

July 9, 1990

MEMORANDUM TO: Mr. R. Beber
Mr. T. Cloud
Ms. L. Hickey
Mr. J. Hughes
Ms. A. Klein
Mr. R. Senftleben
Mr. W. Sparks

FROM: Richard C. Finke

RE: 71 Schools Article



Attached is a draft of an article authored by Morton Corn, Richard Lee, Kenny Crump, David Farrar and Donald McFee entitled "Airborne Concentrations of Asbestos in 71 School Buildings." Although the authors consider the article to be in final form, it is currently in the peer review process and therefore subject to change.

The article is cited in a footnote in the Science article, and Corn, Crump and Lee rely upon the underlying data to support their trial testimony. Therefore, in response to requests to produce, the authors have agreed to produce the article to plaintiffs in City of San Diego and Security Homestead.

The study analyzes 473 air samples from 71 schools for asbestos fiber concentrations and attempts to determine whether the concentrations correlate to a number of factors (e.g., type of ACM, its condition, its accessibility to students, level of activity in the room, weather conditions, etc.). The 71 schools included 44 from Texas, 15 from Colorado, 4 from Michigan, 3 from Ohio, 2 from Pennsylvania and 1 each from Florida, Tennessee and

Maine.

Using TEM analysis, the study found that the average concentration of all asbestos structures in indoor air samples is 0.02 s/cc. The average concentration from indoor samples is significantly higher than from outdoor samples. The average concentration of asbestos structures longer than 5 microns is 0.00023 s/cc. Most of the fibers counted were very thin (94% were less than 0.2 microns in diameter) and very short (78% were less than 1.0 microns in length).

Of the samples taken in the presence of asbestos-containing ceiling materials, 248 samples relate to acoustical plaster, whereas only 12 samples were taken from rooms with asbestos-containing fireproofing. There is no correlation between airborne asbestos levels and most of the factors studied, except that indoor concentrations from the Texas schools were significantly higher and outdoor concentrations generally were significantly lower on days in which some pre-cipitation occurred or where temperatures were higher. No explanation is offered for these correlations.

From these and other findings, the authors of the article conclude that "there is no evidence in the present study that indicates that ACM makes a significant contribution" to airborne asbestos levels in schools. In addition, the data suggests that high peak exposures rarely occur in schools. Thus, the risk of contracting cancer from attending these schools for six years is

calculated to be 0.3 per million.

Notwithstanding the authors' conclusions, the data does indicate that indoor concentrations of asbestos structures are much higher than outdoor concentrations, which plaintiffs will readily attribute to the presence of ACM. Since the vast majority of these asbestos structures are very short and thin, the data underscores the importance to Grace of expert medical testimony that small fibers pose little or no health risk to building occupants. The study may be vulnerable in actions involving commercial high-rise buildings, since only a small subset of the samples analyzed were collected in buildings with asbestos-containing fireproofing.

RCF

R.C.F.

Attachment
RCF:jtf