



ADVISORY

PLAINTIFF'S EXHIBIT

CAP-1263

OCTOBER 1, 1981

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MINNESOTA STUDY FINDS NO LINK BETWEEN INGESTED ASBESTOS AND CANCER

Interim results of an epidemiology study¹ conducted by the Minnesota Department of Health recently reported no link between the ingestion of asbestos fibers in Duluth drinking water and the incidence of cancer.

"In our opinion, there are currently no observed etiologic or causal associations between exposures to amphibole (asbestos) fibers in the Duluth drinking water supply and the development of cancer," concluded principal investigator Eunice E. Sigurdson, R.N., M.P.H., in an interim report. The ongoing study is funded by the Health Effects Research Laboratory of the Environmental Protection Agency (EPA) in Cincinnati, OH.

The stated purpose of the study is to determine the effect on cancer incidence, if any, from the ingestion of amphibole fibers in the Duluth water supply during the time period 1969-1981. Fibrous amphiboles occur in Duluth's drinking water as a result of a nearby mining operation which discharged tailings into Lake Superior. Levels from one to 64 million fibers per liter (MFL) have been measured in tap water samples. Electron microscope studies show that the mean fiber length is 1.13 micrometers (microns) and the mean fiber width is 0.18 micrometers, a 6.5 to 1 length-to-width (aspect) ratio.

The study compared Duluth cancer incidence during the period 1969-1971 with rates in Minneapolis and St. Paul, two cities with very similar age, sex, race distribution, socio-economic, occupational, and ethnic characteristics. In contrast to Duluth however, the water supplies in Minneapolis and St. Paul are virtually free of asbestos fibers. Cancer incidence rates during 1969-1971, (approximately ten years following the initiation of exposure to asbestos in Duluth water) are considered baseline rates to compare cancer incidence. The report concluded that "Rate differences between different geographic areas and through time occur without any apparent biologic reason."

Comparing 1974-1976 Duluth cancer rates with the 1969-1971 results, the researchers reported that cancer decreased among males for all (84) sites combined and for total gastrointestinal (GI), stomach, and colon sites in males and females. No cases of peritoneal mesothelioma were observed during the eight years of observation.

These results are similar to those reported in an earlier study published by B.S. Levy, Sigurdson,² et al in 1976. That work compared gastrointestinal cancer incidence for Duluth, Minneapolis, and St. Paul. The authors concluded,

"This study detected no excess in total GI cancer incidence among Duluth residents in 1969-1972 and therefore suggests no effect in this period possibly attributable to high concentrations of asbestos-like fibers in Duluth tap water, a finding consistent with two recent mortality studies regarding this situation . . ."

REFERENCES:

1. Sigurdson, E. E., Minnesota Department of Health, "Interim Report of Cancer Incidence in Duluth during 1969-1976 as an Investigation of Health Effects from Ingestion of Amphibole Fibers in the Municipal Water Supply," April 30, 1981.
2. Levy, B. S., Sigurdson, E. E., Mandel, J., Lauden, M., and Pearson, J., "Investigating Possible Effects of Asbestos in City Water: Surveillance of Gastrointestinal Cancer Incidence in Duluth, Minnesota," American Journal of Epidemiology, Volume 103, Number 4, 1976.
3. Mason, T. J., McKay, F. W., Miller, P. W., "Asbestos-Like Fibers in Duluth Water Supply: Relation to Cancer Mortality," Journal of the American Medical Association, 228, 1974.
4. Minnesota Department of Health: Gastrointestinal Cancer Mortality Data, 1965-1971, unpublished.



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JFW
7-15-82

Internal Correspondence

TO: J. F. Welch
J. F. Welch, Vice President

DATE July 9, 1982

FROM

SUBJECT Analysis of Kenarek et al Epidemiologic Studies

REF: JFW correspondence, same title, February 23, 1982

ACTION REQUIRED: Review for information

Enclosed is correspondence from an Associate Professor of Biostatistics and Public Health at Yale University School of Medicine. The letter reaffirms the findings of Dr. Kenny Crump's "Review of A Study of Asbestos in Drinking Water and Cancer in the San Francisco Bay Area." Dr. Walter received a copy of the report from J. Wister Meigs, M.D. of the Yale University School of Medicine.

The Executive Committee will address the matter of publishing the Crump review in a peer reviewed medical journal at its July 22, 1982 meeting.

JFW/ajb

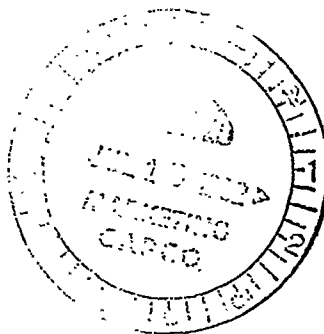
cc: A. Kahn, Esq.
Kenny Crump, Ph.D.

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SCHOOL OF MEDICINE

*Department of Epidemiology
and Public Health*

*P.O. Box 3333
60 College Street
New Haven, Connecticut 06510*

June 16, 1982

J.F. Welch, Vice-President,
A/C Pipe Producers Association,
1600 Wilson Boulevard,
Suite 1308
Washington, DC 22209

Dear Mr. Welch:

I have just read the report entitled "Review of a study of Asbestos in Drinking Water and Cancer in the San Francisco Bay Area", which was produced for you by Kenny S. Crump of Science Research Systems, Inc. My interest in this work is as a co-author on the 1980 paper in Journal of Environmental Health (first author J.W. Meigs), which approached the same problem as did Kanarek et al, but using Connecticut data. As you know, our study was essentially negative, with respect to showing any association between cancer incidence rates and asbestos concentrations in the water supply. In addition, despite the generally lower fiber concentrations in Connecticut water, we were confident that our study was in fact quite powerful, and would have demonstrated any reasonable effect, had one existed.

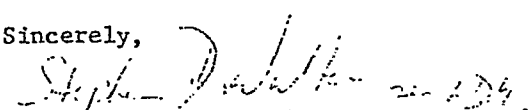
In view of the very discrepant results which Kanarek subsequently published, I did communicate with her in an attempt to identify any methodological problems which might explain some of the differences. The answers I received, were quite vague, and left me with a general feeling of scepticism of her results. I was reassured to see that Dr. Crump reached somewhat the same conclusion.

I would be grateful if you could include me on any mailing list which you might have for any further work you may be doing in this area. I am a statistician-epidemiologist, presently on the faculty here at Yale; as of July 1, 1982, however, my address will be:

Mc Master University
Department of Clinical Epidemiology & Biostatistics
1200 Main Street, West
Hamilton, Ontario L8N 3Z5
Canada

I would also be interested to know if you could give me the names of any suitable contacts in Canada who have worked on this problem there.

Sincerely,


Stephen D. Walter, Ph.D.
Associate Professor of Biostatistics
and Public Health

SW:dv

CAPCO JEN 0033149



A/C Pipe
Producers Association

1600 Wilson Boulevard
Suite 1008
Arlington, Virginia 22209
(703) 841-3556

May 19, 1982

Mr. Warren Whitley
CAPCO Pipe Company, Inc.
1400 S. 20th Street
P.O. Box 3435
Birmingham, AL 35205

Dear Warren:

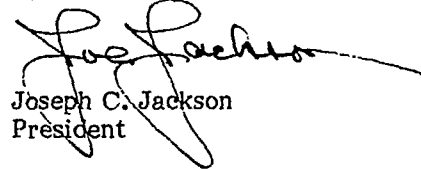
On behalf of the Board of Directors of the A/C Pipe Producers Association, it is my pleasure to thank you for participating in AACPP's Tenth Annual Meeting and Industry Conference held in Cancun, Mexico, on May 2-6, 1982.

Your assessment of current market trends within the United States, specifically the fiber outlook, provided member company personnel with a special insight into and understanding of this important issue.

Once again, thank you for contributing to the overall success of the meeting.

Very truly yours,

A/C PIPE PRODUCERS ASSOCIATION



Joseph C. Jackson
President

cc: A. Kahn, Esq.

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