doing? Recalling? Stop sale? What testing have they had done? What are they telling the media? Are there any other packagers of playsand in the area? If so identify and collect samples of their products as well.

*What is the
info?*

The sample should consist of a previously unopened bag, preferably packaged before this crisis began. All but about ten pounds can be poured off for transportation back to NYC. About one pound should go Mt. Sini. Call Amy Rock 8-492-6994 for the specific location to deliver the sample. Additionally about one pound should go to the Health Sciences Lab. (NSHL).

During my testimony to OSHA in May, 1990, I was asked what I would recommend to OSHA regarding the proposed rulemaking on "non-asbestiform" tremolite. At that time I replied: " I believe, from the evidence I've seen, that the [New York talc] miners are inhaling fibers that are resulting in disease that's indistinguishable from asbestos related disease, and I don't really care ... whether you call them asbestos or non-asbestos. ...There are two ways to interpret the data. First is that, consistent with mineralogic analyses of the samples of the mine and the fibers in lung tissue, these geologic formations contain both asbestiform and non-asbestiform tremolite ... and other minerals, which results in asbestos related disease. The second interpretation is that if the materials are classified as non-asbestiform tremolite or other minerals, then these non-asbestiform minerals are equally capable of producing what has been called asbestos-related disease in the past. So you have to be consistent and can't use half the argument only. Either way, the workplaces and products that could result in preventable deaths from this material need to be examined, and when they contain [appropriately sized] fibrous materials, they need to be regulated as asbestos, with all its inherent risks." [19].

SHIFTING DEFINITION OF ASBESTOS



Langer and Nolan [4] state that "no data exist to show that non-asbestos tremolite possesses the same pathogenic properties as asbestos." Consideration of this statement is important, for it points out the circular reasoning and preconceived conclusions which have become part of this ongoing round of communications (if these epistles can be called "communications" in the absence of one group rationally trying to understand the other). I do not understand why it is not **crystal clear** that the definition of asbestos has been changing so as to make certain that the above statement remains true! By definition, if one keeps shifting the line between what is asbestiform tremolite (or talc, etc.) and what is not asbestiform so as to ensure that anything with the same pathogenic properties as asbestos is called asbestiform and anything else is non-asbestiform, then non-asbestos minerals are of course not in need of regulation as asbestos. However, the reality is that there have been no defined samples of **pure** non-asbestiform tremolite available for testing or to which groups of persons have been exposed. In nature, there exists a mixture of both types of mineral elongate particles. It has been to these mixtures that miners and millers and users of NY State talc have been exposed. Any studies of minerals which, although originally called "non-asbestiform", produce mesotheliomas in animals, are "reinvestigated" and reclassified as containing variable amounts of asbestiform fibers. Call it "better methodology" or "convenient redefinition" as you like. As in the current studies by Davis et al, [16] a sample of tremolite from Shinness, Scotland, had to be **milled** before usage in the animals, unlike the other minerals tested for mesothelioma induction. This was considered a "non-asbestiform" sample, yet it gave rise to mesotheliomas. The incidence of mesotheliomas was lower than for the other types of minerals tested, but when expressed on a fiber dose basis, this sample which was milled to contain much shorter and fewer fibers fit nicely on the dose-response curve with the other tremolite fibers tested.

mineralogic analyses of mineral fibres from the mine and mill environment and from the miners' lung tissues is an egregious example of tergiversation. Does the fact that Drs. Reger and Morgan have been retained experts for the industries which have been for many years fighting regulation (for obvious and significant economic reasons) mean that they have adopted the anti-preventive, "body count" approach recently advocated by one of the industry attorneys in a letter to OSHA: "Risk to R.T. Vanderbilt talc miners and millers can only be predicated on health effects observed in that work population exposed to these specific ores." [23]?

"The primary purpose of the Occupational Safety and Health Act (29USC651 et seq) is to assure so far as possible safe and healthful working conditions for every American worker... The Secretary, in promulgating standards... shall set the standard which most adequately assures to the extent feasible on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity even if such employee has regular exposure to the hazard dealt with by such standard for the period of his working life. Development of standards under this subsection shall be based on research, demonstrations, experiments, and such other information as may be appropriate ... other considerations shall be the latest available scientific data in the field ... [24]." And, the US Supreme Court ruled that OSHA "is free to use conservative assumptions in interpreting the data with respect to carcinogens, risking error on the side of overprotection rather than underprotection" [24]. If the public health is to be served and this OSHA mandate is to be fulfilled, what is needed is collaboration and cooperation among scientists instead of litigation and tergiversation.

References

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- 4 Langer AM, Nolan RP and Addison J. Br J Ind Med 1991;48:359-360.
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- 12 Wylie AG. letter to Abraham JL, 1989, in OSHA Docket H-033-d

15 Dunn Geoscience Corporation. An evaluation of mineral particles at Gouverneur Talc Company 1975 and 1982: a comparison of mineralogical results between NIOSH and DGC. Prepared for the R.T. Vanderbilt Company, Inc.; Latham, NY, January 1985.

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19 Abraham JL Testimony May 10, 1990 to OSHA on Proposed Ruling on Occupational Exposure to asbestos, tremolite, anthophyllite and actinolite, pages 3-133-4.

19b Mossman BT. letter to D. Race June, 1990 and letter to J Abraham, June, 1991. in OSHA Docket H-033-d.

20 Renninger FA. Letter for the National Stone Association, December 14, 1991 to H Weill for OSHA Docket H-033-d.

21 Weill H, Abraham JL, Balmes JR, et al. Draft report of the ATS committee on the health effects of tremolite. Exhibit 474, docket H-033-d, Department of Labor, Occupational Safety and Health Administration, exhibit list for 54 FR 30704 and 55 FR 4938, 1990.

22 Langer AM. Report for Vanderbilt Talc Company on composition of sprayed-on insulation materials, 1991.

22a Rohl AN and Langer AM. Identification and quantitation of asbestos in talc. Envir Health Perspect 1974;9:95-109.

23 Race, D. Letter to the OSHA for Docket H-033-d, 1990.

24 US Occupational Safety and Health Administration, Department of Labor, Proposed rulemaking, February 12, 1990.

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The ATS tremolite committee was developed and charged following a request by myself for additional independent review and confirmation of my own data on children's play sands containing asbestiform tremolite (presented as a poster at the ATS 1988 meeting) [5]. This same plus additional data was presented to the US Consumer Products Safety Commission (CPSC) at a hearing in 1989. At the same hearing Dr. Langer, hired by the CPSC, but at the same time (undeclared to the CPSC as far as I am aware) representing the industries which would be affected economically, presented testimony following up on his earlier report to the CPSC in which he reported, in a much less exhaustive analysis (3 fibers) than in my data (hundreds of fibers), finding asbestiform fibers greater than 5 μm length, at concentrations on the order of one part per million [6]. Langer reconfirmed these findings during his testimony at OSHA hearings in 1990 [7]. Independently, Dr G. Yamate of Illinois Institute of Technology Research Institute (IITRI) [8] analyzed play sand samples for the CPSC (quantitative analyses of 8 different aerosol samples involving hundreds of fibers analyzed, using TEM, EDXA and selected area electron diffraction) and reported finding of tremolite asbestos fibers in concentrations and dimensions similar to what I reported. This was also confirmed independently by the New York State Department of Health Laboratories, reported to the CPSC and later published [9].

The impact of these "low" concentrations when expressed on a ppm basis can be better appreciated when expressed on a number of fibers basis. For example one ppm of asbestos fibers greater than 5 μm in length would be the equivalent of 1,000,000 to 10,000,000 fibers per gram. (The mass of a single fiber less than 0.5 μm in diameter and greater than 10 μm length would be on the order of 10^{-12} to 10^{-13} grams.)

This is not the issue of whether non-fibrous talc causes asbestos related disease. The reference cited by Reger and Morgan on the lack of mesotheliomas following therapeutic talc poudrage is certainly reassuring for those patients and clinicians involved, but since it is unlikely that asbestiform industrial talc was widely, if ever, used for that purpose it does not appear directly relevant.

What should be more relevant to medical scientists and to regulators is whether exposures to dusts in a given situation result in all the diseases associated with asbestos exposure. If a given workplace exposure produces asbestosis, pleural plaques and pleural mesothelioma (all confirmed using standard pathologic criteria) and quantitative mineral analysis of these workers' lungs reveals markedly elevated concentrations of asbestiform amphibole fibers but no elevation of "commercial" amphiboles (amosite or crocidolite) should the fact that a few competent mineralogists at industry urging can make definitions of what they wish to call "asbestos" increasingly restrictive -- to the seemingly arbitrary point that individual fibers indistinguishable from asbestos are not called asbestos -- lead to deregulation of such fibers?