CONFIDENTIAL

Interim Report

to the

Quebec Asbestos Mining Association

on

Epidemiological Study of Lung Cancer

in Asbestos Workers

This interim report is presented to acquaint the Association with the progress of the work thus far and the plans for the remainder of the study. The objectives of the program as proposed in the memorandum of March 16, 1956 were to determine:

1. Whether there is relationship between asbestosis and lung cancer.
2. Whether a relationship may exist between mere exposure to asbestos and lung cancer.

The suggested procedure included the following steps:

1. An intra-industry study, selecting a group of people which entered the asbestos industry from ten to twenty years ago and following their future health status.
2. A comparison of this group with the general population of the Province of Quebec.

3. A comparison of the group under study with the populations of the Dominions of Canada and of the United States.

In line with these objectives and suggested procedures, the initial effort was directed to the collection of data relating to all workers who had been processed through the clinic at Thetford Mines, and of similar information on the workers at Canadian Johns-Manville Company in Asbestos. Following the initial visit in February, 1956, the first field work was begun in July at these two locations. Although the data in the two instances were not exactly similar in form, the inclusion of records from the personnel department at Asbestos covering employees who had retired, died, or become disabled provided data sufficiently alike for the purposes of the study.

Data from these clinical records included the age, family and personal medical histories, smoking habits, number of years of exposure, an estimate of weighted exposure, and eventual course of health status or cause of death.

Death certificates in the Province of Quebec for the years 1952 to 1955 inclusive were reviewed during the last week of July. This information was obtained either from the death certificates themselves or from IBM cards summarizing the certificates, in the Department of Vital Statistics of the Provincial Health Ministry. All cases in which death was certified as having been due to lung cancer were examined for such information as the

place of residence, occupation, date of death, hospital in which death occurred, and whether or not an autopsy was performed. Cases in which lung cancer was given as a cause of death but in which it was not specified as to whether the lung cancer originated in the lung were also studied.

In September, additional data on provincial death certificates were collected and the records of the Sun Life Assurance Company of Canada were examined in order to obtain information on death claims paid under the group insurance policy covering the Canadian Johns-Manville workers.

Statistics for the Province of Quebec, relating to population, total deaths from all causes, total deaths from cancer, and deaths from lung cancer were collected and have been tabulated by counties and by sex for the years 1950 to 1955.

These data are currently being processed in several different ways. Death rates for the general population in specific years are being established. They will be classified according to total deaths, deaths from cancer, and deaths from lung cancer by county of residence and by sex for the years 1950 to 1955 inclusive. They will then be analyzed to determine which factors seem to be related to any unusual incidence of lung cancer.

Deaths from lung cancer among asbestos workers are being determined from information contained in the clinical records as well as from the death certificates and insurance records. In order to verify the figures, the individual deaths are now being reviewed with the physicians

at Asbestos and at Thetford Mines. The same verification will be carried out for the death certificate information. On completion of this phase, it will be possible to establish a list of cases in which primary cancer of the lung has been proved as the cause of death. All those cases in which lung cancer is strongly suspected but unproved as the cause of death will be listed separately. Both lists will then be subjected to careful analysis to determine possible relationships or correlations between lung cancer and any of the other factors known from the clinical records. Such factors may include family history of cancer, personal history of heavy smoking, etc. Any apparent discrepancies in the correlations will be carefully evaluated to avoid possible bias and to assure proper conclusions from the resulting statistics. The "cohorts" being established for the Thetford Mines group and the Canadian Johns-Manville group will be used to make comparison of the health experience and the death rates of asbestos workers between these two groups and between them and the general population. The death rate from lung cancer among these workers can be established and compared with the death rate from the same cause among the general population and among specific segments of unexposed persons. After consideration of all factors affecting the comparability of the figures, the cohorts referred to are being established by picking out all employees of record for a selected year. Those still working at this time will be subtracted from this list. Of the remainder, those who have died of all causes will be studied exhaustively. There will, of course, be a few who will have been lost to the record, but every attempt will be made to reduce this number to an irreducible minimum.

In addition to the above, related bibliographical material has been collected, studied and abstracted. Particular emphasis is being placed on the accumulation of relevant background statistics.

In summary, several available sources of data have been examined to date. From these sources, information pertinent to the problem has been collected and is being reduced to a form in which it can be conveniently analyzed. Meanwhile, the literature is being searched with relation to asbestosis and to statistics relating to the association between asbestosis and lung cancer.

Respectfully submitted,

March 8, 1957