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December 19th 1950

|                    |                                    |
|--------------------|------------------------------------|
| Mr. A. L. Penhale  | - Asbestos Corporation Limited     |
| Mr. W. J. Johnson  | - Johnson's Company Ltd.           |
| Mr. C. H. Gibbs    | - Flintkote Mines Limited          |
| Mr. C. K. Foster   | - Canadian Johns-Manville Co. Ltd. |
| Mr. K. V. Mitchell | - Canadian Johns-Manville Co. Ltd. |
| Mr. A. L. Lowrey   | - Quebec Asbestos Corporation Ltd. |
| Mr. L. Montpetit   | - Nicolet Asbestos Mines Ltd.      |

Gentlemen:

Report to  
Quebec Asbestos Mining Association  
Re Pulmonary Cancer  
and Supplementary Memorandum  
Re Cancer Research

At the Skytop meeting, Mr. Shepherd promised to look into the above subject on his return to England.

We are now pleased to send you herewith a copy of the report he recently forwarded us.

Yours very truly,

QUEBEC ASBESTOS MINING LTD.

*O. C. Smith*  
26

Encl.  
OCW/AS

EX-100  
✓  
Mr. W. H. Gossard  
Mr. H. Cartier  
Mr. A. Smith  
Mr. Ivan Gaborian

**REPORT TO  
QUEBEC ASBESTUS MINING ASSOCIATION  
RE PULMONARY CANCER  
AND SUPPLEMENTARY MEMORANDUM  
PE CANCER RESEARCH**

Comments by Dr. J. P. Kenna,  
Factory Medical Officer for  
Turner Brothers Asbestos Co. Ltd.

In the Annual Report of the Chief Inspector of Factories for the year 1947, published by H. M. Stationery Office in January 1949, there is a section (P. 79) entitled "Asbestosis and Carcinoma of the Lung". Tables XXII to XXVII also refer to this subject. Although the first group of figures on page 2 of the Supplementary Memorandum of the Quebec Asbestos Mining Association bears some resemblance to them, they are not exactly similar and much qualifying information has been omitted. The important statement made in the Chief Inspector's Report is "During the 23 years 1924 - 1946 inclusive, 235 deaths, either caused by asbestosis or in which asbestosis has been proved at autopsy, have come to our notice. Cancer of the lungs or pleura was found to be present either as a cause of death or as a concomitant in 34 (14.4%) of these 235 cases". For comparison I can offer three groups of figures:-

(2) Numbers of post-mortem examinations  
of which I have records from  
1930 - 1950

**TABLE I**

| Number<br>of Post-<br>Mortem<br>examina-<br>tions | Number of<br>cases in which<br>carcinoma<br>was associated<br>with asbestosis | Duration<br>of expo-<br>sure to<br>dust | Percent-<br>age rate<br>of cancer | Average<br>age at<br>death | Period of exposure<br>prior to completion<br>of full programme<br>of protection (1932) | Years |      |
|---------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------|-----------------------------------|----------------------------|----------------------------------------------------------------------------------------|-------|------|
|                                                   |                                                                               |                                         |                                   |                            |                                                                                        |       |      |
| 107                                               | 10                                                                            | 22.6                                    | 10%                               | 56.4                       |                                                                                        |       | 13.3 |

• TABLE 2

| Case      | Death | Exposure<br>in years | Age  | Suspension<br>to death<br>in years | Started<br>work | Period of exposure<br>prior to completion<br>of full programme<br>of protection (1932) |
|-----------|-------|----------------------|------|------------------------------------|-----------------|----------------------------------------------------------------------------------------|
| 1         | 1935  | 13                   | 62   | 3                                  | 1922            | 10                                                                                     |
| 2         | 1935  | 16                   | 54   | 3                                  | 1919            | 13                                                                                     |
| 3         | 1936  | 23                   | 65   | 0                                  | 1913            | 19                                                                                     |
| 4         | 1937  | 17                   | 66   | 1                                  | 1919            | 13                                                                                     |
| 5         | 1939  | 24                   | 67   | 0                                  | 1915            | 17                                                                                     |
| 6         | 1942  | 20                   | 52   | 3                                  | 1921            | 21                                                                                     |
| 7         | 1942  | 20                   | 59   | 1                                  | 1914            | 16                                                                                     |
| 8         | 1948  | 22                   | 53   | 13                                 | 1925            | 7                                                                                      |
| 9         | 1948  | 32                   | 60   | 13                                 | 1916            | 16                                                                                     |
| 10        | 1948  | 27                   | 51   | 0                                  | 1923            | 9                                                                                      |
| Average - |       | 22.4                 | 56.4 | -                                  | -               | 12.3                                                                                   |

(\*) Details concerning the 10 cases in column 2, Table 1.

### Comment

No case has arisen yet of the association of carcinoma of the lung and asbestosis in this area in anyone starting work later than 1925. There was only one woman in the series. She was aged 51 and was suspended for eight years. Men and women are employed in about equal numbers in the scheduled areas of the Rockdale Works.

It is noted that according to Table 2, these cases of carcinoma have occurred in two groups - one of six cases with established asbestosis and suspended for three years or more, and another group of four cases. In the latter group, two were suspended one year before death and two not suspended at all. It is reasonable to assume that the suspension or "disability" from which those who died within one year following suspension were suffering was in fact the early symptoms of carcinoma of the lung.

(page 3)

Although this is an account of 100 autopsies it does not represent all the people who have died following employment in the Asbest. industry in this area. There is an unknown number of both men and women who, after working in scheduled areas for years, have drifted away to other industries or who have remained at home and whose subsequent deaths have not been reported to the Coroner and therefore made the subject of post-mortem study. There are no precise pathological criteria of asbestosis and the Coroner has linked the term asbestosis with many deaths where the degree of fibrosis was slight and the association between this and the major cause of death not apparent. On the other hand, the large of people without obvious disability and who have died suddenly of coronary thrombosis or cerebral haemorrhage have been linked to contain the usual asbestos bodies, some patchy fibrosis and such changes as would undoubtedly have been associated in the Coroner's verdict with their employment if the death had occurred more slowly. It is considerations such as these which make me view all statistical material on asbestosis with reserve. As an indication of the difficulty of diagnosis during life, only 47 of these 100 cases were suspected during their lifetime.

(3) Cancer mortality figures extracted from the Registrar General's Statistical Review, 1940 - 1945, Vol. I, Medical:

On the subject of Carcinoma of the Lung on page 176, it is stated that "The rise in mortality from cancer of this site alone accounts for most of the recent increase in male cancer death rates from cancer of all sites at ages 35 - 55 which have been noticed above. Whereas in 1938 lung cancer contributed 2% of all cancer deaths of males, at this age period in 1945 it contributed 30%".

From Table LXXVII the following figures are obtained:

Males 45 - 65 years. Cancer deaths per 1,000 deaths from  
all non-violent causes 1943 - 1945 : 213

From Table LXXIX:

The proportion of deaths from cancer of lung to total  
cancers at ages 45 - 55 : 1/3 1 7.1%

Recent suggestions to account for this increased incidence of lung cancer include cigarette smoking, and inhalation of petrol and oil fumes.

It seems difficult to understand the comparative figure of 1.32 given as the incidence of carcinoma of the lung in silicosis autopsies on page 2 of the Memorandum and in the Chief Inspector's Report of 1942. If this is so, it would appear that this silicotic group has a lower incidence of lung cancer than the general population.

(page 4)

(3) Figures derived from death certification  
in industry - asbestos

In the last 100 death certificates issued by me, none of which concerned asbestos workers, there were seven lung cancer deaths with an average age of 62.7 years.

General observations

On page 3 of the Memorandum of the Quebec Asbestos Mining Association the incidence of lung cancer in the general population is given as 1.36% and in asbestos workers as 1.4%. This seems to me a more reliable method of estimating the incidence of the two groups than the autopsy material. In the section on page 3 of the Memorandum on the incidence of lung cancer in various types of pneumoconiosis, the data is attributed to Dr. Redhouse Gloyer. This observer wrote the section on Pathology in *Asbestos and Asbestosis (Lungs)* Oxford Medical Publ. 1938. On page 245, he writes "carcinoma has been found in six cases by the writer at autopsy". If this figure refers to a series of 100 cases mentioned in the preceding paragraphs, his percentage rate is 6%. He further states that until more statistics are available it is impossible to draw definite conclusions as to the relation of the two diseases. In giving the figure of 21 under asbestos in Total cases of Pneumoconiosis, with 17 cases of lung cancer, he would seem to be singularly unfortunate in finding 11 cases in his next 20 autopsies. The total number of asbestos deaths up to the end of 1948 is given by the Chief Inspector of Factories as 247. Dr. Gloyer could hardly claim to have first-hand knowledge of a second series of 100 cases.

Without further qualification the statement in the memorandum that lungs of 165 individuals without pneumoconiosis, but employed in the same set of industries as above, yielded 14 cases of cancer of the lung or 8.5% means little. At today's carcinoma of the lung rates per man in the 55-65 age groups it would not represent more than 1% above the average for the country as a whole.

On the question of asbestos as a carcinogenic agent, I would agree that the approach suggested by the Quebec Asbestos Mining Association is an excellent one. In the short-term programme, provided the statisticians have access to figures which are reliable, this should be an interesting report. As regards the long-term programme of experimental work, much of the preliminary study has been done and the animals available for the work, as well as the size and concentration of fibre which will produce experimental asbestosis, are well known now. As far as I am aware, there is no record of carcinoma of the lung occurring in an animal which was the subject of experimental asbestosis.

The third phase of the programme is one which will meet general approval. All concerned will benefit from the widest publication of accurate statistics and informed articles containing clinical studies on the asbestos problem.

(page 5)

In considering the possibility of carcinogenic action of asbestos fibers, the emphasis so far has been on the lung. No question has been raised of carcinogenesis in the through contact with skin as is the case with certain mineral oils. I can only thus mention my former partner, Dr. G. H. Bowman, whose practice in this area covered 45 years, nor myself in the last 25 years has seen a skin cancer in association with an asbestos skin wart. These warts are common and are due to the penetration of the skin by minute fragments of fibers. A fibrous tissue reaction of the foreign body type occurs around them.

J. F. Koss.

20

(ASBESTOS)

# ASBESTOS CORPORATION LIMITED

General Office THEFTON LINES, QUE., CANADA

REG. CABLE ADDRESS "AMASCOLIA" TELEX 010-3215 CODES A.B.C. 6th & 7th BENTLEY'S, BENTLEY'S SECOND, ACME

5th January 1970.

|                    |   |                                      |
|--------------------|---|--------------------------------------|
| Mr. K.V. Lindell   | - | Canadian Johns-Manville Asbestos Ltd |
| Mr. F.P. Smith     | - | Bell Asbestos Mines Limited          |
| Mr. M.K. Messel    | - | Lake Asbestos of Quebec Limited      |
| Mr. R.S. Coleman   | - | National Asbestos Mines Limited      |
| Mr. Dalma Poirier  | - | Flinthote Mines Limited              |
| Dr. R.J. Merrill ✓ | - | Carey-Canadian Mines Limited         |
| Mr. I. Sabourin    | - |                                      |
| Mr. Paul Filteau   | - | Quebec Asbestos Mining Association   |

Re: Bag Markings - Caution Notice

Dear Sirs:

I thought you might be interested in knowing that starting this week, shipments of this Company's asbestos to Canadian and American customers only will bear the following notice in English printed on each bag:

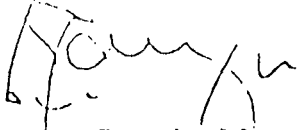
CAUTION

"This bag contains chrysotile asbestos fibre.  
Persons exposed to this material should use  
adequate protective devices as inhalation of  
this material over long periods may be harmful."

Although this practice is being initiated now, it will be some months before all shipments to the North American market will be so marked pending the disposal of inventories.

Yours very truly,

ASBESTOS CORPORATION LIMITED

  
I.C. Campbell

ICC:red

Vice-President & Secretary-Treasurer

EXH 2 (E.D.)  
6/16/85 5-6

INDUSTRY ORGANIZATIONS TO WHICH FLINTKOTE  
IS OR HAS BEEN A MEMBER

Asbestos Information Association 1971-1981  
Asbestos Cement Pipe Producers Association 1973-1976  
National Mineral Wool Association approx. 1950-1965  
Industrial Health Foundation 1937-1945  
Resilient Floor Tile Institute 1975-1980  
Asbestos Cement Products Association (ACPA) 1940-1968  
American Society of Testing Materials (ASTM) 1940 to present  
American National Standards Institute 1950-1974  
The Gypsum Association 1955 to present  
National Safety Council 1930's to present



EXHIBIT F

Rev (9/16/83)

THE FLINTKOTE COMPANY  
INTER-OFFICE CORRESPONDENCE

TO: Mr. John Szal

SUBJECT: AIA/NA

*Kukis*  
*Please advise*  
*Hooker*

FROM: A. R. Hooker, Jr.

DATE: June 14, 1972

I am attaching for each of you an announcement dated June 12 advising that AIA/NA's next meeting is to be held in New York City on June 22.

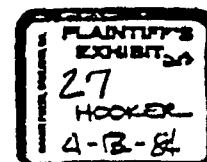
I will attend the meeting as the Flintkote representative. In the meantime, I would like to call to your attention Pages 2 and 3 of the announcement which state the long range objectives of AIA as well as the principle topics that will be discussed at the forthcoming meeting.

I would like to have as much background information as possible concerning the studies that our Corporate Engineering Department have made in order that I can be as well informed as possible concerning Flintkote's over all potention problems, costs and ideas regarding the OSHA asbestos regulations.

*CEL*

ARM:jo  
attachment

cc: Messrs. J. D. Moran with attachment  
W. N. Knorr " "



# Asbestos Information Association/North America

22 East 40th Street  
New York, N. Y. 10016  
(212) 551-8205

cc J.D. Moran  
J. Szal  
W. Kuer

June 12, 1972

TO: AIA/NA MEMBER COMPANIES  
AIA/NA ENVIRONMENTAL CONTROL SUB-COMMITTEE  
AIA/NA LEGAL COUNSEL

|                       |                                     |
|-----------------------|-------------------------------------|
| James Armstrong       | - Bendix Corporation                |
| E. C. Bratt           | - H. K. Porter Company, Inc.        |
| G. G. Gabrielson, Jr. | - Nicolet Industries, Inc.          |
| Bernard Gross         | - American Bilt Rite Rubber Company |
| J. C. Harkins, Jr.    | - Congoleum Industries Inc.         |
| A. R. Hooker          | - The Flintkote Company             |
| C. A. Neumann         | - Kentile Floors Incorporated       |
| G. W. Nickel          | - Armstrong Cork Company            |
| J. W. Rawlings        | - Union Carbide Corporation         |
| Clifford Seymour      | - The Carborundum Company           |
| Philip Weinstein      | - Evertex Incorporated              |
| G. W. Wright, M.D.    | - St. Luke's Hospital               |

Gentlemen:

On June 22, 1972, a special meeting of the Asbestos Information Association/North America will be held in the Biddle Room of the Harvard Club, 27 West 44th Street, New York City. The meeting will begin at 10 A.M. and will continue through lunch.

The purpose of the meeting is to discuss future industry action with regard to the new Federal Occupational Safety and Health Administration (OSHA) standards on asbestos.

Because of the generally reasonable regulations issued by OSHA and the 1976 effective date of the two fiber standard, the asbestos industry may be lured into a false sense of security and consider the OSHA battle to be over. This would be a most serious error to make. If we are to convince OSHA that the two fiber standard and other unfavorable sections of the regulations must be changed, then we must begin now to develop the medical, technical and economic evidence necessary to prove our point. In the introduction to the regulations on page 11318 of the Federal Register, it states:

-2-

"In view of the undisputed grave consequences from exposure to asbestos fibers, it is essential that the exposure be regulated now, on the basis of the best evidence available now, even though it may not be as good as scientifically desirable. An asbestos standard can be reevaluated in the light of the results of ongoing studies, and future studies, but cannot wait for them. Lives of employees are at stake."

The regulations can be changed, but it is up to the industry to prove to OSHA that changes are necessary and what those changes should be. It is desirable, therefore, for the AIA/NA to monitor ongoing studies and to encourage and support additional studies as are needed to:

1. Determine as precisely as possible over the next four years a safe numerical standard for the various asbestos-related diseases. While much has been accomplished in this area in the past, additional studies are needed.
2. Determine whether one or more varieties of asbestos is more or less hazardous than any other variety.
3. Determine through on-the-job evaluation the technological feasibility of achieving both five and two fibers throughout the industry.
4. Determine the actual cost to the industry in both dollars and jobs of achieving two and five fibers.
5. Determine the degree of reliability of the membrane filter method as a policing and monitoring tool in the asbestos industry. A proposal for an AIA/NA sponsored study in this area is presently under consideration.
6. Develop other evidence as required to establish the necessity of additional changes in the regulations as deemed desirable by the industry.

In addition to the above, other topics to be covered at the June 22 meeting will include:

- a. The overall effect on the industry of the new standards.

-More-

-3-

- ✓ b. Programs of assistance for industry companies and customers to help them comply with the regulations.
- ✓ c. The establishment of a cooperative working relationship with OSHA with regard to the implementation and interpretation of the standards.
- 0? d. The advisability of legal action by the AIA/NA against OSHA, especially in light of (1) the four year effective date of the two fiber standard, (2) the favorable decisions by OSHA on most other industry recommendations (see attached two page summary of OSHA acceptance of industry vs NIOSH and Advisory Committee recommendations), (3) the high cost (\$300-500,000) of such a suit, (4) the slim possibility of success, according to AIA/NA legal counsel, and (5) the adverse effect that such a suit would have on our working relationship with OSHA.

0 With regard to point c. above, the AIA/NA is presently in the process of arranging a meeting with representatives from the standards development and enforcement sections of OSHA to resolve some questions with regard to the interpretation of certain sections of the regulations. If your company has any questions of this nature, please let me know as soon as possible so that they may be included on the agenda for our meeting with OSHA. It is the AIA/NA's intention to establish a continuing program of uniform standards interpretation with OSHA, so that industry questions and problems may be resolved at the highest levels in Washington, rather than through OSHA regional offices, which may differ in their standards interpretation and enforcement practices from one region to another.

0 Because of the relatively short time remaining before the June 22 meeting, we would appreciate hearing from you as soon as possible whether you or a representative will be able to attend this most important AIA/NA planning meeting.

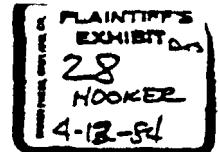
Sincerely,

*M. M. Swetonic*

M. M. Swetonic  
Executive Secretary

Enclosure

I.H. FLINTKOTE COMPANY  
INTER-OFFICE CORRESPONDENCE



FROM: S. Weiss  
White Plains

DATE: September 27, 1972

SUBJECT: OSHA Bulletin #14  
Asbestos Dust Hazard Warning Signs

The Asbestos Information Association has made arrangements to have Asbestos Dust Hazard warning signs printed. The signs will conform to OSHA specifications contained in Standard 1910.93 (g)(1) (ii).

If you wish to obtain the warning signs, you can request them directly from Mr. A. R. Hooker, Jr. who is located at the White Plains office.

10-1-72

Dick Bunn  
↑

No more need comp.  
W. Lim. H. H. H.

Mr. Hawley,

Please order 2 two  
signs for J. Kent.

Sometime ago we order  
6 signs for Mr. Fletcher.  
He has not posted them  
at yet

11/10/10

→ 12 28