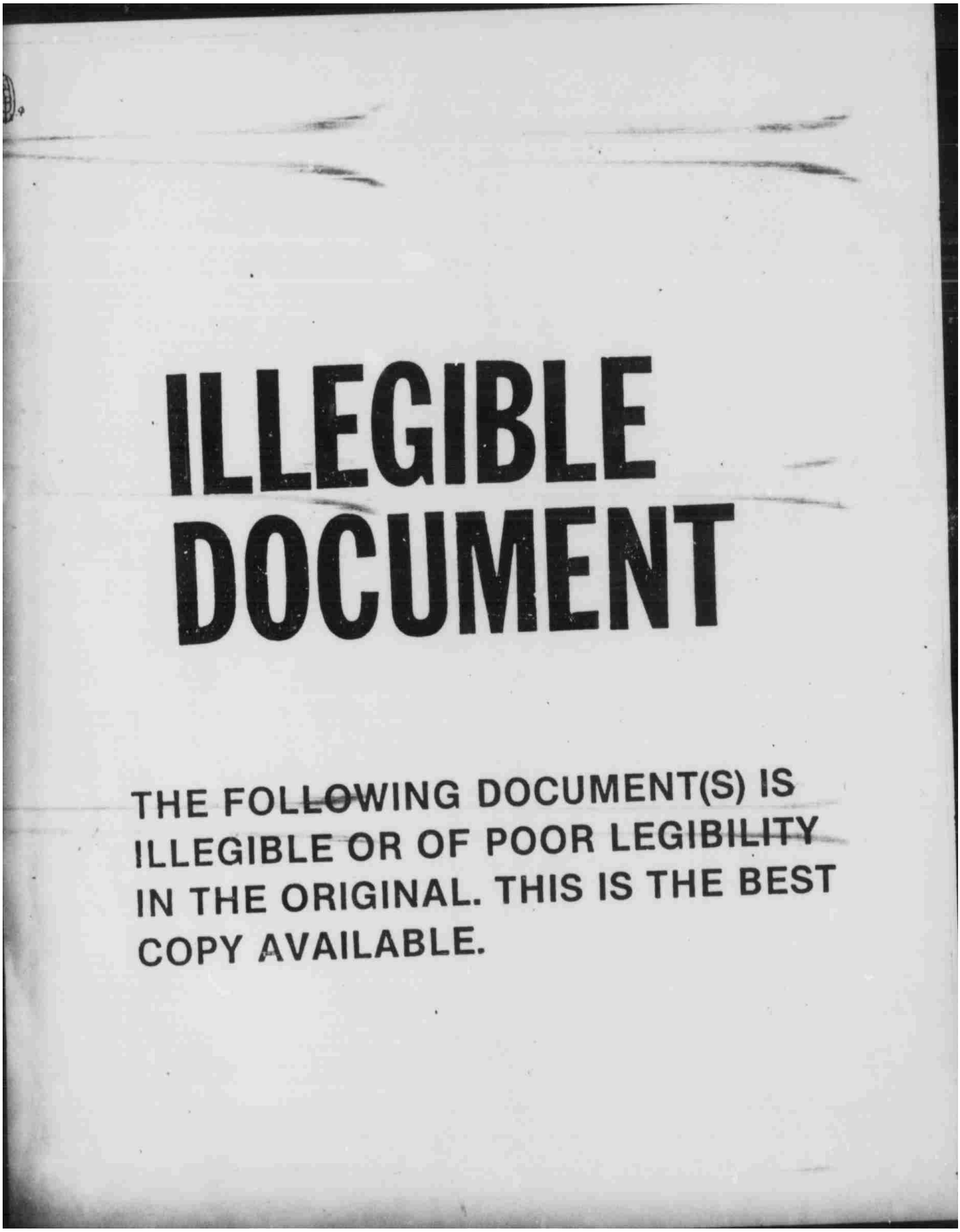
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MARGINALIA
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SARANAC PROGRAM
ON THE
INVESTIGATION OF
ASBESTOSIS AND PULMONARY CANCER

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Submitted by:

Arthur J. Vorwald, M.D.
Director, The Saranac Laboratory
and The Trudeau Foundation

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ASBESTOSIS AND PULMONARY CANCER

I. INTRODUCTION

An experiment has been in progress at The Saranac Laboratory for some 14 months in an attempt to ascertain the influence of inhaled asbestos dust upon the incidence of pulmonary tumors in mice. The purpose of this study is to obtain experimental data for correlation with experience pertaining to pulmonary cancer in industrial workers exposed occupationally to the inhalation of asbestos dust.

Two strains of mice, one susceptible and the other resistant to the development of pulmonary tumors, have been exposed to the asbestos dust; comparable numbers of control animals of each strain have been kept in normal air but under conditions of housing and diet identical with those of the experimental animals. The experiment has been designed to reveal a possible earlier onset of tumors in the exposed animals than in the control group as well as to determine the total incidence of tumors occurring over the entire period of the experiment.

It may be stated here that the evidence obtained reveals no tendency towards an earlier onset of tumors among exposed animals in comparison with control animals. Nevertheless, there does appear to be a trend toward a greater incidence of tumors in the exposed animals than in the control animals. It is important to note, however, that statistical analysis of the data obtained up to the present shows that the differences between the experimental and the control animals are no greater than might be expected to occur by chance alone. The experiment is not completed and it is considered likely that, if the ratios of tumor incidence at the next period when animals

are killed are similar to those for the 14-month interval, the trend which is now noted may finally be shown to be statistically significant because of the larger total number of animals observed.

II. MATERIALS

A. Dusting Material: The dust used in this experiment was received on January 5, 1951, from the Johnson Company Asbestos Mines of Thetford, Quebec, and was given the Ceramic Laboratory number MD-133. X-ray diffraction analysis revealed that the material contains a variety of minerals, of which the serpentine group amounted to 70 per cent. Though the particulate mineral serpentine and the fibrous mineral chrysotile yield the same diffraction pattern, petrographic examination showed that there was considerably more chrysotile than serpentine present in the material. Much of the chrysotile occurred in thick unopened bundles, but it was estimated that at least 25 per cent of the chrysotile was present as individual fibers or partially opened bundles. Other components, largely particulate, included a few per cent of magnetite, chromite, brucite, talc, and quartz, and traces of miscellaneous minerals. The quartz content was about 1 to 2 per cent. Of the particulate material at least 85 per cent of the particles were less than 5 microns in size.

Studies of samples of atmospheric dust taken from the animal exposure room revealed, with respect to the length of the chrysotile fibers, that the fibers occurred in the following distribution of sizes:

Fibers less than 5 microns in length		32.3 %
" from 5 to 10 " " "		35.3
" " 10 to 20 " " "		20.7
" " 20 to 50 " " "		8.3
" " 50 to 100 " " "		2.7
		99.3 %

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[illegible] obtained from the [illegible]. The [illegible] modified on [illegible] by [illegible], under the usual practice of [illegible] the [illegible] for [illegible] with the mice approximately, [illegible] of primary [illegible] appearance of [illegible] tumors of about 50 per cent. Since in the present [illegible] proposed to study the [illegible] [illegible] with evidence of tumor, Strain A was [illegible] for this investigation because my increased [illegible] would [illegible] to ascertain. Strain C was used, therefore, because it had a lower incidence of pulmonary tumors [illegible] of offered [illegible] advantages, among which was the [illegible] of pulmonary carcinoma in Strain C, which might [illegible] the [illegible] of the primary lesion, and [illegible] Of the [illegible] of pulmonary tumors, [illegible] Strain C [illegible] of this strain were [illegible] colony of an [illegible] ratio comparable to that of the Strain C colony.

III. METHODS

A. Handling mice: The mice derived [illegible] laboratory [illegible] were kept [illegible] for the administration of asbestos dust [illegible] for experimental purposes [illegible] in the [illegible] [illegible] mice [illegible] of moderate [illegible]

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of the asbestos dust by a rotating paddle in a large hopper filled with asbestos dust to approximately the level of the axle of the paddle. The edges of the paddle are equipped with stiff wire brushes to break up the small balls of asbestos which tend to form. The dusting mechanism is kept in operation inside the 8-foot cubical dust room for 8 hours a day, 5 1/2 days per week. Animals live continuously in the room, which is ventilated with fresh clean air when the dust dissemination is not in operation. Atmospheric samples are collected in the room at regular intervals with a Greenburg-Smith midget impinger and dust counts made by the light field technic with a microprojector. The dust counts have averaged 817 million particles per cubic foot of air. By gravimetric, the fibers have represented about 6.6 per cent of the total count, or 53.8 million. Of the total number of fibers, about 11 per cent are longer than 20 microns. It will be recalled that, in regard to the production of asbestosis, the fibers greater than 20 microns in length are of the greatest importance.

B. Animals: At the start of the experiment 630 mice were placed in the dust room: 330 of Swiss strain C mice, and 330 were Strain C57 black mice. Of each strain 30 were males and 300 were females. This sex ratio was dictated by space requirements, since male mice tend to fight and must be kept in small groups, while many females may safely be placed in a single cage. The total number of control mice was 340, with a sex distribution similar to that of the exposed groups.

In order to follow the development of tumors and to observe any possible earlier onset of tumors among the exposed mice, experimental animals and control animals were killed at regular intervals after the

beginning of the exposure to dust. The intervals chosen were 2, 4, 6, 10, and 14 months; the next interval has been set for 16 months. At each period 34 experimental and 34 control animals were killed; of each group of 34 animals, 17 were Strain C and 17 were Strain C57 black. In each case, the 17 animals included 4 males and 13 females.

IV. RESULTS

The observations made at each of the periods when animals were killed are presented in table 1. It will be noted that the total number of animals examined in each of the different groups varies slightly. This variation is the result of a few spontaneous deaths in each group. The observations made in such cases have been incorporated in the data for the next period. In many instances animals dying spontaneously have been eaten by their cagemates. It has been necessary to discard these animals completely from the record of experimental observations.

It will be noted that within Strain C there is a higher percentage of tumors among animals exposed to asbestos dust than among the controls. The same situation is true within the Strain C57 black. Obviously, the same condition is true also of the over-all figures combining both strains.

The significance of all these percentage incidence figures has been tested statistically by means of the well-recognized formula:

$$S.E. = \sqrt{\frac{P_1 \cdot Q_1}{N_1} + \frac{P_2 \cdot Q_2}{N_2}}$$ where

S.E. = Standard error of difference in [illegible] between the groups

N_1 = Total number of animals in the group

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P_1 = Per cent of animals with tumor in a specific group of animals

Q_1 = " " " " without tumor in the same specific group

(Thus, $Q_1 = 100 - P_1$)

N_2, P_2, Q_2 } Corresponding symbols for another group of animals

It will be recalled that if an observed difference in percentage incidence between two groups is greater than twice the standard error of that difference, the difference may be considered to be significant and due to factors other than chance. If the observed difference is less than twice the standard error, it is very likely due simply to chance. In table 2 the observed difference in the incidence of pulmonary tumor and the critical value of twice the standard error of difference are compared for the various groups. It will be noted by comparing the values that none of the observations made to date are statistically significant. An example of the method of calculation follows.

Calculation of standard error of difference between over-all incidence of tumors in the control animals and in the experimental mice from data in table 1:

Incidence of tumors:	Experimental animals	9.5%
	Control animals	5.5
Number of animals observed:	Experimental animals	179
	Control animals	181

$$S.E. = \sqrt{\frac{9.5 \times 90.5}{179} + \frac{5.5 \times 94.5}{181}} = \sqrt{4.80 + 2.87} = \sqrt{7.67}$$

$$= 2.77$$

$$2 \times S.E. = 5.5\%$$

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Thus a difference up to 5.5 per cent is likely to occur by chance. The observed difference of 4 per cent (9.5 - 5.5 = 4.0) may therefore have occurred simply by chance distribution of animals and is not statistically significant.

V. COMMENT

It will be apparent from a review of table 1 that the experiment is now in its most important phase. The incidence of pulmonary tumors has begun to rise for animals killed at the 18-month period, both for the control animals and for the animals exposed to asbestos dust. The increased incidence is more pronounced for the group exposed to dust, but the rise has occurred at about the same time in both groups. The differences between the two groups, however, as has been noted, are not statistically significant.

The impression is gained from an inspection of table 1 that the large numbers of animals killed early in the experiment are weighting the final figures and detracting from the magnitude of the incidence of tumor. It must be noted that this study has been an experimental one and that it has been necessary to make observations by killing animals for study at regular intervals. It appears that by means of a rather involved statistical procedure the disproportionate weighting of the values by the data of the early observations can be eliminated. This procedure will be carried out after final observations have been made, since it is too laborious an undertaking to be performed at the present stage when the values obtained would be only of academic interest.

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It may be noted in passing that if the over-all incidence of tumor among the exposed animals had been only slightly greater--11 per cent rather than 9.5 per cent--the difference between the incidence for the exposed group and for the control group would have been statistically significant.

VI. SUMMARY

An experiment concerning the influence of inhaled asbestos dust upon the incidence of pulmonary tumors in mice has been in progress for 14 months. Analysis of the results of this experiment reveals that thus far (after the animals have been exposed to asbestos dust for 14 months), the dust has not exerted an influence of a degree sufficient to cause statistically significant alterations in the incidence of pulmonary tumors. The final phases of this experiment will be of great importance, since at the most recent period when animals were killed for study the incidence of tumors had increased and the increase seems to be more pronounced among the animals exposed to asbestos dust than among the non-exposed control animals.

AJV:je

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To Dr I

Occurrence of Pulmonary Tumors

in Mice Exposed to Ash-free Dust and in Mice Not Exposed to Dust

Strain of mice	Period of observation months	Number of mice with tumor in the group exposed to asbestos dust Male	Female		Number of mice with tumor in the control group not exposed to dust Male	Female	
Strain C (Tumor susceptible strain of mice)	2	0	0		0	1	
	4	0	1		0	0	
	6	0	1*		1	0	
	10	0	2		0	1	
	24	1	7		0	4	
				12			7
Number examined:		22	72		20	72	
				94			92
Incidence of tumor:		12 ÷ 94 = 12.8%			7 ÷ 92 = 7.6%		
Strain C57 Black (Tumor non-susceptible strain of mice)	2	0	0		0	0	
	4	0	0		0	0	
	6	0	0		0	0	
	10	0	1		0	2	
	24	2	2		0	1	
				5			3
Number examined:		19	66		20	69	
				85			89
Incidence of tumor:		5 ÷ 85 = 5.9%			3 ÷ 89 = 3.4%		
Incidence of tumor in both groups:		17 ÷ 179 = 9.5%			10 ÷ 181 = 5.5%		

* Malignant

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Table 2

Difference in Incidence of Pulmonary Cancers

in Mice Exposed to Asbestos Dust and in Mice Not Exposed to Dust

Groups of mice compared	Observed difference in incidence	Twice the standard error of difference	Statistical significance of observed difference
	per cent	per cent	
Strain C asbestos group vs Strain C control group	5.2	8.8	Not significant
Strain C57 black asbestos group vs Strain C57 black control group	2.5	6.5	Not significant
All asbestos groups (both strains) vs All control groups (both strains)	4.0	5.5	Not significant
All asbestos groups at 10 and 14 months vs All control groups at 10 and 14 months	8.3	13.0	Not significant
All asbestos groups (total incidence) vs All groups * (total incidence)	3.1	4.8	Not significant

* The values for all groups (total incidence) are based upon observations for the asbestos and the control groups and also for groups exposed to two other dusts--iron oxide and quartz--in another experiment.

FILE COPY

August 1, 1952

Dr. A. J. Lanza, Chairman
Institute of Industrial Medicine
New York University-Bellevue Medical Center
477 First Avenue
New York 16, New York

Dear Dr. Lanza:

Attached to this letter, as well as to Hugh Jackson's copy, is Saranac's first interim report of May 7, 1952, on the asbestosis and pulmonary cancer study that is beong conducted for the Canadian Q. A. M. A.

You will note that the conclusions so far do not indicate unfavorable findings. Of course, later conclusions on results of animal exposure beyond the fourteen months here covered may change the picture.

Sincerely yours,

J. P. Woodard

Enclosure

Copy to: Mr. H. M. Jackson

bc: Herbert M. Ball (enc)

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FILE COPY

August 1, 1952

Mr. Ivan Sabourin
Aldred Building
Montreal, Quebec
Canada

Dear Ivan:

Thank you very much for the copies of the first interim report of May 7, 1952, from Saranac on ASBESTOS AND PULMONARY CANCER covering the work done to date for the Q. A. M. A. on this subject.

You were thoughtful to mention that you and Carmen would be happy to have Mervil and me see you there. Our short visits at your home have been most pleasant ones. We shall take the very first opportunity that presents itself to see you two again, though, unfortunately, I don't know at this time just when we might be up that way.

We both appreciate very much your suggestion that we come. And, in the meantime, should either or both of you be in this area, we do hope you will make the point to see and stop with us.

With warm personal regards and very best wishes to you both,

I am

Sincerely yours,

J. P. Woodard

IVAN SABOURIN
ADVOCATE

MONTREAL. July 9th, 1952.

PERSONAL:

Paige Woodard, Esq.,
Executive Offices,
Johns-Manville Corporation,
22 East 40th Street,
New York 16, N.Y.

Dear Paige,

Re: Saranac Asbestosis and Pulmonary Cancer
(First Interim Report)

I was away for a couple of weeks and regret much delay in forwarding you the five copies which you will find enclosed.

Carmen and I hope much to have the pleasure to see you and Mervyl soon at the house. There are many things to talk about.

Cordial regards,

Ivan Sabourin.

10/16

(encl. 5)

June 13, 1952

Mr. Ivan Sabourin
Aldred Building
Montreal, Quebec
Canada

Dear Ivan:

A copy of the letter of May 6 from Trudeau to you mentions that the first interim report on ASBESTOSIS AND PULMONARY CANCER supported by the Quebec Asbestos Mining Association was being sent to you within a few days.

I assume you have copies of this report by now and I wonder if you could send a copy of it to Dr. A. J. Lanza and to me.

If you do not have sufficient copies, just let me know and I can get one from Saranac.

Sincerely yours,

J. P. Woodard

Copy to: Dr. A. J. Lanza
Institute of Industrial Medicine
New York University-Bellevue Medical Center
477 First Avenue
New York 16, New York

bc: H. M. Jackson

THE TRUDEAU FOUNDATION
FOR
THE CLINICAL AND EXPERIMENTAL STUDY OF PULMONARY DISEASE

AT SARANAC LAKE, N.Y.
THE SARANAC LABORATORY
THE TRUDEAU FOUNDATION
THE TRUDEAU SCHOOL

AT TRUDEAU, N.Y.
THE DEPARTMENT OF PHYSIOLOGY
THE DEPARTMENT OF BIOCHEMISTRY
THE DEPARTMENT OF RADIOLOGY
THE TRUDEAU LABORATORY

May 6, 1952

Mr. Ivan Sabourin
Aldred Building
Montreal, Quebec
Canada

Dear Mr. Sabourin:

Our first interim report on ASBESTOSIS AND PULMONARY CANCER, which study is being supported by the Quebec Asbestos Mining Association, is in preparation and will be ready for mailing on Thursday or Friday of this week. Will you please let us know the number of copies that will be needed and to whom they are to be sent?

Sincerely yours,

Lillian R. Blinn

Lillian R. Blinn (Mrs. A.B.)
Executive Secretary to -
Arthur J. Vorwald, M.D.
Director

LB

CC: Mr. J. P. Woodard

IVAN SABOURIN
ADVOCATE

MONTREAL, December 20th 1950

J P. Woodard, Esq.,
Director of l ersonnel Policies,
Johns-Manville Corporation,
22 East 40th St.,
New York 16, N.Y.

Dear Page, Saranac's Proposal to Q.A.M.A.

I acknowledge receipt of your letter of the 4th inst., and contents are noted.

I shall be guided by your views, and shall keep you fully informed.

In the meantime, my very best regards.

Cordially yours,

Ivan Sabourin, K.C.

is: l

Copy to: A. R. Fisher, Esq.

1/19

ALDRED BUILDING

F

December 4, 1950

Mr. Ivan Sabourin
Aldred Building, Room 2201
Montreal, Quebec, Canada

Saranac's Proposal to Q. A. M. A.

Dear Ivan:

We have always been somewhat disturbed by the arrangement about release of information on test data. Saranac's wording in the Proposal seems to me inadequate. We have never intended to suppress information, but feel its release should be timely and that we should have the right of advance knowledge so we could make such defensive moves as might be available to us.

Please spell out in the agreement with Saranac a more precise understanding on release of information. Here below is quoted from an agreement I found in some material from Dr. Lanza. I suggest you use the same principles in the understanding with Saranac:

"Information to be furnished by The Donor or its affiliated companies to the staff of The Institute and results of The Institute's studies are confidential and The Institute will use its best efforts to see that such information is not disclosed, without The Donor's written consent, to persons other than those actually engaged in the investigations under this Agreement. It is appreciated that the results of such investigations may be of public and medical interest and it is understood that The University reserves the right to have members of The Institute publish the results of the experimental studies conducted by The Institute which are of public and medical interest, but that before any of the scientific results obtained in these studies are so published, a copy of the material to be published shall be submitted to The Donor at least thirty (30) days before publication for its comments or criticism. It is also understood and agreed that The Donor, or its affiliated companies will not be identified nor will proprietary names of its or their products be used in connection with such published results without The Donor's consent."

We assume you will proceed to provide a letter of understanding embodying final arrangements with Saranac in accordance with their Proposal and the minutes of our meeting of November 7, 1950.

Yours sincerely,

J. P. Woodard

Copy to: Mr. A. R. Fisher

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December 4, 1950

Memorandum to:

Mr. Ivan Sabourin
Dr. A. J. Lanza
Dr. A. J. Vorwald

Minutes of Discussion Held at
Saranac Lake on November 7, 1950

Attached to each letter is a copy of the minutes of the meeting held at Saranac on November 7, 1950. The meeting was to discuss Saranac's Proposal of September 21, 1950, to the Quebec Asbestos Mining Association and to reach final understanding on how it is thought the program should be pursued.

It is presumed Mr. Sabourin will confirm with Saranac final understanding with Q. A. M. A.

Yours sincerely,

J. F. Woodard

Enclosure

Copy to: Vandiver Brown
A. R. Fisher
L. C. Hart
C. E. Foster

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November 15, 1950

J. P. Woodard

Saranac Experiments -
Publication of Results
November 10, 1950

I assume that the paragraph quoted by you goes about as far as we can reasonably expect a learned or scientific institution to go. We, of course, have never intended to suppress information obtained as a result of experiments financed by us and on the occasions when we insisted that there be no publication without our advance "approval" we have had in mind that we might possibly wish to defer release until we could make such defensive moves as might be appropriate and available to us.

Vanderbilt Brown.

VB:y

FILE COPY

CONFIDENTIAL

MINUTES OF DISCUSSION HELD AT
SARANAC LAKE ON NOVEMBER 7, 1950

Those present were: A. J. Langa, M. D.
Ivan Sabourin
A. J. Vorwald, M. D.
J. P. Woodard

The Saranac Laboratory's Proposal of September 21, 1950, to the Quebec Asbestos Mining Association stated the problem as:

> "The specific problem is to ascertain whether or not a relationship exists between the inhalation of asbestos dust and primary pulmonary cancer."

This report proposed a program for trying to get an answer to this problem. The program consisted of two phases:

1. Epidemiological investigation.
2. Experimental investigations, i.e., dusting and checking of animals.

The report to the Quebec Asbestos Mining Association on Pulmonary Cancer, dated September 25, 1950, which was accepted in principle by the Q. A. M. A. at their recent meeting, generally followed, but in brief, Saranac Laboratory's Proposal. A committee of the Q. A. M. A. composed of Messrs. Foster and Sabourin presented this report at this recent meeting.

Following a discussion with Mr. A. R. Fisher, it was left that Messrs. Woodard and Sabourin, and Doctors Vorwald and Langa would review the Proposal at Saranac to clear up any questions that might be open and arrive at a conclusion as to what is recommended from here on, including who would do what, how long it would take, and how much it would cost.

That was the purpose of this meeting.

I. Short-Range Program - Epidemiological Survey

The short-range program was to consist of a carefully conducted epidemiological survey to determine the incidence of cancer among people exposed to asbestos dust as compared with the incidence among those not exposed.

A. Discussion:

1. Dr. Vorwald's comments were as follows:

a. We should learn the incidence of cancer among those exposed to asbestos dust and among those not exposed by:

December 4, 1950

Mr. Ivan Sabourin
Aldred Building, Room 2201
Montreal, Quebec, Canada

Saranac's Proposal to Q. A. M. A.

Dear Ivan:

We have always been somewhat disturbed by the arrangement about release of information on test data. Saranac's wording in the Proposal seems to me inadequate. We have never intended to suppress information, but feel its release should be timely and that we should have the right of advance knowledge so we could make such defensive moves as might be available to us.

Please spell out in the agreement with Saranac a more precise understanding on release of information. Here below is quoted from an agreement I found in some material from Dr. Lanza. I suggest you use the same principles in the understanding with Saranac:

"Information to be furnished by The Donor or its affiliated companies to the staff of The Institute and results of The Institute's studies are confidential and The Institute will use its best efforts to see that such information is not disclosed, without The Donor's written consent, to persons other than those actually engaged in the investigations under this Agreement. It is appreciated that the results of such investigations may be of public and medical interest and it is understood that The University reserves the right to have members of The Institute publish the results of the experimental studies conducted by The Institute which are of public and medical interest, but that before any of the scientific results obtained in these studies are so published, a copy of the material to be published shall be submitted to The Donor at least thirty (30) days before publication for its comments or criticism. It is also understood and agreed that The Donor, or its affiliated companies will not be identified nor will proprietary names of its or their products be used in connection with such published results without The Donor's consent."

We assume you will proceed to provide a letter of understanding embodying final arrangements with Saranac in accordance with their Proposal and the minutes of our meeting of November 7, 1950.

Yours sincerely,

J. P. Woodard

Copy to: Mr. A. R. Fisher

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(1) A careful study of the X-rays of people employed in the asbestos industry.

(2) A study of the X-rays made of the general population by the mobile units of the Provincial Department of Health (those not exposed).

(3) A study of post-mortem data on the presence of cancer at death insofar as such information may be available. It was pointed out that in the Province it is the practice not to list cancer as a cause of death even when it is, so that information on this may not be of much help to us.

2. Dr. Lanza commented:

a. The one important point is that we get an expert epidemiologist, i.e., one who can take the job over, do it correctly and adequately, and come up with the correct answer.

b. Dr. Lanza agrees it is important that a Canadian be chosen to handle the job. In case a Canadian cannot be found who can do the job adequately, someone from the U. S. can then be used.

3. Mr. Sabourin suggested:

a. That prior consultation with appropriate Canadian authorities and a request for their suggestions on certain phases of the program would get their tacit backing and that this would materially strengthen the base of the program. Accordingly, Mr. Sabourin agreed to review the matter with Dr. Vidal and also to arrange so that Dr. Vorwald will be able to be in touch easily with the Dean of the McGill Medical School (or Dr. Vorwald will do so, as may be decided between the two of them). By this arrangement, Dr. Vidal and the McGill Dean would know of the program and their help and suggestions would be sought in choosing an able epidemiologist to carry out the first part of the program. Having decided on the individuals who might be considered for the job, it would then be up to Saranac to make final arrangements.

b. In addition to the epidemiologist, a statistician is needed. Miss Ross has been suggested as an assistant. This can be worked out by Dr. Vorwald and Mr. Saboruin in line with the situation and the wishes of the Q. A. M. A.

4. It was the understanding also that X-ray consultants would be needed and it was the consensus that Doctors Smith and Cartier could do preliminary screening of X-rays, which would leave Saranac only

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the job of studying those which would be sent to Saranac. It was pointed out that the two company doctors should not be used in any fashion that might lead anyone to question the objectivity of the study and this Saranac can determine.

B. Conclusions:

1. Doctors Smith and Cartier will screen X-rays, then Saranac will make the final study on the X-rays that have been screened out for them.

2. An epidemiologist will be chosen, as outlined above. Saranac will make the approach with a view toward making final arrangements with the man who has been tentatively chosen.

3. The epidemiological report as first made will go to Saranac. Dr. Lanza will evaluate the report in this form and suggest best use of the report, revisions that might be made, and other such matters. There should be discussion between Saranac, the underwriting organizations, and others interested as to the timeliness and propriety of the use of the material developed by this report. It is important that the report be available only to the underwriting companies and not made generally available until it has been reviewed with and by the companies.

4. Saranac Laboratory is responsible for the program.

   a. Saranac is to make the final arrangement with the epidemiologist and others to make the study, and is also responsible to head up and supervise the study.

   b. The program should be started as soon as it is possible to do so.

   c. It was estimated that the job could be done in six months if a qualified epidemiologist can be obtained who can devote a reasonable length of time to the study. It is desirable that the job be done in six months and therefore the person hired for the job should be impressed with the fact that the study should be pushed and conclusions reached promptly.

   d. While the original program stated a possible cost of $4,000, it was stated in the discussion that the cost might run between $4,000 and $6,000, it being thought, however, that $5,000 would be adequate.

II. Long-Range Program - A research program of perhaps two years' duration in two parts:

(1) The transplanting of asbestos and embryonic tissue into animals (originally suggested to be under the guidance of Dr. Lanza and his group).

(2) Utilizing the facilities at the Trudeau Laboratory, as in the past, and subjecting animals to high asbestos dust conditions.

A. Discussion:

1. Dr. Lanza said that he is not prepared to carry out a formal project as mentioned in (1) above; that Dr. William Smith, along with Dr. Sutherland associated with him, is doing some of this with finely ground asbestos, as well as with some other materials.

2. Dr. Vorwald gave the following information about part (2) of the program, which, of course, is given in more detail in the Saranac Laboratory's Proposal of September 21, 1950:

   a. Set up a program consisting of 300 animals to be subjected to asbestos and 300 control animals.

   b. The program is likely to last for two years.

   c. It would probably take two months to get enough of the right kind of animals and get under way.

   d. Quoting Dr. Vorwald: "We hope to show or prove that cancer incidence is not increased among these animals even if dusted." It was mentioned that such results are on the basis of animal experimentation, the results are, strictly speaking, true only of animals, and it should be realized that the same results might or might not hold true in the case of humans.

3. It was agreed that, while the long-range program is going on, Saranac would provide each four months a progress report on the work.

   There was some question as to how complete a progress report should be and it was agreed that a progress report might well be of no more than two typewritten pages to show in concise form:

   a. The work that has been completed up to that time.

   b. How the work is progressing at the moment.

   c. What the future work looks like, i.e., as to when completion may be expected and whether or not the program is ahead of schedule or behind schedule, and by how much.

   d. What general conclusions there are, if any, at the moment, without giving detailed data on the work.

4. The present idea is that the two-year program can be undertaken at an estimated cost, as shown in Saranac's Proposal of September 21, 1950, of $16,000 for the first year, and $10,000 for the second year.

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B. Conclusions:

1. Sufficiently clear data has been shown under A, "Discussion," above, to show the way in which the program would progress, and the consensus was that the program should be undertaken as promptly as possible in line with the points brought out in the discussion.

III. Other Phases of the Long-Range Program.

A. Discussion:

1. In the Proposal to the Q. A. M. A., four suggestions were made:

a. That the various companies making up the Association see that there is more publicity than in the past about the knowledge of this problem and about some of the many favorable aspects that do exist, but which are unknown to most people. The purpose of this is to combat the adverse and often unwarranted pseudo facts that are put out by others. Dr. Smith and Dr. Cartier should be kept advised by others in the Q. A. M. A. and the asbestos industry of any developments that may become known to them.

b. That our doctors occasionally make talks or lectures at medical schools in the general area.

c. That we see that our doctors get adequate affiliation with research centers such as Saranac and other organizations so that they will get all available information on this and other such subjects.

d. That the companies in the asbestos industry consider the formation of an Institute for Industrial Chest Diseases with other mining associations. In doing this, it was mentioned that the help of Dr. Gregoire of Rosemount Sanatorium, Dr. Burke of the Laurentian, and others be sought.

B. Conclusions:

1. It was agreed that the first three (a, b, and c, above) should be done, it being understood, of course, that judgment must be used in the degree of participation of our doctors under b and c.

However, it was the consensus of the group that the asbestos industry would do well to avoid identifying itself at this time with other mining associations (d, above) so far as chest diseases are concerned. It was pointed out that the problems of the asbestos industry are minor as compared with those of many other mining industries, and that such affiliation might tend to identify the asbestos mining industry with the problems of other mining industries. It was felt that this should be held in abeyance.

cc: Vandiver Brown
A. R. Fisher
L. C. Hart
G. K. Foster, Montreal

J. P. W.

November 14, 1950

F-U

11/20

November 10, 1950

Vandiver Brown

Publication of Test Results - Saranac

In your memo of November 7, you mention the problem we have always had in connection with Saranac's publishing test data which we think should be kept confidential, at least for a longer period of time. I asked Dr. Lanza for some help on just what we could properly expect of Saranac and what agreement he thought would be appropriate.

Inasmuch as the Q. A. M. A. is about to enter into an arrangement with Saranac, the question is pertinent thereto.

Would you be kind enough to outline what you think would be a proper statement of agreement on this subject. For your information, the following is quoted from a blank agreement that I find in a file of material I got from Dr. Lanza a good many months ago:

"4. Information to be furnished by The Donor or its affiliated companies to the staff of The Institute and results of The Institute's studies are confidential and The Institute will use its best efforts to see that such information is not disclosed, without The Donor's written consent, to persons other than those actually engaged in the investigations under this Agreement. It is appreciated that the results of such investigations may be of public and medical interest and it is understood that The University reserves the right to have members of The Institute publish the results of the experimental studies conducted by The Institute which are of public and medical interest, but that before any of the scientific results obtained in these studies are so published, a copy of the material to be published shall be submitted to The Donor at least thirty (30) days before publication for its comments or criticism. It is also understood and agreed that The Donor, or its affiliated companies will not be identified nor will proprietary names of its or their products be used in connection with such published results without The Donor's consent."

Maybe this will be of help.

J. P. Woodard

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NEW YORK UNIVERSITY-BELLEVUE MEDICAL CENTER
OF NEW YORK UNIVERSITY
INSTITUTE OF INDUSTRIAL MEDICINE
477 FIRST AVENUE, NEW YORK 16, N.Y.
OREGON 9-3200

November 10, 1950

Mr. J. P. Woodard
Johns-Manville Corp.
22 East 40th Street
New York 16, New York

Dear Page:

I am returning the minutes of our meeting at Saranac Lake. I amde some minor corrections in pencil which I think are clear.

I think you did a remarkable job, particularly when we consider the side issues that were discussed as well as the dramatic nature of the conference.

Sincerely yours,

A.J. Lanza, M.D.

AJL:lc
Encl.

October 27, 1950

Dr. A. J. Vorwald, Director
The Saranac Laboratory
P. O. Box 551
Saranac Lake, New York

Dear Art:

Confirming phone conversation with Mrs. Blinn this morning, it is planned that we will meet Mr. Sabourin there at Saranac on Tuesday, November 7, to review the proposed asbestos program that has been under consideration by the Q. A. M. A.

When the subject was reviewed here with Mr. Fisher, Mr. Foster, and Mr. Sabourin, following the Q. A. M. A. meeting, it was suggested that this meeting be held with you.

It has been difficult to get a day when both Dr. Lanza and Mr. Sabourin could be there, and I hope that the date chosen, Tuesday, November 7, will be satisfactory with you.

Mrs. Blinn said that she or you would call me on Monday, October 30, about the date.

Sincerely yours,

J. P. Woodard

bc: A. J. Lanza, M. D.
A. R. Fisher
Ivan Sabourin
G. K. Foster

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