FILE NAME: Owens Illinois (OWILL)

DATE: 1950-1951

DOC#: OWILL047

DOCUMENT DESCRIPTION: Letters between OWILL & Saranac Labs Related to Contract

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO

July 24, 1950

Arthur J. Vorwald, M.D.
Trudeau Laboratories
Saranac Lake, New York

Dear Art:

I was very much interested in your plans for the next symposium upon pneumoconioses. As soon as the plans are laid, I think it would be an excellent gesture if you would pass on the information to the American Academy of General Practice, Broadway at Thirty-fourth Street, Kansas City 2, Missouri. If they authorize credit for those like myself who are members, it will help us in securing the necessary 50 credits.

For your information, to maintain your membership you are required to secure 150 hours credit by attendance at medical societies and through the deliverance of papers and articles for publication. Fifty additional credits can only be attained through attendance at authorized seminars. I hope this gives you enough information upon the subject.

With kindest regards and best wishes, I am

Sincerely yours,

Medical Director

C.F. Shook, M.D.
ms

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO

August 15, 1950

Arthur J. Vorwald, M.D.
The Trudeau Foundation
Saranac Lake, New York

Dear Art:

Receipt is acknowledged of your letter of August 10 together with informal contracts.

I have discussed this matter with Bill Hazard and we both feel confident that there is a meeting of the minds not only here in Toledo but with you folks at Trudeau.

I might add, however, that in my four years we have never sent any films to you for examination with a view to using such information legally. Our data has been used two-fold - in the plant it aids the plant physician on each individual case, while we in Toledo are able to maintain an overall study of all of our possible dust hazard occupations.

Thanks a lot for your cooperation and assistance in this matter.

Sincerely yours,

INDUSTRIAL RELATIONS DIVISION

Charles

Medical Director

C.F. Shook, M.D.
ms

August 10, 1950

C. F. Shook, M.D.
Medical Director
Owens-Illinois Glass Company
Toledo 1, Ohio

Dear Charles:

My delay in returning the contract was due to the absence of Doctor Bristol from the x-ray department on account of illness in his family. I wanted to discuss the matter with him before committing his department.

We agree in principle to the contract concerning case films forwarded to us on a survey basis. In survey examinations there are always a number of men with normal chests and their x-rays can be reviewed quickly, offsetting the time and study which must be given to problem cases. Thus it is possible to keep the over-all cost per case on a survey series at a very low figure. When, however, a case which requires particular attention for medico-legal purposes is forwarded to us, we believe that it should be handled as a special case and be billed accordingly. This is our general practice with other companies.

I believe that you will concur with our view concerning the matter. In that light, the two copies of the contract are being returned approved and accepted by us.

Sincerely yours

Arthur J. Vorwald, M.D.
Director

AJV:bw
Encs. (2)

cc: [illegible]

SAR. LAB Co

OWENS-ILLINOIS GLASS COMPANY
Toledo 1, Ohio

C O P Y

C O P Y

January 1, 1950

The Trudeau Foundation
P. O. Box 551
Saranac Lake, N. Y.

Gentlemen:

This will confirm our agreement for your services for one year from the date hereof.

From time to time we will forward Chest X-Rays to you for interpretation. You will supply a written statement of your interpretation of each Chest Case for which you will bill us $4.00 per Case. A "Chest Case" is defined as the roentgenograms of one person, and may consist of a single film, a series of films sent for comparative study, a stereo pair, a lateral, and an oblique. Interpretations rendered at different dates, although of the same person, will be billed as separate Chest Cases.

If the above is in accord with your understanding, please sign three copies of this letter at the appropriate place indicated below, and return two signed copies to us for our files.

Very truly yours,

OWENS-ILLINOIS GLASS COMPANY

/s/ G. W. Cook
Asst. Director of Purchases

Approved and Accepted

August 10, 1950

THE TRUDEAU FOUNDATION

By /s/ Arthur J. Vorwald

cc: Mr. Waaner 2/10/50 AJV
cc: Dr. Rist

Saranac Lake, N. Y.

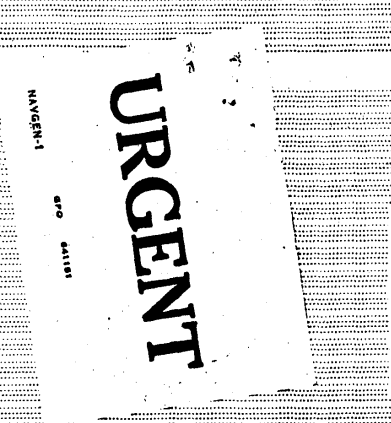
Dear Doctor Vorwald:

I agree in principle with the contract as submitted by the Owens-Illinois Glass Company, dated January 1, 1950. However, as mentioned in your note, there must be clarification concerning any special medico-legal cases upon which the company may desire our opinion.

Very truly yours,

Leonard J. Bristol, M.D.,
Director, Dept. of Radiology

LJB:S



Leon J. think this is OK. for answer. It could readily be done, however, on the basis of an examinee rather than case or file -- Before signing it, I'd like to see it. Ltr.

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

August 10, 1950

C. F. Shook, M.D.
Medical Director
Owens-Illinois Glass Company
Toledo 1, Ohio

Dear Charles:

My delay in returning the contract was due to the absence of Doctor Bristol from the x-ray department on account of illness in his family. I wanted to discuss the matter with him before committing his department.

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I believe that you will concur with our view concerning the matter. In that light, the two copies of the contract are being returned approved and accepted by us.

Sincerely yours

Arthur J. Vorwald, M.D.
Director

AJV:bw
Encs. (2)

OWENS-ILLINOIS GLASS COMPANY
Toledo 1, Ohio

C O P Y

C O P Y

January 1, 1950

The Trudeau Foundation
P. O. Box 551
Saranac Lake, N. Y.

Gentlemen:

This will confirm our agreement for your services for one year from the date hereof.

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If the above is in accord with your understanding, please sign three copies of this letter at the appropriate place indicated below, and return two signed copies to us for our files.

Very truly yours,

OWENS-ILLINOIS GLASS COMPANY

/s/ G. W. Cook
Asst. Director of Purchases

Approved and Accepted

January 10, 1950

THE TRUDEAU FOUNDATION

By /s/ Arthur J. Vorwald

January 26, 1950

Mr. William J. Meyers
Purchasing Agent
Owens-Illinois Glass Company
Bridgeton, New Jersey

Re: Requisition No. 148 URH-hA
Purchase Order No. B-379
Dated - January 23, 1950

Dear Mr. Meyers:

Thank you for your authorization of January 23 in which you have approved our charge of $4.00 each for the interpretation of X-rays taken and sent by you of your employees during the period February 1, 1950 to January 31, 1951.

Sincerely yours,

Arthur J. Vorwald, M.D.
Director

AJV:LB
CC: Fiscal Department w/original purchase order
Department of Radiology

January 20, 1950

Mr. William J. Meyers
Bridgeton Purchasing Agent
Owens-Illinois Glass Company
Bridgeton, New Jersey

Dear Mr. Meyers:

Your letter of January 11 addressed to the attention of Doctor Gardner has come to me for attention. Doctor Gardner died suddenly some few years ago.

We are pleased to note that you wish to renew the arrangement covered by your order B-5349 of December 21, 1948, for the interpretation of x-ray films by the Foundation. During recent months, however, the Foundation and Sanatorium have been forced to raise its fees in accordance with increasing costs and to offset the increasing operating deficit of all departments, including the Department of Radiology. Therefore, we wish to advise that our charge for the type of service rendered heretofore cannot be accomplished for less than a $4.00 fee per film. I trust this is agreeable to you, and that we may again have the pleasure of serving you.

Sincerely yours

Arthur J. Vorwald, M.D.
Director

AJV:bw

cc Final Ref
Ref. of Radiology

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO



BRIDGETON, NEW JERSEY

URGENT

M. G. BEISHLINE
PLANT MANAGER

January 11, 1950

The Edward L. Trudeau Foundation
of the Trudeau Sanatorium
6 Church Street
Saranac Lake, New York

Attention: Mr. LeRoy U. Gardner,
M. D., Director

Gentlemen:

Arrangement for the interpretating of X-rays for us as covered by our order B-5349 of 12/21/48 expires January 31, 1950. Charge for the service has been $2.50 each.

Being interested in renewing the above for another year beginning with February 1, 1950, would you please advise if the $2.50 charge per X-ray still applies.

Yours very truly,

OWENS-ILLINOIS GLASS COMPANY

Wm. J. Meyers

BRIDGETON PURCHASING AGENT

Wm.J.Meyers/a

ct 1945 Sept 1949 } 860 films $2150

Reminder:

Owens Lee - re:

X ray readings

for contract year

(1951)

because to make

clear ——— they to

pay ace cottage

in connection with matter

of fees to us - and return

to them = CB

10/12/51

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO

October 25, 1950

Mr. M.C. Eaton
Norwich Pharmacal Company
Norwich, New York

Dear Mel:

I have delayed answering your kind invitation of June 7, 1950, in hopes that by some hook or crook I could schedule a trip near Norwich, New York. To date my plans have kept me at a distance, but we still have your letter before us and someday, somehow we will again spend a nice day together.

I do appreciate the continued invitations from friends of the pharmaceutical industry, and I especially enjoy continuing my education of production lines. No one knows what the future may hold and the better ideas I have of medical supplies and equipment, the better I can fit into any "emergency" plan.

A short time ago I met with Dr. Arthur Vorwald at Saranac Lake and I had a very enjoyable evening with him and his lovely wife. Both of them asked that I extend greetings when next we met. They are a grand pair and I always enjoy being with them. Art has done an excellent bit of research for our company and we feel very close to him.

I presume that I will see you at the mid-year meeting of the American Pharmaceutical Manufacturers Association. At that time we can continue where we left off.

In the meantime, the best of everything to you as usual.

Sincerely,

Medical Director

C.F. Shook, M.D.
ms

bc: Dr. A.J. Vorwald

Shows I did not forget

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO

October 24, 1950

Dr. A.J. Vorwald
Saranac Laboratories
P.O. Box 551
Saranac Lake, New York

Dear Art:

I have your letter of October 19 and apparently I did not make myself clear in describing Dr. Sander's lung specimens used for demonstration purposes. Apparently Dr. Sanders has the source for he showed us an excellent series and thus our enthusiasm.

Under no circumstances do we want you folks to go to any trouble, especially if someone else is already making these cuts available. The next time you see Dr. Sanders, you might ask him what I am talking about.

Glad the peaches arrived OK. We too enjoy them.

The best of everything to you and your fine group in Saranac.

Sincerely,

OWENS-ILLINOIS GLASS CO.

Medical Director

C.F. Shook, M.D.
ms

October 19, 1950
(Dictated October 17)

C. P. Shook, M.D.
Medical Director
Owens-Illinois Glass Company
Toledo 1, Ohio

Dear Charlie:

As you suggest, we will make every effort to prepare duplicate sections of our pathological material for your use. The job is rather a meticulous and time-consuming one. If only we could afford more help. The cost should not be too great.

The peaches from the Northwest were indeed manna from heaven. What size! What taste! Thank you both for the handsome gift.

We look forward to seeing you soon again. With kindest regards,

Sincerely yours,

AJV:LB

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO

Sept. 15, 1950

Dr. A. J. Vorwald
Saranac Laboratories
Saranac Lake, N. Y.

Dear Art:

I spent yesterday morning with our good friend Sanders from Milwaukee, and while with him, he showed me some of those fine sections of lungs mounted for exhibition purposes. You had several of them when I was last in Saranac.

I believe that a series of these mounts would help materially in educating not only our medical people, but management as well, upon the silicosis subject. I think if your group could devise a set including a normal lung, advanced silicosis, tuberculosis, anthracosis, etc., we could sit down with our people and show them the changes that take place within the body.

This is probably an entirely new subject on your part, but yet on the other hand it may be one that somebody else has the answer for.

If the cost was not excessive, I would like to buy a set or two for our own use.

Think the matter over and see if you can help us.

Sincerely yours,

Medical Director

C.F.SHOOK, M.D.
GC

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO

August 10, 1950

Arthur J. Vorwald, M.D., Director
The Trudeau Foundation
P.O. Box 551
Saranac Lake, New York

Dear Art:

Just returned from another trip and found your very interesting letter awaiting me. I am glad that the samples and gifts arrived safely.

Madge asked about Emur Abbott. I wrote my good friends at Abbott Laboratories and their reply is that they never heard of him insofar as that Abbott family is concerned. Dr. Wallace Abbott, the founder of Abbott Laboratories, had only one child, a daughter. Sorry we couldn't give her the information she desired.

Thanks again for everything.

Sincerely,

Charles

Medical Director

C.F. Shook, M.D.
ms

August 10, 1950

C. F. Shook, M.D.
Medical Director
Owens-Illinois Glass Company
Toledo 1, Ohio

Dear Charles:

The glass blocks just fit our house. Both Mrs. Vorwald and I appreciate your thoughtfulness in sending them to us. How did you know of our wish to have them?

My every good wish to you and to Mrs. Shook. I do hope that this time all was well after leaving the Adirondacks. Both of us look forward to your next visit.

Sincerely yours

AJV:bw

July 26, 1950

C. F. Shook, M.D.
Medical Director
Owens-Illinois Glass Company
P.O. Box 1035-36
Toledo 1, Ohio

Dear Charles:

I promised that I would send you the information which we like to have when material is sent to us for our study and opinion.

The attached copy may be useful to you.

Sincerely yours

Arthur J. Vorwald
Director

AJV:bw
Enc.

cc: Mr. W. G. Hazard

June 14, 1950

Mr. W. C. Hazard
Industrial Relations Division
Owens-Illinois Glass Company
Toledo 1, Ohio

Dear Mr. Hazard:

Doctor Vorwald has asked me to say that Friday, July 14, will be a convenient time for your visit and that he is looking forward to the pleasure of having you and Doctor Shook with us at that time.

Should you wish me to make any hotel reservations for you, please let me know.

Sincerely yours,

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

LB
CC: C. F. Shook, M.D.

UNION
W. P. MARSHALL, PRESIDENT
NL = Night Letter
LC = Deferred Cable
NLT = Cable Night Letter
Ship Radiogram
The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

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1950 JUN 8 PM 4 17

DR ARTHUR J VORWALD DIRECTOR=

THE SARANAC LABORATORY SARANACLAKE NY=

:NO REPLY YET OUR WIRE JUNE 6 WOULD FRIDAY JULY 14 BE CONVENIENT WITH YOU FOR DR SHOOKS AND MY VISIT=

W G HAZARD OWENS ILLINOIS GLASS CO=

see letter June 6, 1950

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

July 28, 1950

C. F. Shook, M.D.
Owens-Illinois Glass Company
Toledo 1, Ohio

Dear Charlie:

Thank you for your letter of July 24 and the samples of Kayle which arrived this morning. They will make an excellent addition for our museum.

I will inform Doctor Bristol of the delay with regard to the X-ray films on Ray McKinney. This is not too serious since Doctor Bristol has been called home due to his mother's illness.

Mrs. Vorwald and I enjoyed being with you and Mrs. Shook. We hope that you will return soon again.

Sincerely yours,

Arthur J. Vorwald, M.D.
Director

AJV:LB

GENERAL OFFICES · TOLEDO 1, OHIO

July 24, 1950

Arthur J. Vorwald, M.D.
Trudeau Laboratories
Saranac Lake, New York

Dear Art:

I am sending under separate cover two samples of Kaylo for your museum. If you desire any other samples, please advise me and I will pass the information on to the Kaylo Division.

This organization is now the Kaylo Division of the Owens-Illinois Glass Company and is not a part of the American Structural Products Company.

I would appreciate it if you would call Dr. Bristol and tell him that there will be another two weeks' delay in getting the X-rays on Ray McKinney of our Gas City plant. Ray is on three weeks' vacation and will not return until July 31. At that time they will take the X-rays proposed by Dr. Bristol and send them, together with the occupational history, for further study.

I more than enjoyed my brief visit with you and your excellent staff, and especially did we enjoy the evening with you and Mrs. Vorwald.

When Bill Hazard returns from his vacation, a final report will be made and I know that he will cover you at that time.

Thanks again for everything.

With kindest regards and best wishes, I am

Sincerely yours,

INDUSTRIAL RELATIONS DIVISION

Charles

Medical Director

C.F. Shook, M.D.
ms
cc: Mr. W.G. Hazard

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO

June 15, 1950

Dr. Arthur J. Vorwald
Trudeau Foundation
Saranac, New York

Dear Art:

This morning I received the telegram confirming my reservation at Mirror Lake Inn for four days beginning July 13. Thanks a lot.

We will be seeing you on the 14th.

With kindest regards to you and the family, I am

Sincerely yours,

INDUSTRIAL RELATIONS DIVISION

Charlie

Medical Director

C.F. Shook, M.D.
ms

June 14, 1950

C. F. Shook, M.D., Medical Director
Owens-Illinois Glass Company
Industrial Relations Division
Toledo 1, Ohio

Dear Doctor Shook:

Doctor Vorwald has been tied up all day with visitors to the Laboratory from Washington, D.C., and he has asked me to reply to your letter of June 13.

Earlier today I confirmed the date of July 14 to Mr. Hazard. Doctor Vorwald will be very happy to see you at that time.

With regard to hotel reservations for you for that weekend, as Doctor Vorwald has terminated his membership at the Lake Placid Club, I have reserved a double room with twin beds and bath for you and Mrs. Shook at Mirror Lake Inn, Lake Placid, for late arrival Thursday night, July 13. A number of our visitors have chosen to stay at the Inn and to return there. The meals are excellent. It is run on the American plan - from $10 to $12 per day per person. If this reservation does not appeal to you, please let me know.

Sincerely yours,

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

LB

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO

June 13, 1950

Dr. Arthur J. Vorwald
Trudeau Foundation
Saranac, New York

Dear Art:

Undoubtedly your letter to Bill Hazard is enroute telling us that July 14 would be a good date for the meeting.

Since I am going out of town tonight, I would like to get off my request for hotel reservations now before it is too late. If the 14th is the date set, could you arrange for a nice twin-bedded room for Mrs. Shook and myself for four days at that nice Lake Placid Club you showed us when last we were together.

Lake Placid
1027
B 20.22
Amer Pla

If we are too late for that type of reservation, do the best you can for the same period but have them mark it "Hold for late arrival Thursday night, July 13." We will be driving and you never can tell. One thing we do know and that is that we would like to spend the weekend in your area and we assure you we will be no bother to you.

Bill will write you regarding what reservations he wishes. He will probably have his entire family and will want something in town.

Any reservation that you can make I would appreciate confirmation providing, of course, our date of the 14th is satisfactory. I surely look forward to seeing you.

With kindest regards to you and your lovely wife, I am

Sincerely yours,

INDUSTRIAL RELATIONS DIVISION

Charles

Medical Director

C.F. Shook, M.D.
ms

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

June 15, 1950

Kimble Glass
Vineland, New Jersey

Attention: Mr. B. E. Kimbark
Purchasing Department

Re: P.O. 31-3464

Gentlemen:

With reference to your letter of June 8, a charge in accordance with our contractual agreement of $4.00 per chest case at a given date was not made in the instance of the X-ray films of Mr. Edmund Powell. These films had been read by the X-ray Department previously and a charge was made for the service at that time. We made a flat charge of $4.00 for a review of the films in May and there will be no further charge for that service.

We trust that this will clarify the matter to your satisfaction.

Sincerely yours,

Arthur J. Vorwald, M.D.
Director

AJV:LB

CC: Mr. Clarence Wagner
Fiscal Department - Trudeau

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

June 15, 1950

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Arthur J. Vorwald, M.D.
Director

AJV:LB

CC: Mr. Clarence Wagner
Fiscal Department - Trudeau

THE TRUDEAU FOUNDATION

FOR THE CLINICAL AND EXPERIMENTAL STUDY OF PULMONARY DISEASE

SARANAC LABORATORY
TRUDEAU LABORATORY
TRUDEAU SCHOOL

DEPARTMENT OF BIOCHEMISTRY
DEPARTMENT OF PHYSIOLOGY
DEPARTMENT OF RADIOLOGY

May 31, 1950

IN ACCOUNT WITH

Owens-Illinois Glass Company
P.O. Box 1035-56
Toledo, Ohio

Internal Audit Dept.

Recapitulation of films read during the Month of May, 1950:

Kimble Glass Company	Vineland, N. J.	1	@ $4.00	$4.00
Owens-Illinois Glass Company	Clarion, Pa.	7	"	28.00
Owens-Illinois Glass Company	Sayreville, N.J.	2	"	8.00
		10		$40.00

Distribution:
Orig. and Dup. to Owens-Ill. Glass
Copy for Mrs. Blinn
Copy for Fiscal Dept.

PLEASE REMIT TO: THE E. L. TRUDEAU FOUNDATION, FISCAL DEPARTMENT, TRUDEAU, NEW YORK

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO

File

June 20, 1949

Arthur J. Vorwald, M.D., Director
The Trudeau Foundation
Saranac Lake, New York

Dear Art:

Receipt is acknowledged of your very kind letter of June 10, together with the Annual Report of the Trudeau Sanatorium and Foundation. I already had the opportunity of reviewing this report, and now I can add it to my own library.

This is a most unusual report in that it is interesting as well as instructive. Most reports, as you know, are full of statistics and as a result are hard reading. Thanks a lot.

With kindest regards to you and yours, I am

Sincerely yours,

INDUSTRIAL RELATIONS DIVISION

Charlie Shook

Medical Director

C.F. Shook, M.D.
ms

June 10, 1949

C. F. Shook, M.D.
Medical Director
American Structural Products Co.
P. O. Box 1035-36
Toledo 1, Ohio

Dear Doctor Shook:

The Annual Report of the Trudeau Sanatorium and Foundation has just recently been published. Being mindful of your interest in the work of the Foundation which is covered in the last half of the brochure, I wanted you to be among the first to receive a copy. I hope, Doctor Shook, that the brief expose' of our researches will be of interest to you.

Sincerely yours

Arthur J. Vorwald, M.D.
Director

AJV:bw
Enc.

This is a full rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

UNION

W. P. MARSHALL, PRESIDENT

DL=Day Letter
NL=Night Letter
LT=Int'l Letter Telegram
VLT=Int'l Victory Ltr.

The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

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1951 NOV 26 PM 12 17

CT=TOC054 PD=TOLEDO OHIO 26 1134A=

DR A J VORWALD=

THE SARANAC LABORATORY SARANAC LAKE NY=

THANKS YOUR LETTER 11/19 LOOKING FORWARD SEEING YOU AND TOM DURKAN WEDNESDAY

W G HAZARD OWENS ILLINOIS GLASS COMPANY=

11/28/51

Mr Urbach
Mr. Durkan
Dr Vorwald

No. | To party called
Dictated 11/19

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

October 25, 1951

Mr. W. C. Hazard
Industrial Relations Division
Owens-Illinois Glass Company
Toledo 1, Ohio

Dear Bill:

Wednesday, November 28 will suit me fine; in fact I am very glad you find it possible to delay your visit here until then. My calendar this month is an exceedingly busy one. November 13 I lecture in New York City and then go on to Pittsburgh for the Industrial Hygiene Foundation meetings on the 14th and 15th. Perhaps we will meet there.

With kindest personal regards,

Sincerely yours,

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

AJV:lr
cc: Mr. Durkan
Mr. Urban

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO

October 23, 1951

Dr. A. J. Vorwald
The Saranac Laboratory
Saranac Lake, New York

Dear Art:

Thanks for your telegram. I envy you your trip to San Francisco--and hope you have a wonderful time.

You mentioned November 9-12 as possible dates for our visit. The 12th would be all right, except for a purely personal angle--it means leaving home at noon on Sunday. I am wondering whether you could make it the 13th. If this doesn't work out with you, how would November 28 be?

Personal regards.

Sincerely yours,

Bill

INDUSTRIAL RELATIONS DIVISION

W.G.Hazard:M

October 22, 1951

Mr. W. G. Hazard
Industrial Relations Division
Owens-Illinois Glass Company
Toledo 1, Ohio

Dear Bill:

In reply to your letter of October 19, I am very sorry indeed that other obligations make it impossible to meet with you here on either October 30 or November 5. Unfortunately, I must be in San Francisco on October 26 and it looks now as though I may not get back to Saranac Lake until November 8. Consequently, I suggested in my telegram to you today, November 9, 10, 12, or any time during the week of November 26. I trust that one of these days can be worked into your schedule.

I am very sorry, Bill, that I cannot arrange for an earlier meeting. Please let me know whether any of the dates mentioned will be convenient for you.

With kindest personal regards,

Sincerely yours,

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

AJV:lr

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO

October 19, 1951

Dr. A. J. Vorwald
The Saranac Laboratory
Saranac Lake, New York

Dear Art:

Some time ago we had correspondence with Tom Durkan about his dust counts and other analyses made earlier this year when he and Mr. Urban visited our Sayreville, New Jersey plant. We've been looking for a chance to get together with you and him so we can clarify our understanding of the methods that were used, and their significance.

I'm wondering if I could see you and Tom at Saranac Monday, November 5. If this is not suitable for you, perhaps we could make it Tuesday, October 30. I'd appreciate it if you could send me a wire so I can tie this visit in with a trip to some of our plants in the east.

If neither date is convenient, let me know, and we can work out another one.

Personal regards.

Sincerely yours,

Bill
INDUSTRIAL RELATIONS DIVISION

W.G.Hazard:M

10/22/51
11:10 am Dan Letter

November 19, 1951

Mr. W. G. Hazard
Industrial Relations Division
Owens-Illinois Glass Company
Toledo 1, Ohio

Dear Bill:

I must apologize for the delay in replying to your letter of August 7 regarding the occurrence of kidney stones in industrial workers exposed to lime dust. We have searched our files and have looked up a number of references but have not been successful in obtaining specific information of great value. There is, however, indirect evidence, derived from the Portland cement industry and from the gypsum industry, that exposure to dust containing lime is not significantly responsible for the formation of kidney stones.

The Portland Cement Association, which includes most of the plants in the cement industry, keeps a careful record of accidents and illnesses of the approximately 30,000 employees of the cement plants. Although the Association's tabulation does not mention kidney stones specifically, it is shown in the latest report we have in our files (1941) that the frequency rate of diseases of the genito-urinary system (other than certain ones, like nephritis, which are reported separately) was 2.3 for the cement industry as compared with 2.4 for all industries reporting to the Public Health Service. From this comparison one would infer that dusts in cement plants, of which calcium is usually the predominating component, are not an important cause of kidney stones.

As a part of our investigation of the gypsum industry, in which calcium sulphate is the principal constituent of the atmospheric dust, we had occasion to make physical examinations of more than 100 employees of a certain plant. The report of the study contains the statement that "no evidence of pathological changes was found which could be attributed to the specific action of gypsum dust." Although kidney stones were not mentioned in the report, it seems likely that had there been an unusual occurrence of kidney stones among the men examined, that fact would have been brought out by the interrogation of the men during the course of the physical examination.

In regard to the effect on the calcium balance of drinking

carbonated beverages we have no information. We believe it to be unlikely, however, that ordinary amounts of carbonated beverages would effect the calcium balance.

We are looking forward to your visit here next week.

With every best wish,

Sincerely yours,

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

AJV:lr

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO

August 7, 1951

Dr. Arthur J. Vorwald, Director
The Saranac Laboratory
Saranac Lake, New York

Dear Art:

At one of our plants recently four men suffered kidney stone attacks during an interval of a couple of days or so. Everything of an industrial nature that might have contributed to these attacks was investigated, but the final conclusion was that the four occurred as a coincidence.

One of the physicians consulted, however, has put forth the possibility that breathing lime dust might upset the calcium balance of the body and contribute to the formation of kidney stones. The plant uses lime as a raw material and there is a moderate exposure to lime dust--although we don't know as yet whether any of the four men involved had this exposure or not.

Has any work been published showing whether inhalation of lime dust is likely to result in kidney stones? I don't believe this was discussed in the cement-dust paper published by Dr. Gardner and others in 1939, but there may be something of more recent date that we have missed.

The suggestion was also made that the drinking of coca-cola and other carbonated beverages might have had a bearing on the calcium balance. The plant recently installed soft drink vending machines and they have been popular during the recent warm summer weather.

Any comments you have on these questions will be very welcome.

Sincerely yours,

Bill

W.G.Hazard:M

INDUSTRIAL RELATIONS DIVISION

I must apologize for the delay in replying to your letter of August 7 regarding the occurrence of kidney stones in industrial workers exposed to lime dust. We have searched our files and have collected up a number of references but have not been successful in obtaining specific information of great value. There is, however, indirect evidence, derived from the Portland cement industry and from the gypsum industry, that exposure to dust containing lime ~~calcium oxides~~ calcium is not significantly responsible for the formation of kidneys stones.

The Portland Cement Association, which includes most of the plants in the cement industry, keeps a careful record of accidents illnesses of the approximately 30,000 employees of the cement plants although the Association's tabulation does not mention kidney stones (specifically), as shown in the latest report we have in our files (1941) that the frequency rate of diseases of the genito-urinary system (other than certain ones, i.e. nephrites, which are reported separately) was 2.3 for the cement industry as compared with 2.4 for all industries reporting to the Public Health Service. From this comparison one would infer that dusts in cement plants, of which calcium is usually often the predominating component, are not an important cause of kidney

As a part of our investigation of the gypsum industry which calcium sulphate is the principal constituent of the atmospheric dust, we had occasion to make physical examination of more than 100 employees of a certain plant. The record of the

study contains the statement that "no evidence of pathologic changes was found which could be attributed to the specific action of gypsum dust." Although kidney stones were not mentioned in the report, it seems likely that had there been an unusual occurrence of kidney stones among the men examined, that fact would have been brought out by the interrogation the men during the course of the physical examination.

In regard to the effect on the calcium balance of drinking carbonated beverages we have no information. We believe it to be unlikely, however, that ordinary amounts of carbonated beverages would affect the calcium balance.

We are looking forward to your visit here next week.

With every best wish

September 19, 1951

Mr. William G. Hazard
Industrial Relations Division
Owens-Illinois Glass Company
Toledo 1, Ohio

Dear Bill:

In accordance with the request in your letter of September 17, we have today instructed our Fiscal Department to send the recap of charges for reading chest x-ray films, listed according to plant location, directly to you instead of to your Internal Audit Department.

With every best wish,

Sincerely yours,

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

AJV:lr
cc: Fiscal

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO

September 17, 1951

Dr. A. J. Vorwald, Director
The Saranac Laboratory
Saranac Lake, New York

Dear Art:

For some time the Trudeau Foundation has been sending us a recap of charges for reading chest X-ray films listed according to plant location. Some time in the past, apparently, the fiscal department of the Foundation was instructed to address these recaps attention of our Internal Audit Department. It would be a convenience to us if these recaps were sent to the attention of the writer. We'd appreciate it if you could pass this suggestion on to the people involved.

Personal regards.

Sincerely yours,

Bill
INDUSTRIAL RELATIONS DIVISION

W.G.Hazard:M

April 6, 1951

Mr. W. G. Hazard
Owens-Illinois Glass Company
Industrial Relations Division
Toledo 1, Ohio

Dear Bill:

In accordance with your request of April 5, we are happy indeed to forward to you, under separate cover, three copies of the reprint on Experimental Studies of Asbestosis.

With every best wish,

Sincerely yours,

Arthur J. Vorwald, M.D.
Director

AJV:LB

CC: Miss Hagan:

Please mail 3 reprints to Mr. Hazard.

LAC

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO

April 5, 1951

Dr. Arthur J. Vorwald, Director
The Saranac Laboratory
Saranac Lake, New York

Dear Art:

Do you have extra reprints of your asbestosis paper that appeared in the January Archives of Industrial Hygiene and Occupational Medicine? If so, we'd appreciate your sending us a couple of copies.

Sincerely yours,

Bill

INDUSTRIAL RELATIONS DIVISION

W.C.Hazard:M

Purchase Order B1303
3/20/51
Owens Ill Glass Co.
Bridgeton, N. J.

To cover interpretation of X-rays of employees
Feb 1 1951
to
Jan 31, 1952
$4.00 each

Pur Order sent to
FISCAL Dept.

February 16, 1951

Mr. M. J. Meyers
Purchasing Agent
Owens-Illinois Glass Company
Bridgeton, New Jersey

Dear Mr. Meyers:

In reply to your letter of February 8, we are pleased to know that you wish to renew the arrangement covered by your Purchase Order B-379 of January 23, 1950, for the interpretation of chest roentgenograms by the Foundation. The agreement, which terminated as of January 31, 1951, of $4.00 per case per date of film is agreeable to us and you may issue an order renewing our services for another year beginning February 1, 1951, at the same rate.

I am exceedingly sorry about the delay in my reply but a number of things, including a short stay in the hospital, made it impossible for me to handle my correspondence promptly. I trust the delay has caused you no great inconvenience.

Sincerely yours,

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

AJV:LB
CC: Leonard J. Bristol, M.D., Head, Department of Radiology
Fiscal Office

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO

M. G. BEISHLINE
PLANT MANAGER

BRIDGETON, NEW JERSEY

February 8, 1951

The Edward L. Trudeau Foundation
of the Trudeau Sanatorium
6 Church Street
Saranac Lake, New York

Attention: Mr. Arthur J. Vorwald
M. D. Director

Gentlemen:

January 16th, we wrote you making reference to our purchase order B-379 of January 23, 1950 covering interpreting X-rays taken by us and sent to you which expyied January 31st, 1951 and inquired if charges of $4.00 each would apply to renewal of arrangement for another year's period beginning with February 1, 1951 or if not, just what the cost would be.

As we would like to send you an order renewing above services for another year as soon as we hear from you, an early reply would be appreciated.

Yours very truly,

OWENS-ILLINOIS GLASS COMPANY

Wm. J. Meyers

BRIDGETON PURCHASING AGENT

WmJMeyers/mdj

OWENS-ILLINOIS GLASS COMPANY

GENERAL OFFICES · TOLEDO 1, OHIO

M. G. BEISHLINE
PLANT MANAGER

BRIDGETON, NEW JERSEY

January 16, 1951

See copy of agreement 8-10 attached

The Edward L. Trudeau Foundation
of the Trudeau Sanatorium
6 Church Street
Saranac Lake, New York

Attention: Mr. Arthur J. Vorwald
M. D. Director

Gentlemen:

Arrangement covered by our purchase order B-379 of January 23rd, 1950, for the interpreting of x-rays taken by us and sent to you of employees of ours expires January 31st, 1951.

Charges for the above were $4.00 each.

At your convenience, would you please advise if you would be agreeable to renewing of this arrangement for another year's period beginning with February 1st, 1951, and if cost will be the same.

Yours very truly,

OWENS-ILLINOIS GLASS COMPANY

Wm. J. Meyers

BRIDGETON PURCHASING AGENT

Wm.J.Meyers/hb

INTERIM REPORT

REGARDING THE BIOLOGICAL ACTIVITY OF KAYLO DUST

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to the

Owens-Illinois Glass Company

Toledo, Ohio

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by

The Saranac Laboratory

Saranac Lake, New York

January 1, 1950

(The report has reference to results of studies up to November 1, 1949.)

Submitted by:

Arthur J. Vorwald, M.D., Director
The Edward L. Trudeau Foundation

In cooperation with:

Philip C. Pratt, M.D.
Thomas M. Durkan, M.S.
Anthony B. Delahant
Edward C. J. Urban, M.

This interim report is essentially a supplement to the previous report dated April 29, 1949. It is submitted at this time in accordance with a plan to issue reports at intervals of about six months.

In the interest of brevity general statements as to the methods used and purposes of each phase of the experiments under way are omitted and the reader is referred to the preceding report for discussions of these points. It may be stated that the conduct of the experiment has been maintained as it was in earlier stages, and that dust counts during the interval since the last report have averaged 179 million particles per cubic foot of air.

In general, the observations made over the past six months conform to those noted previously. However, only tentative conclusions are warranted at this time. It seems clear that only after all animals have been examined at the end of the full exposure can the results be evaluated.

The results to date are presented in tables as in the previous report. Certain comments concerning each table follow:

Table 1. (Compare with Table 3.) In the interval since the last report, four additional experimental animals on being sacrificed have shown spreading of their lesions while the controls have consistently revealed healing or healed lesions. Others of the experimental group have failed to show evidence of spread. While the observations over this period suggest a slightly adverse influence of the dust on the course of the tuberculous infection, the

evidence is by no means conclusive, and only subsequent developments and a survey of the results in the entire series of animals can provide a basis for a positive statement as to the influence of Kaylo on a simultaneous tuberculous infection.

Table 2. (Compare with Table 3.) Two of the three animals in phase I (in dust 2 months after infection) of the reactivation experiment which were killed after 12 months in the dust room showed gross evidence of spreading disease. This observation remains to be confirmed by microscopic study. In the other two phases (in dust 4 months and 6 months after infection), no spreads have been noted. Here, too, the evidence is obviously incomplete and does not warrant evaluation at this time.

Table 3. (Compare with Tables 1 and 2.) No spreading disease has been noted in the six animals killed since the last report. The course of the infection in the controls is thus seen to be in accord with previous experience.

Table 4. (Compare with Table 5.) The table reveals that the animals sacrificed or dying after dust exposure of eleven or more months have consistently harbored spreading lesions. While some of these are yet to be confirmed microscopically, the consistency of the findings suggests rather strongly that under these conditions (infection initiated after 3 months of dust exposure) Kaylo has a distinctly adverse influence on the course of the disease.

Table 5. (Compare with Table 4.) The control animals again reveal that the infection is following its usual course. One animal, killed at 10 months after infection, showed slight microscopic evidence of spreading disease. As noted in the previous report, it is not uncommon for an occasional control animal to develop progressive disease following this type of infection.

In view of the above findings and for purposes of this report, it seems appropriate to present for comparison the chemical and petrographic analyses of Kaylo and of long fiber asbestos (Table 6).

COMMENT

At the present time the evidence suggests that Kaylo dust may have a slightly adverse effect upon tuberculous infection. This effect is by no means as pronounced as that of quartz, since similar experiments with quartz result in progressive spreading of the lesions in virtually all animals after 8 or more months of exposure. The lesions in animals exposed to quartz dust are usually sufficiently extensive to cause death of some animals in the period from 12 to 15 months.

The future course of the lesions in the present experiment cannot be predicted. They may heal during the next 9 months, but it is felt somewhat more likely that animals to be sacrificed will show an increasing incidence of spreading disease.

Table 1

KAYLO + R_1 SIMULTANEOUS

Animal Number	Mode of Death	Duration	Gross					Microscopic				
			Lungs	Bronchial Nodes	Spleen	Liver	Hepatic Lymph Node	Lungs	Bronchial Nodes	Spleen	Liver	Hepatic Lymph Node
4	D	1-1/2 mo.	pn +	+	0	0	0	Tissue autolyzed				
1	K	2 mo.	+	+	0	0	+	+	+	+	+	+
2	K	2 mo.	+	+	0	0	+	++	+	+	+	+
6	D	3-3/4 mo.	(pn?)	+	0	0	0	pn	0	0	0	0
3	K	4 mo.	+	+	0	0	+	+	0	0	0	0
5	K	4 mo.	+	+	0	0	+	+	+	0	0	+
24	D	4-1/2 mo.	(pn?)	+	+++	+	+	pn	+	?	++	++
25	D	5-1/3 mo.	(pn?)	+	0	0	+	pn	0	+	0	0
10	D	6 mo.	pn +	+	0	0	+	Tissue autolyzed				
7	K	6 mo.	0	+	0	0	0	0	+	0	0	0
8	K	8 mo.	+	+	0	0	0	+	+	0	0	+
30	D	6+ mo.	pn +	?	0	0	0	pn	0	0	0	0
14	D	7 mo.	pn +	+	0	0	0	Tissue autolyzed				
22	D	7-2/3 mo.	pn	?	0	0	0	Tissue autolyzed				
9	K	8 mo.	+	+	0	0	+	++	++	+	0	+
13	K	8 mo.	+	+	0	0	+	++	+	+	0	-
28	D	8-1/2 mo.	++	+	+	+	+	++	++	+++	++	++
11	K	12 mo.	+++	+	+	+	+	+++	+	++	+	+
12	K	12 mo.	+	+	0	0	+	+	++	0	0	+
17	D	13-2/3 mo.	0	0	0	0	0					
20	D	14 mo.	pn 0	0	0	0	0					
15	K	15 mo.	+	+	0	0	0					
16	K	15 mo.	++	+	0	0	0					

7 remain for subsequent study

Table 2

DUST + R_1 REACTIVATION

Animal Number	Mode of Death	Duration Infection	Duration Dust	Gross: Lungs	Gross: Bronchial Nodes	Gross: Spleen	Gross: Liver	Gross: Hepatic Lymph Node	Microscopic: Lungs	Microscopic: Bronchial Nodes	Microscopic: Spleen	Microscopic: Liver	Microscopic: Hepatic Lymph Node
				In dust 2 mo. after infection									
47	D	2-1/4 mo.	1/4 mo.	pn +	+	0	0	0	+	+	+	+	+
34	D	3-1/3 mo.	1-1/3 mo.	+	+	0	0	0	Tissue autolyzed				
31	K	4 mo.	2 mo.	+	+	0	0	+	+	+	0	0	0
32	K	4 mo.	2 mo.	+	+	0	0	+	+	+	0	0	+
35	K	6 mo.	4 mo.	+	+	0	0	0	++	+	0		0
36	K	6 mo.	4 mo.	+	+	0	0	0	+	+	0	0	0
37	K	10 mo.	8 mo.	+	+	0	0	0	+	+	0	0	0
38	K	10 mo.	8 mo.	+	0	0	0	0	+	+	0	0	-
33	K	14 mo.	12 mo.	+	+	0	0	0					
39	K	14 mo.	12 mo.	++	+	0	0	+					
40	K	14 mo.	12 mo.	++	+	0	0	0					
				In dust 4 mo. after infection									
45	K	8 mo.	4 mo.	+	+	0	0	+	0	0	0	0	+
48	K	8 mo.	4 mo.	+	+	0	0	+	+	0	0	0	0
41	K	12 mo.	8 mo.	+	+	0	0	0	+	+	0	0	0
42	K	12 mo.	8 mo.	+	+	0	0	0	+	+	0	0	0
				In dust 6 mo. after infection									
51	D	11 da.	0	0	0	0	0	0	Tissue autolyzed				
49	D	10 mo.	4 mo.	+	+	0	0	0	+	+	0	0	0
50	K	10 mo.	4 mo.	+	+	0	0	+	+	+	0	0	0
52	K	10 mo.	4 mo.	+	+	+	0	+	+	+	+	+	+
53	K	14 mo.	8 mo.	+	+	0	0	0					
54	K	14 mo.	8 mo.	+	+	0	0	0					

Table 3

INFECTION CONTROLS TO GROUPS I AND II

Animal Number	Mode of Death	Duration	Gross					Microscopic				
			Lungs	Bronchial Nodes	Spleen	Liver	Hepatic Lymph Node	Lungs	Bronchial Nodes	Spleen	Liver	Hepatic Lymph Node
62	D	1-1/2 mo.	+	+	0	0	0	Tissue autolyzed				
57	K	2 mo.	+	+	0	0	0	+	+	+	+	+
58	K	2 mo.	+	+	0	0	0	+	+	+	+	0
59	K	4 mo.	+	+	0	0	+	+	0	0	0	0
60	K	4 mo.	+	+	+	0	+	+	++	+	+	+
63	K	6 mo.	+	+	0	0	0	+	+	0	0	0
64	K	6 mo.	+	+	0	0	0	+	0	0	0	0
73	D	6-1/2 mo.	+++	+	+	+	+	+++	++	+++	++	++
87	D	6-2/3 mo.	pn ?	+	0	0	+	Tissue autolyzed				
65	K	8 mo.	+	+	0	0	0	+	0	0	0	0
66	K	8 mo.	+	+	0	0	0	+	0	0	0	0
88	D	9-1/2 mo.	+	+	0	0	0	Tissue autolyzed				
61	K	10 mo.	0	+	0	0	0	+	0	0	0	0
74	K	10 mo.	+	+	0	0	+	+	+	+	+	+
83	D	10-1/2 mo.	+	+	0	0	0	Tissue autolyzed				
89	K	12 mo.	+	+	0	0	0	+	0	0	0	+
90	K	12 mo.	+	+	0	0	0	+	0	-	0	0
67	K	14 mo.	+	+	0	0	+					
68	K	14 mo.	+	+	0	0	0					
69	K	15 mo.	+	+	0	0	0					
70	K	15 mo.	+	+	0	0	0					

KEY:

D = died
K = killed for sampling
Pn = intercurrent pneumonia
0 = no tuberculous lesions seen

\+ = healing or healed tubercles
++ = scattered isolated spreading tub
+++ = many spreading tubercles
++++ = confluent tuberculosis

Where microscopic observations are not recorded, histologic preparations have not been completed, unless otherwise stated.

Table 4

KAYLO 3 MONTHS + R_3 INFECTION

Animal Number	Mode of Death	Duration Dust	Duration Infection	Gross Lungs	Gross Bronchial Nodes	Gross Spleen	Gross Liver	Gross Hepatic Lymph Node	Microscopic Lungs	Microscopic Bronchial Nodes	Microscopic Spleen	Microscopic Liver	Microscopic Hepat Lymp Node
107	K	3 mo.											
108	K	3 mo.											
109	K	3 mo.		No infection									
110	K	3 mo.		See text									
111	K	3 mo.											
91	D	4 mo. autolyzed	1 mo.	pn 0	+	0	0	0	pn 0	+	0	0 (fat)	0
92	K	5 mo.	2 mo.	pn +	+	0	0	+	pn +	+	0	0	+
93	K	5 mo.	2 mo.	+	+	0	0	+	++	++	0	0	0
94	K	7 mo.	4 mo.	++	+	0	0	+	+	+	0	0	0
95	K	7 mo.	4 mo.	++	+	0	0	+	++	+	0	0	+
96*	K	9 mo.	6 mo.	++	+	0	0	+	++	+	0	0	0
97	K	9 mo.	6 mo.	+	+	0	0	+	+	+	0	0	0
114	D	10 mo.	7 mo.	pn ++	+	0	0	+	pn +	0	0	0	0
105	D	10-3/4	7-3/4	pn +	-	0	0	0	Tissue autolyzed				
112	K	11 mo.	8 mo.	+	+	0	0	0	+	+	0	0	+
113	K	11 mo.	8 mo.	+	+	0	0	0	++	+	0	+	+
98	K	13 mo.	10 mo.	++	+	0	0	+	+++	+	+	+	+
106	K	13 mo.	10 mo.	++	+	0	0	+	++	+	0	0	+
115	D	14-1/2	11-1/2	+++	+	0	0	0					
99	K	15 mo.	12 mo.	++	+	0	0	+					
100	K	15 mo.	12 mo.	++	+	0	0	+					

+ Some lesions healed

Table 5

INFECTION CONTROLS TO GROUP IV

Animal Number	Mode of Death	Duration	Gross					Microscopic				
			Lungs	Bronchial Nodes	Spleen	Liver	Hepatic Lymph Node	Lungs	Bronchial Nodes	Spleen	Liver	Hepat Lymp Node
121	K	2 mos.	+	+	0	0	+	+	++	+	0	+
122	K	2 mos.	+	+	0	0	+	+	++	+	0	+
127	D	4 mos.	pn +	+	0	0	0	Tissue autolyzed				
123	K	4 mos.	+	+	0	0	+	+	0	0	0	+
124	K	4 mos.	+	+	0	0	+	+	+	0	+	+
125	K	6 mos.	+	+	0	0	0	+	+	0	0	0
126	K	6 mos.	+	+	0	0	0	0	0	0	0	0
132	D	6-2/3 mos.	+	0	0	0	+	+	0	0	0	0
145	D	7+ mos.	pn +	?	0	0	+	Tissue autolyzed				
128	K	8 mo.	+	+	0	0	0	+	0	0	0	0
129	K	8 mo.	+	+	0	0	0	+	+	0	0	0
137	D	8-1/2 mo.	pn +	+	0	0	0	Tissue autolyzed				
130	K	10 mo.	+	+	0	0	+	+	+	0	0	-
131	K	10 mo.	+	+	0	0	+	++	+	0	0	+
133	K	12 mo.	+	+	0	0	0					
134	K	12 mo.	+	+	0	0	0					

9 remain

KEY:
- D = died
- K = killed for sampling
- Pn = intercurrent pneumonia
- 0 = no tuberculous lesions seen
- + = healing or healed tuberclos
- ++ = scattered isolated spreading tubercl
- +++ = many spreading tubercles
- ++++ = confluent tuberculosis

When microscopic observations are not recorded, histologic preparations have not been completed, unless otherwise stated.

Table 6

ANALYSES OF KAYLO

(as received)

Chemical		Petrographic
SiO_2	43.80%	Most of the material consists of clay-like masses which give a definite x-ray pattern not unlike a hydrous calcium silicate. The quartz content is low (probably less than 1 per cent). About 5 per cent of calcite is present.
Fe_2O_3	1.69	
Al_2O_3	1.97	
TiO_2	0.12	
MnO	0.09	Approximately 15-20 per cent of the material is chrysotile or serpentine, which is largely fibrous. The fibers and bundles present are usually several millimeters long and seldom shorter than 0.3 millimeter.
CaO	24.94	
MgO	7.10	
Loss $< 105^\circ$ C.	4.52	
$> 105^\circ$ C.	15.19	
	99.42	

ANALYSES OF LONG-FIBER ASBESTOS

(as received)

Chemical		Petrographic
SiO_2	38.40%	The material contains about 75 per cent fibrous asbestos, probably chrysotile, with some serpentine and small amounts of calcite, magnetite and chloritic or micaceous minerals. Only a trace of quartz was seen. There were shreds of non-separated fibers 10 to 50 microns long and 5 to 15 microns wide.
Fe_2O_3	5.32	
Al_2O_3	0.78	
MnO	0.08	
CaO	0.31	
MgO	40.18	
Na_2O	0.06	
K_2O	0.06	
CO_2	0.57	
H_2O	14.00	
	99.76	