Statement from John L. Adgate, MSPH, PhD, Professor, Colorado School of Public Health, University of Colorado.

Asbestos contaminated vermiculite ore from Libby, Montana was processed in northeast Minneapolis from 1936 to 1989 in a densely populated urban residential neighborhood, resulting in non-occupational exposure scenarios from plant stack and fugitive emissions as well as from activity-based scenarios associated with use of the waste rock in the surrounding community.

The objective of our modeling analysis (Adgate et al. 2011) was to estimate potential cumulative asbestos exposure for all non-occupationally exposed members of this community. We performed modeling to estimate inhalation exposures to fibers from plant emissions and activity-based exposures from playing on and around waste piles.

Fiber emissions from the plant were estimated to be the largest source of exposure for the majority of the cohort, with geometric mean cumulative exposures of 0.02 fibers/cc*month. Exposures from playing on nearby waste piles were estimated to be a substantial contributor to the upper end of the exposure distribution.

I believe that these modeling and health results should be considered as part of the deliberations on non-cancer health effects of asbestos (Alexander et al 2011). While our modeling of community exposures have uncertainties and limitations, the uncertainties in exposure are similar to many of the factors associated with studies of health effects in occupational populations. These include a limited number of measurements used to represent a range of activities, recall of the frequency and duration of activities, and uncertainties associated with dispersion modeling of plant emissions. Particular strengths of our approach include observation of pleural abnormalities at relatively low levels, a relatively large, gender diverse population and long durations of exposure that stretch back to childhood. These results support the conclusion that community exposure to asbestos-contaminated vermiculite originating from Libby, Montana is associated with pleural abnormalities observed on chest x-rays.

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Alexander, BH, KK Raleigh, J Johnson J, JH Mandel, JL Adgate, G Ramachandran, R Messing, T Eschenhauer, and A Williams. 2011. Radiographic evidence of the effects of non-occupational asbestos exposure from processing Libby vermiculite in a community. Environ Health Perspect, 120: 44-49, [Online October 12, 2011: DOI: dx.doi.org/10.1289/ehp.1103529].