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QUEBEC ASBESTOS MINING ASSOCIATION

FALL MEETING - PALACE HOTEL, TORQUAY, ENGLAND

OCTOBER 4th - 8th, 1972

P R O G R A M M E

WEDNESDAY, October 4th

- 12:00 noon Assemble at Paddington Station, London, outside the barrier to platform 4
- 12:30 p.m. Train with reserved coaches departs. Lunch will be served en route
- 3:55 p.m. Arrive Torquay station. Coaches to Palace Hotel
- 7:00 p.m. The President and his lady will welcome Conference delegates and their wives in the Sun Lounge
- 8:00 p.m. Dinner - Hotel Restaurant

THURSDAY, October 5th

- Forenoon Free for Golf and Sightseeing
- 1:00 p.m. Lunch - Hotel Restaurant
- 2:15 p.m. Coach leaves Palace Hotel for Buckfastleigh for a ride by steam train through the River Dart Valley, returning by 5 p.m.
- 6:00 p.m. Coaches leave Palace Hotel for reception by the Mayor of Torbay at Oldway Mansion
- 7:30 p.m. Coaches leave Oldway Mansion for Palace Hotel
- 8:00 p.m. Dinner in Restaurant

FRIDAY, October 6th

- 9:30 a.m. Business Meeting - Anstey Room
- 10:30 a.m. Coffee
- 1:00 p.m. Lunch
- 2:15 p.m. Golf tournament (pitch & putt) on Hotel course
- 6:45 p.m. Dinner in Restaurant
- 7:30 p.m. Coaches leave Palace Hotel for Princess Theatre where delegates will be the guests of Turner & Newall Ltd. for a performance of the "Dragon Variation" (a new thriller play starring Michael Denison and Dulcie Gray)
- 10:15 p.m. Coaches return delegates to the Palace Hotel

SATURDAY, October 7th

- 9:30 a.m. Business Meeting - Anstey Room
- 10:30 a.m. Coffee
- 2:30 p.m. Coach leaves Palace Hotel for Kingswear for a river trip up the Dart to Totnes, arriving back at the Palace Hotel at approximately 5 p.m.
- 7:00 p.m. Reception - Georgian Room - Black tie and jacket
- 8:00 p.m. Conference Dinner - East Section of Restaurant

SUNDAY, October 8th

- 10:25 a.m. Load coaches for return journey with delegates' luggage which should be in the hall of the Hotel by 10:15 a.m.
- 10:30 a.m. Leave for Dartmeet and Exeter
- 12:15 p.m. Lunch at Dartmeet
(approx.)
- 3:00 p.m. Arrive at Exeter for tea at Royal Clarence Hotel and visit to Exeter Cathedral
- 5:00 p.m. Re-embus near Cathedral for Exeter St. Davida station
- 5:32 p.m. Travel in reserved coaches to Paddington, London
Dinner will be served en route
- 8:25 p.m. Arrive Paddington Station
- Delegates leave individually for their hotel and return journey.

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QUEBEC ASBESTOS MINING ASSOCIATION

FALL MEETING - PALACE HOTEL, TORQUAY, ENGLAND

LIST OF ATTENDANTS

ROOM NUMBER

ASBESTOS CORPORATION

Bill and June Doughtred
Ian and Beth Campbell
Andy and Lisa Johnson
Harry Foster

BELL ASBESTOS MINES

Parker Smith
Ralph and Yvonne Bateman
Marcel and Marcelle Dorais
Bill and Mary Emmeline Smith

CANADIAN JOHNS-MANVILLE

Bert and Marge Jobe
Bill and Marion VanDerbeek
Dimitry and Irina Poutiatine
Bob and Phyllis Hutcheson
Joe and Irene Eby
Noël and Olive Hendry

CAREY-CANADIAN MINES

Bob and Audrey Merrill
Ab and Charlotte Bagenstose
Mike and Gaétane Prus

LAKE ASBESTOS OF QUEBEC

Michael and Isabelle Messel
Ralph and Mary Lou Hennebach and Margot
Lionel and Françoise Piuze
Rollie and Liette Gagnon

NATIONAL ASBESTOS MINES

Bob and Margaret Coleman
Ed and Mary Killian and daughter

ASBESTOS INFORMATION
ASSOCIATION - U.K.

Wilfred Howard

I.O.E.H.

George and Ellie Wright

Q.A.M.A.

George and Irene McCammon
Karl Lindell
Philippe Casgrain
Paul and Madeleine Filteau

QA-7 ntc.

MINUTES OF THE 122nd MEETING OF THE DIRECTORS OF THE

QUEBEC ASBESTOS MINING ASSOCIATION

HELD ON OCTOBER 6th and 7th, 1972,

AT THE PALACE HOTEL, TORQUAY, ENGLAND

FRIDAY, OCTOBER 6th, 1972

There were present:

Messrs.: J.R.M. Hutcheson	President
R.J. Merrill	Vice President
M.J. Messel	Director
R.S. Coleman	Director
W.W. Oughtred	Director
M. Dorais	Director
Ph. Casgrain	General Counsel for the Association.
G.A. McCammon	Treasurer
P.A. Filteau	General Manager and Secretary

There were also present:

Messrs.: W.H. Foster	Chairman of the Uniform Classification & Grading, and Technical Committee
I.C. Campbell	Chairman of the Legislation and Taxation Committee and of Public Relations Committee
J.D. Eby	Chairman of Industrial Relations Committee
R.P. Gagnon	Chairman of Traffic Committee
M. Prus	Chairman of Materials Handling Committee
L.C. Pluze	Chairman of Environmental Control Committee
K.V. Lindell	Chairman of Occupational and Environmental Health Committee

A.H. Bagenstose	Carey-Canadian Mines Limited
R.M. Bateman	Turner & Newall Limited
E.J. Killian	National Asbestos Mines Ltd.
H.W. Hendry	Can. Johns-Manville Co., Ltd.
R.L. Hennebach	American Smelting & Refining Co.
W.P. Howard	Turner & Newall Limited
J.B. Jobe	Johns-Manville Corporation
A.S. Johnson	Asbestos Corporation Ltd.
D. Poutiatine	Johns-Manville Corporation
F.P. Smith	Bell Asbestos Mines Ltd.
W.J.W. Smith	Bell Asbestos Mines Ltd.
W.L. VanDerbeek	Johns-Manville Corporation

The President of the Association, J.R.M. Hutcheson, acted as Chairman and P.A. Filteau as Secretary of the meeting.

The Chairman declared that a regular notice of meeting had been duly mailed to all the Directors of the Association and said notice was ordered to be entered at length in the minute book of the Association.

There being a quorum, the Chairman declared the meeting duly constituted.

The minutes of the 121st Meeting of the Directors of the Association held on May 29th, 1972, were duly approved.

Because of the early departure of one of the participants, Item number 4 was moved to the top of the agenda.

COMMENTS ON GENERAL BUSINESS CONDITIONS

As is well known, Industry has been faced with many problems

in the U.K.:

- high-rate of inflation;
- low productivity;
- lower demand for fibre and asbestos products;
- poor level of industrial investment;
- low level of asbestos consumption.

The asbestos-cement pipe business is a little better, although plastic pipe has made some inroads; the asbestos-cement pipe, however, is not on the way out, there is room for both asbestos and plastic.

In Continental Europe the position of the asbestos industry as a whole is better than in U.K.; the demand has been picking up.

In India, the demand is good, provided the money is available.

South Africa is in a pretty good state economically; both demand and production are strong.

In the emerging countries, the situation is not too bad at the present time.

In Japan, there are signs that the demand for asbestos should increase. This also goes for Australia.

The asbestos textile business has not recovered from its low level; the asbestos health problem has caused a great deal of damage, with a permanent loss of demand. It is not expected that the textile business will revert to the high level of previous years.

This year in U.S., business is quite good. Although industrial construction has been somewhat slow, there are indications that construction starts are picking up.

The asbestos-cement business is slow, but the asbestos-cement pipe business is very good. Plastic pipe is making inroads in the agricultural, irrigation and sewer markets.

The fibre glass business is strong as a result of the high insulation specifications sponsored by the Government to save energy. Industry is trying to cope with problems resulting from recent environmental control regulations. It seems that the five fpsc standard set by OSHA can be met by most plants; the two fpsc standard will force some marginal operations to close down. In spite of good business volume, there is a squeeze between profit and price increases as a result of government controls on prices. It is expected that 1973 will be as good a year as 1972.

A survey just completed shows that the asbestos-cement flat sheets for roofs demand is increasing strongly.

The \$75 million project at the Jeffrey Mine is almost completed; the new installations are almost all on computer.

The P.V.C. business is expanding; a new plant is being built in Valleyfield, Quebec. It seems that plants are being set up everywhere, although none appear to make any money. The services of a company environmental control group recently established are offered to any other member company who would like to call on their assistance.

The basic metal business in the U.S. has not been good in 1972 and the months ahead are viewed with a certain degree of apprehension. Cost increases, declining productivity, demand for environmental

standards are difficult to meet. These bring about fundamental changes in industry with major difficulty in the economy.

Price controls are forcing some companies to operate at a loss with the Government's refusal to entertain price increases.

Surrounding this situation, various states have proposed standards for environmental protection; E.P.A. has even initiated hearings. It is hoped that in the long run reason will prevail.

The economy is not expected to improve until next election. Hopefully 1973 will be as good as 1972, but 1972 has been so far disappointing, although the asbestos side of the business has been a shining contributor to company earnings.

So far this year the short fibre business has been very good, but there is some concern about the future. It is felt that not enough research is presently conducted in the field of new uses and applications for asbestos; this does not augur well. Possibly the industry as a whole should support a broad research program for new applications. Forecasts indicate that 1973 should equal at least 1972.

In the case of another company, 1972 has been the best year for a long time. Due to the efforts of the industrial development group - industrial relations personnel and people in the field - an average business increase of 4.4% was achieved with a 3.2% increase in productivity; 1973 is expected to be better than 1972.

The Committee Chairmen were then requested to report.

UNIFORM CLASSIFICATION & GRADING, AND TECHNICAL COMMITTEE

Uniform Classification & Grading: - In reviewing the recent activities of his committee, the Chairman asked the authorization of the Directors to extend the present agreement between the Association and Lynn MacLeod concerning the Q.S. Testing Machine for two years. The request was approved by the Directors.

The Committee on Research in the Use of Asbestos Tailings will submit a report to the original main group at a meeting to be held on October the 19th. This report makes recommendations as to the possible extraction of nickel-iron concentrate, the recovery of short fibre in the tailings and magnesium salts for use in fertilizers. It was pointed out that several companies had carried out considerable research in this field with extremely disappointing results. A consulting firm has been hired by the Quebec Committee to examine the economics of the above.

The whole matter was discussed during the recent visit of the Minister of Natural Resources, Hon. G. Massé, and Officials of his Department. It would seem that the latter wish somewhat closer liaison with the heads of asbestos mining companies. To this end, it was proposed that the General Manager set up an informal luncheon at a time convenient to the Directors, the Minister and his Deputy Minister.

Technical Committee: - The 3rd Edition of the Chrysotile Asbestos Test Manual is now in the hands of the A.T.I. to be passed on to the printers by March 1973.

The Chairman Requested approval by the Directors of the revised tests D-1, D-6, F-2, D-2, C-5 and the new test E-5, for inclusion in the new edition of the Chrysotile Asbestos Test Manual. On a motion duly seconded, the above tests were approved.

In view of the proposed change in scope of ISO-TC/77, it is decided that the Association recommend a representative to the above committee in order to protect its interests in the upcoming problem of the asbestos fibre standards which the ISO plans to cover. The appointment of a representative for both C.J.M and Q.A.A.A. is proposed and accepted.

INDUSTRIAL RELATIONS COMMITTEE

The Chairman reported that as of October 1st, 1972, contracts had been signed with unions representing the hourly employee by all member companies.

He also pointed out that the C.N.T.U. is undergoing internal problems, with several groups breaking away and forming another Federation. The status of the Asbestos Syndicate is still uncertain and it is even possible that it would operate as a separate union.

The statistics of the Workmen's Compensation Commission for the years 1969, 1970 and 1971 were reviewed, the trend being slightly upwards as anticipated, due to the new base for compensation.

TRAFFIC COMMITTEE

The greater part of the discussion revolved around the Japanese container movement via Vancouver or the St. Lawrence and East Coast ports. In view of the continuous decrease of the Canadian share in the Far East asbestos market, it was recommended that the Committee attempt to negotiate new rates on the basis that tonnage

from various companies would be pooled. To this end, authorization was given in principle by the Directors to the Committee to start negotiations. It is felt that by using both the East Coast and West Coast Ports, a healthy competition can be maintained in that trade.

Freight rates to the United Kingdom and the Continent will also be investigated. So far the Committee has not been successful in negotiating rates to the United Kingdom on parity with Continental Europe. The feeling is to promote a non-conference carrier to compete with present carriers and forcing the Conference to reduce its rates.

Canadian Railways will no longer publish rates that would include unloading and handling at the ports of Quebec and Trois-Rivières. They feel that the Q.A.M.A. can negotiate better rates with the Stevedoring Company. As a consequence, the tonnage will be trucked 100% to Three-Rivers and Quebec and transported by rail to Montreal, as railways perform their own handling at that port.

MATERIALS HANDLING COMMITTEE

As pointed out in his report, the Chairman emphasized that the most important problem facing the Committee is "Bags and Pallets". There are several sizes of bags and a great number of models of pallets used in the Industry. The objective of the Committee is to study those two matters and reduce the number of bag sizes and pallet models to a more practical range.

LEGISLATION AND TAXATION COMMITTEE

Four new pieces of legislation were briefly reviewed by the Chairman, namely:

Bill C-202 - The Arctic Pollution Prevention Act - which through regulations may eventually stipulate that water pollutants could be not only oil but possibly asbestos.

The Clean Air Act - under the Department of the Environment. As a first step in the establishment of National Emission Standards for pollutants such as lead, beryllium, mercury and asbestos, a firm of environment engineers had been hired to compile an inventory identifying the major sources.

Bill 38 - Quebec Corporations Tax Act - which is designed to revise the provincial income tax and the corporation tax act with a view to bringing such law into line with the new federal income tax act.

Bill 34 - Environment Quality Act - which has been tabled by the Minister Responsible for the Environment in the Province of Quebec. It is the understanding that a Committee composed of, amongst other people, representatives of industry will be formed to review the proposed legislation.

PUBLIC RELATIONS COMMITTEE

The Chairman stated that more and more requests for specific and technical information on the question of asbestos and health are received by the Information Service. Presently in the case of an industry customer, correspondence on the subject is circulated to the various Sales Managers. Guidance is solicited from the Directors as to articles appearing in the Press criticizing the use of asbestos and asbestos products. It is felt that a letter should be sent to the Editors giving the true facts. This approach is agreed by the Directors.

In preparation for the Industry Centennial in 1976, steps are being taken to arrange for the issue of a commemorative stamp by the Canadian Post Office. This Centennial could possibly be developed

into an international affair and thus spark extensive press coverage and editorial surveys in newspapers. The matter is to be pursued further.

The French-English Lexicon is progressing quite well and its contents should be ready for review by a lexographer by the end of 1972. It appears that publication could take place in the Spring of 1973. The Chairman requested guidance as to the operating level of employees who are expected to receive a copy of the lexicon. It is estimated that the cost for 10,000 copies would be \$5,000 approximately. On a motion duly seconded authorization is given by the Directors to spend an amount of \$5,000.

CARRIED.

As a result of the renewed agitation for increased product manufacturing in Quebec, the Public Relations Committee was directed to secure increased media attention for the position of the Industry and to provide facts through a standard letter to the Editor to any newspaper publishing reports in support of increased products manufacturing.

ENVIRONMENTAL CONTROL COMMITTEE

Number B710 3M's dust mask is now available in commercial quantities to all the companies.

In connection with the growth of vegetation on tailings a representative of the mining and metallurgical processes of Environment Canada visited the asbestos mines. She will prepare a report on her observations on the natural re-vegetation and on the physical, chemical and vegetation aspects of the wastes and asbestos tailings for the information of the Directors. It was agreed in principle to go ahead with the study and to come back with a budget figure, once the costs are determined.

A request has been submitted by Dr. Gibbs of McGill University for the testing of respirators for the Industrial Safety Equipment Association of America. This will be conducted in the McGill University Lab using mannequins and equipment under an atmosphere of 25 fppc. Once this phase is completed the eight best respirators are to be tested in the plants by employees at work for the asbestos companies. Four of the member companies have agreed to co-operate with Phase II of the proposed test; the cost to be borne by the I.S.E.A. The Chairman was therefore authorized to advise Dr. Gibbs accordingly.

NEW BUSINESS

Resignation of Mr. F.P. Smith as Director of Q.A.M.A.: -

WHEREAS Mr. F.P. Smith has retired as President of Bell Asbestos Company, a member of the Quebec Asbestos Mining Association;

WHEREAS Mr. Smith has submitted his resignation as Director of the Association in a letter to the President dated July 1, 1972;

IT IS THEREFORE MOVED THAT the Board of Directors of Q.A.M.A. accept the resignation of Mr. Smith and convey to him the unanimous appreciation of the Board for his genuine contribution, wise counselling, meticulous and reliable scrutiny of Association matters and cordial friendship during his many years as a Director of this Association;

AND THAT his colleagues on the Board extend their best wishes for many happy and healthy years of leisure to him and his gracious wife, Ruby.

The motion was seconded and carried.

Ratification of Mr. Marcel Dorais as a Director of Q.A.M.A.: -

IT IS ALSO MOVED THAT Marcel Dorais be elected as Director, as per appointment as nominee by Bell Asbestos Mines in Mr. Smith's letter of July 1, 1972.

CARRIED.

The outgoing Director in a few well chosen words thanked the Board of Directors and expressed how much he had enjoyed being associated with the Q.A.M.A.

Peking Solo Fair: - Mr. N.W. Hendry on behalf of the delegation from the asbestos companies reported on his trip to China. This was the largest Canadian Trade Fair ever held abroad with over 210 companies and over 500 businessmen taking part. The asbestos producers were well represented: M. Pharo (A.C.L.), G. Verreault (Lake), C.H. Schoch (Bell), and N.W. Hendry (C.J.M). The Trade Exposition was open by the Canadian and Chinese Ministers of External Affairs. Visitors to the Fair included the Premier, Mr. Chou En-Lai, and the Trade Minister, Mr. Pai Hsang-Kuo, as well as technicians and experts from the Chinese State Trading Agencies.

The objective of the Fair was to establish direct contact between Canadian exporters and Chinese trade officials, trade corporations and end-users. One of the major factors in achieving this objective was the presentation of more than 400 technical papers. The whole project was more informative for Chinese than for Canadians. The Chinese were quite impressed with Canadian asbestos ore samples, fibre grades and asbestos-cement pipe, sheets and textiles.

Many Canadian delegates went over on the idea that this was a selling venture. It did not turn out that way at least for the asbestos people, although certain other companies contracted more than \$25 million of new business (nickel, aluminium, wood pulp, electronics).

On the whole the Chinese people seem to be happy and well fed. The people were quite friendly to the visiting Canadians. It must be said that the Chinese are tough bargainers and are well informed on prices, world trends, etc.

COMMENTS ON POLITICAL CLIMATE IN QUEBEC

The recent B.C. election returned a socialist government in that province. One wonders how meaningful this change is.

The federal election campaign is in progress and the Separatists issue has been brought to the fore. Other provinces seem to react and will not let Quebec opt out. As a result, the Liberals may lose some seats in Quebec and Ontario, but gain some in the Maritimes.

The Provincial Government of Quebec has announced the signing of a contract with Bechtel Corporation for the development of the James Bay Project. Such action shows that the Government has no fear in inviting American capital to invest in Quebec.

The May-June confrontation between the Unions and the Government seems to have affected the credibility of the Unions on political grounds.

1973 WINTER MEETING

The General Manager announced that the Winter Meeting of the Association would be held at the Cerromar Beach Hotel, Dorado, Puerto Rico, March 15 - 18, 1973.

A list of possible locations for Winter and Fall Meetings of the Association for the years 1974-1975 was submitted by the General Manager and the Directors were requested to express their preference before the Meeting to be held next day, October 7th.

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The latter were made aware of the selections agreeable to the majority the following day and advised that a formal letter from the General Manager would confirm their selections.

ADJOURNMENT

There being no further business, the meeting then adjourned.

CERTIFIED CORRECT

Secretary

Chairman

QUEBEC ASBESTOS MINING ASSOCIATION
MEETING OF DIRECTORS - CASA MONTEGO, JAMAICA

INDUSTRIAL RELATIONS COMMITTEE REPORT

LABOR NEGOTIATIONS

The Q.A.M.A. group still consists of two unions:

Lake Asbestos	-	Steel Workers
Bell Asbestos	-	Steel Workers
Asbestos Corporation	-	Syndicat National d'Amiante
Carey-Canadian	-	" " "
National Asbestos	-	" " "
Johns-Manville	-	" " "

Regular meetings of the Committee have been held on a monthly basis since last November to keep up-to-date on labor negotiations and labor laws. As of March 1st, Johns-Manville has held 18 two hour sessions with its local. The Thetford producers have not been as active but have now scheduled meetings to accelerate the proceedings.

The demands are quite unacceptable and it appears that hard bargaining will result. There are several principles which the unions are trying to establish and as yet no indications of their true demands are apparent.

The closing of Flintkote Mines did not appear to cause undue problems.

WORKMEN'S COMPENSATION

The compensable wage level was increased from \$6,000 to \$9,000 as of January 1st, 1972. This will raise costs up to 20% over previous rates. This will again augment with new contract rates.

I regret to say our frequency for the industry increased from 24.1 per million man hours in 1970 to 27.1 in 1971. Although loss ratio remained practically the same.

Pneumoconiosis claims have increased and for 1971 were 46.5% of costs. Outstanding claims have at year end rose from 8 to 20.

No further information has been learned of the take-over of W.C.C. by Social Welfare Department at this time. The matter is under study by an inter-departmental committee, as per Order-in-Council 3160.

Payments to victims of criminal acts will be administered by W.C.C. but funded by Department of Justice.

SAFETY

We now have a consultant on Safety, N.H. George. He will spend a minimum of one week per month in the Q.A.M.A. operations. This is a yearly contract.

DUST CONTROL

Our ventilation engineer has requested approximately \$2,500 to purchase a membrane filter sampling equipment. This was recommended by the Environmental Committee and it does appear in order to change our counting practices at this time.

LABOR LAWS

Bill 49: - The Provincial Labour and Manpower Department does not propose the use of terms of Bill 49 to proceed with compulsory professional qualifications, unless there is an agreement to this effect between the parties concerned. The Department has also indicated that it will welcome any amendment which will make the legislation more realistic and operable. In this respect, Article 45 of the Bill, concerning collective dismissals, will be amended

so as to differentiate between a temporary lay-off and a permanent termination.

Proposed Legislation: - During the session which convened on March 7, it is expected that the National Assembly will be asked to consider the following:

- a) A Bill which would permit associations of employers to represent, for collective bargaining purposes, those members who express such a desire.
- b) A Bill on "Safety at Work", providing for an Industrial Accident and Disease Prevention Corporation, which would be responsible for all inspection services and the application of safety regulations in all work places. This corporation would be composed of an equal number of representatives of employers and employees and of a president appointed by the Government. The main objection to this project is again the often stated opinion that "accident prevention is the responsibility of employers, who pay the bill and are as a result concerned with the proper supervising and application of the rules and regulations. The project would involve the merging of all present inspection services and accident prevention associations under the Department of Labour and Manpower; such attempts have always been strongly opposed in the past by this Association and the majority of employers associations.

Bill C-253: - The recently appointed Federal Labour Minister O'Connell has indicated that the Bill will be revised and will seek to encourage unions and management to include in new contracts some provision dealing with the effects of technological changes. Such provisions would not be subject to review by the Canada Labour Relations Board and unions would not have the right to strike during the life of the contract. Although this concerns the Federal jurisdiction, the enactment of such legislation would soon permeate into the Provincial field.

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MISCELLANEOUS

After more than three months of study of the contents of the recent union manifestoes, it has been agreed by the Employers Council (C.P.Q.) not to present a counter manifesto, but rather to publish in May a basic document on the free enterprise system entitled "This society which we build together..."

J.O. Eby,
Chairman.

Un cas de discrimination raciale soumis à Choquette

Le ministre québécois de la justice vient d'être saisi d'un dossier de discrimination raciale en rapport avec la "sous-location" d'un logement du 5052 Victoria, à Montréal.

Le comité pour la défense des droits de l'homme, qui s'est chargé de porter le fait à la connaissance du ministre Jérôme Choquette, affirme qu'en Ontario, tout cas de discrimination dans le logement peut être porté devant une Commission de droits de l'homme, faire l'objet d'une enquête comprenant l'étude de solutions pouvant concilier les parties et, le cas échéant, être plaidé devant des tribunaux.

Au Québec, le comité dit ne pas avoir le choix: il "dénonce" et souhaite que le Québec se dote d'un code (légalisation) des droits de l'homme et d'une commission chargée d'en assurer l'application.

Voici les faits tels que résumés dans les textes transmis à la presse (photoscopées de l'original reçu par M. Choquette et expédié le 9 mars): Jean Rhéault, habitant le 5052 Victoria, doit quitter Montréal pour Sept-Îles (raisons professionnelles) et en avis son propriétaire, M. Roland Lambert. Le propriétaire demande au couple Rhéault de trouver une "personne bien et solvable"

pour sous-louer l'appartement.

Le 7 février Mme Rhéault se présente chez le proprio en compagnie de M. Antonin Dumas-Pierre. Bâtien (le couple Rhéault avait auparavant fait paraître une annonce et sélectionné les occupants-candidats). M. Lambert répond en substance qu'un Noir ne peut pas occuper son logement, le racisme étant plutôt le fait des autres locataires qui quitteraient alors leurs appartements.

Devant cette réticence à accepter des "gens de couleur", il est convenu de faire signer une pétition aux autres locataires de l'adresse précitée. Seize des dix-huit signataires de haut sient la pétition pour l'acceptation d'un Haïtien dans cet immeuble de rapport (un dix-septième le fera un peu plus tard). Devant cet argument, le propriétaire Lambert trouve d'autres motifs et se fâche finalement: "Jamais vous n'aurez mon logement", aurait dit M. Lambert à M. Dumas-Pierre.

Une entrevue entre le propriétaire et la secrétaire exécutive du Comité pour la défense des droits de l'homme, le 11 février, a mené à une constatation d'"attitude discriminatoire avouée à l'égard des Noirs", d'après le comité qui trouve non-valable la ré-

ponse de M. Lambert et s'engage à "prendre des initiatives dans cet acte discriminatoire".

L'ex-locataire Rhéault habite maintenant Sept-Îles et a écrit le 25 février à son ex-propriétaire qu'il considérerait ne plus être lié par son bail à cause de l'attitude adoptée par M. Lambert. M. Dumas-Pierre n'a pas pu signer de bail pour occuper le 5052 Victoria.

Rejoint hier par téléphone, l'un des directeurs du Comité pour la défense des droits de l'homme, M. Ryba, a déclaré que la promesse d'une telle législation "antidiscriminatoire" a été faite par les autorités provinciales mais que rien ne semble se concrétiser.

M. Ryba admet que le recours à l'opinion publique est l'étape la plus délicate dans de tels cas mais qu'il faut bien que les citoyens sachent qu'ils n'ont pas à déclarer forfait, qu'il y a une bataille à livrer pour les droits de l'homme chaque fois que la discrimination raciale ou autre se manifeste.

La CAT doit demeurer indépendante (CSN-FTQ)

Les présidents de la FTQ et de la CSN, MM. Laberge et Pepin, se sont prononcés hier, dans un communiqué commun, contre toute tentative du gouvernement Bourassa d'intégrer la Commission des accidents du travail au ministère des affaires sociales.

"La CAT, disent MM. Laberge et Pepin, doit rester une commission indépendante. Toute tentative du gouvernement de Québec de modifier le statut de la CAT en l'intégrant au ministère de M. Castonguay prouverait une incompréhension totale de la part du cabinet provincial de la question des accidents du travail et de l'importance qu'y attachent, depuis des générations, les travailleurs québécois.

"Ce n'est pas sans raisons sérieuses, ajoutent les présidents de la FTQ et de la CSN, que nous recommandons au gouvernement de laisser à la CAT son statut actuel d'indépendance, c'est que

LA CELLULITE ENFIN VAINCUE!

Une majorité écrasante de 98% des femmes souffre de cellulite. Les unes appellent cela "du poids", d'autres disent "je vieillis", mais pour toutes c'est la cellulite qui ravale leur physique et leur moral.

JOSETTE GHEDIN s'est particulièrement attachée à comprendre la femme qui souffre de cellulite. Au travers de 13 années de recherches actives sur les causes de cellulite dans notre province et sur les traitements les plus appropriés à notre situation, elle a enfin mis au point une cure qui fait des merveilles.

Désormais 90 pour cent des femmes qui reçoivent ce traitement soignées sont guéries ou soignées de façon très satisfaisante. "Les 10 p.c. qui ne réagissent pas ou peu sont de plus en plus prévisibles", affirme Josette Ghedin. C'est ainsi qu'avant tout traitement Josette Ghedin a un entretien minutieux avec la nouvelle patiente. Durant celui-ci, elle accepte ou non de soigner selon le cas qu'elle observe. Si Josette Ghedin entreprend le traitement il comporte des conditions.

La femme doit accepter de collaborer et d'appliquer le programme de vie qui lui est proposé (diète, directives géométriques, exercices appropriés, etc.).

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Quand un traitement professionnel, il est uniquement composé de massages! Les poignets, les mains, les doigts et parfois les ongles libèrent les tissus cellulitiques et resserrent la peau curée. Ils sont décidés selon le cas et absolument adaptés à l'état cellulitique particulier de la



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Désormais 80 pour cent des femmes qui reçoivent ce traitement nouveau vont guérir ou souffrir de façon très localisée. "Les 10 p.c. qui ne réagissent pas ou peu sont de plus en plus prévisibles", affirme Josette Ghedin. C'est ainsi qu'avant tout traitement Josette Ghedin a en entretien minutieux avec la nouvelle patiente. Durant celui-ci, elle accepte ou non de soigner selon le cas qu'elle observe. Si Josette Ghedin entend le traitement il comporte des conditions.

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Combien dure le traitement? Josette Gbedin affirme qu'on peut perdre assez justement combien de séances qu'il faut une femme de sa sexualité. Cela peut aller de 10 à 20 ou à 30, selon le cas. En règle générale deux traitements sont nécessaires par semaine. Mais cela aussi est sujet à changement selon le cas de la personne.

Cymbales : coûte-4! Entre \$10 et \$20 par séance, selon la gravité des zones à traiter. Qui n'a pas tellement essayé pour embellir des cuisines inacceptables? Quand on sait que Joëlle Gibein a guéri depuis février 1961, 328 cas, on n'a plus à réfléchir, on doit essayer!

Ce traitement est absolument unique et exclusif.
On peut le recevoir seulement chez Josette Ghedin,
dans son atelier à 2010 rue Crescent.

Veuillez pardonner à l'avance l'attente qu'impose l'affluence. Téléphones à 845-8323 ou 845-7611.

Les présidents de la FTQ et de la CSN, MM. Laberge et Pepin, se sont prononcés hier, dans un communiqué commun, contre toute tentative du gouvernement Bourassa d'intégrer la Commission des accidents du travail au ministère des affaires sociales.

"La CAT, disent MM. La-
berge et Pepin, doit rester
une commission indépendante.
Toute tentative du gouver-
nement de Québec de modifier
le statut de la CAT en l'inté-
grant au ministère de M.
Castonguay prouverait une
incompréhension totale de la
part du cabinet provincial de la
question des accidents du tra-
vail et de l'importance qu'y
attachent, depuis des généra-
tions, les travailleurs qué-
bécois.

Ceci n'est pas sans raisons sérieuses, ajoutent les présidents de la FTQ et de la CSN, que nous recommandons au gouvernement de laisser à la CAT son statut actuel d'indépendance, c'est ce nous croyons que la philosophie de la CAT dans le passé vaut encore aujourd'hui. Dans le statut actuel de la CAT le coût des accidents du travail incombe aux employeurs et qui, théoriquement, devrait les inciter à prendre soin de leurs responsabilités sociales à l'endroit de la sécurité de leurs employés. Si l'on intégrait les responsabilités de la CAT au ministère des affaires sociales, ce sont les contribuables et non plus l'entreprise qui auraient à assumer le coût de cette plaie industrielle que sont les accidents du travail, tout en favorisant, indirectement, l'irresponsabilité de l'entreprise à l'endroit de ses employés puisqu'on lui enlèverait, en fait, le meilleur financement qu'elle doit accueillir avec plaisir.

Les présidents de la FTQ et de la CSN mettent le gouvernement en garde contre toute tentative trop simpliste qui l'amènerait à considérer le problème des accidents du travail à travers la seule borbogne étroite d'un accident, aussi bien intentionné soit-il.

« Nous continuons à considérer, déclarent M.M. La-
berge et Pepin, que le do-
maine des accidents du tra-
vail fait partie intégrante des
relations de travail et, dans cet-
te optique, nous croyons que
l'entreprise a une responsa-
bilité sociale dont elle doit
assumer le coût.

"Au lieu de chercher, par le biais des affaires sociales, des solutions simplistes et technocratiques aux problèmes des accidents de travail, le gouvernement devrait étudier une réforme en profondeur de la CAT dans laquelle on vi-
rait aussi bien la prévention des accidents que la compensation des accidentés. Une telle transformation de la CAT serait une réforme sociale beaucoup plus réaliste et beaucoup plus apte à notre vi-
sion de la sécurité sociale que d'assurer une protection adéquate à la simple "travailleuse au-
rant" (sic).

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379. BEETHOVEN
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383. ALBRECHTSON



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Il existe les psychotiques ou des problèmes, que des cas pour la réponse facile et les autres, les autres d'après à ELKS. Nous avons des obligations en matière de déclarations d'après les cas que vous bénéficiez de toutes les déclarations des autres. Vous en êtes capables d'être

Déclarations complètes

ELKS

ELKS

GARANTIE

Pour garantir le respect public des droits éditoriaux d'auteur
et pour assurer aux auteurs les droits qui leur sont dus, nous avons
mis en place un service de garantie des droits d'auteur.

H&R BLOCK LITE

Les plus grands complexes de l'emploi au Canada,
avec plus de 250 établissements au pays

QUEST - 486-1942	EST CENTRAL - 274-6403
3775 West 1st Street, Los Angeles, California	5942 Park (near St. Monica)

3218 Mrs. Secara (Mrs. S. Mahala)	3438 Samsky (Mrs. S. Michel)
3944 Washington Park	1332 E. Secara (Mrs. P. P. P.)
3222 Adams (Mrs. S. S. S.)	1218 E. Secara (Mrs. S. S. S.)

283-64 avenue Lachapelle près du Parc Saint
4818 St-Basile (près du Parc)

Veuillez pardonner à l'avance l'attente qu'impose l'affluence. Téléphoner à 845-3722 ou 845-7811.

"Nous voyons cette réforme de la CAT sous deux formes: D'abord, une modification complète de sa structure administrative en créant un conseil d'administration bipartite et paritaire formé des représentants des employeurs et des syndicats. En second lieu, nous croyons qu'il faudrait donner à la CAT toute la responsabilité de la prévention des accidents du travail en créant une division spéciale à cet effet.

12 p.m. & 2 p.m. from 1st floor - 2 p.m. & 6 p.m. to second

~~RECHERCHER LES ADRESSES DES VOS CLIENTS~~

8. TRAFFIC COMMITTEE REPORT

QUEBEC ASBESTOS MINING ASSOCIATION
MEETING OF DIRECTORS - CASA MONTEGO, JAMAICA

TRAFFIC COMMITTEE REPORT

The Traffic Committee has been trying to solve problems related to container shipping, improve the rate structure and find new transportation methods to improve overall distribution arrangements.

Quebec Port: - The Q.A.M.A. has been asked by the Provincial Government to assist them in trying to get the new Japanese container service to call at the Port of Quebec. This service should start in March 1973.

Heretofore, only the ports of Halifax and Saint John, N.B. had been mentioned and no consideration given to the ports of Quebec or Montreal.

The cost of transportation to and from Halifax and Montreal is \$87.00 per container in each direction. It is possible that the savings in transportation of these containers may induce the lines to call at Quebec despite the additional mileage.

The Province of Quebec has asked the Deputy Minister of Industry and Commerce to prepare an economic study and have a delegation go to Japan to sell the advantages of the Port of Quebec. At a meeting attended by both Mr. Paul-A. Filteau and myself we were asked if each asbestos producer would send a delegate to Japan to support the project.

We explained the project to each director of the Q.A.M.A. and it was agreed that each company would send a delegate. The group will be leaving Montreal March 23, 1972 for ten (10) days.

The delegation would consist of:

Mr. R. DeCoster, Deputy Minister
3/4 Senior Officers, Ministry Industry & Commerce
Mr. W. D'Malley, Department of Transport, Ottawa
Mr. Bousquet, Quebec Port Manager
Mr. J.L. Lachance, President S.A.A.B.
Mr. G. Lequent, Research Analyst S.A.A.B.
Mr. Paul-A. Filtz, Q.A.M.A.
6 Delegates Q.A.M.A.

The Canadian Embassy in Japan will arrange for meetings, etc.

We have no guarantee that the Lines will accept to call at Quebec, however, we believe it is a worthwhile effort.

Leased Containers: - We have studied the possibility of leasing containers instead of using carriers' boxes. We felt this would improve our distribution and possibly reduce our transportation cost.

This study is not complete and we are unable to make recommendations at this time.

Forwarder - Europe: - Contacts have been made with several forwarders in Europe to improve deliveries of containers and negotiate inland rates for the Q.A.M.A. No decision has been made yet whether it would be practical or economical to have one. More research is needed.

Continental Europe Service: - We are trying this year to support both non conference and conference services in order to keep the rates down. This has the effect that we can ship to Continental Europe for as low as \$18.00 per 2240 lbs.

CP Rail - CP Steamships Service: - At the request of the President of the Q.A.M.A. we have met with both CP Rail and CP Steamships outlining

the difficulties experienced by the Q.A.M.A. and Canadian Pacific. We believe we will see some improvement as result of these meetings.

CPR - CNR Container Pool: - Both railway companies are waiting to see which port the Japanese lines will call at before deciding where to have their terminal. CNR favour Halifax while CPR favour Saint John, N.B.

Rate Negotiations: -

- 1 - Trucking rates to ports of Montreal/Quebec have been increased 20¢ per ton.
- 2 - United Kingdom Conference will maintain same rates for 1972 - no increase.
- 3 - Australian Conference increased its rates \$1.00 per ton.
- 4 - Japanese ocean rates are being increased 10 percent.
- 5 - Mediterranean/Spanish Atlantic rates increased approximately \$2.50.

Many of the services used now assess a \$2.00 bunker surcharge together with a currency surcharge.

General: - Rate quotations are increasingly being quoted on a "House to House" basis. This change increases the importance as well as the work of the Traffic Committee.

While the ocean rates have been the major factor in the past, it becomes more and more evident that receivers wish to have a rate that will cover their cost from our mines to their plant. This involves negotiations in Europe as well as in Canada with the result that problems are more complex and often very time consuming.

- 4 -

These requirements are rapidly changing the distribution of the industry's tonnage. Either containerization or unitization are requested by the steamship companies and it is increasingly difficult to ship break bulk.

The new rate structures are devised to eliminate break bulk. Both inland and ocean carriers have published rates where it is prohibitive to ship conventional.

Roland P. Gagnon,
Chairman.

9. LEGISLATION AND TAXATION COMMITTEE REPORT

QUEBEC ASBESTOS MINING ASSOCIATION

MEETING OF DIRECTORS - CASA MONTEGO, JAMAICA

LEGISLATION & TAXATION COMMITTEE REPORT

1. There has been no meeting of the Legislation & Taxation Committee since the last meeting of the Association.

2. INCOME TAX ACT - CANADA

The new Federal Income Tax Act has become law but it will be some time before its full implications can be digested and the problems associated with its application identified. Representations as to the form and wording of the forthcoming regulations with respect to the provisions dealing with mining have been formulated and presented to the Tax Department under the auspices of the Mining Association of Canada.

3. COMPETITION ACT - CANADA

The Competition Act (Bill C-256) originally tabled during the previous session of Parliament, was withdrawn after attracting heavy criticism. The then Minister of Corporate & Consumer Affairs, Mr. Basford, under such pressure called for representations to be made and was overwhelmed with the adverse response; amongst the briefs was one from the Mining Association of Canada filed on behalf of the whole industry.

It seems likely that under a new Minister, the substitute Bill which is promised for the present session of Parliament will be modified to remove or at least ameliorate the most objectionable provisions of the original bill dealing with the aspects of criminal law and the powers of the Tribunal.

4. CANADA LABOUR CODE

Bill C-253, an act to amend the Canada Labour Act, which in its original form would have granted a union the right to strike during the currency of a labour contract in the event that disputes arising out of a technological change were not settled, was also withdrawn in the face of concerted employer protest.

Although this law would affect only industry under federal jurisdiction, it would establish a dangerous precedent for provincial governments to follow in their labour law.

Again, it is anticipated that a new bill will be tabled during the current session, again under the auspices of a new Minister and in the face of concerted opposition it is to be hoped that this objectionable provision will be either modified or dropped altogether.

5. ANTI-POLLUTION ACT - QUEBEC

The Quebec Government has yet to table its legislation with respect to air and water pollution although the Minister responsible continues to promise in his public pronouncements that he is going to be tough. It seems unlikely that this act will come down until mid-summer and at that time there will still be an opportunity to make representations.

6. REAL ESTATE ASSESSMENT ACT - QUEBEC

This has now become law but its impact has yet to be fully assessed pending the promulgation of the regulations issued thereunder. At this time it would not appear that there will be any major problem.

7. FEDERAL ELECTION

In the light of the legislation forecast in the Speech from the Throne, a good deal of which is in the category of political fence mending, and general public opinion it seems likely that a federal general election will be called within the next six months.

I.C. Campbell,
Chairman.

10. PUBLIC RELATIONS COMMITTEE REPORT

QUEBEC ASBESTOS MINING ASSOCIATION
MEETING OF DIRECTORS - CASA MONTEGO, JAMAICA

PUBLIC RELATIONS COMMITTEE REPORT

This report covers the period of December 1st, 1971 to February 29th, 1972.

1. PUBLIC RELATIONS COMMITTEE

The Public Relations Committee met in Thetford Mines on February 10, 1972, and reached the following decisions:

- a) Asbestos/Health Advertising Program: - Text, schedule, media selection and layout for the proposed advertising program were approved. April 15 - May 30 was set as the target period for the publication of the three identical advertisements at two-weekly intervals in the three Canadian weekend rotogravure magazines, Weekend, Perspectives and The Canadian. At the Committee's request, Mr. Filteau has authorized the agency to proceed with the estimated \$20,000 expenditure. A bottom right-hand page position has been requested, this being the most effective one for coupon-type advertisements.
- b) Asbestos/Health Leaflet: - This publication will be part of the advertising program. The final draft has now been distributed to Directors for approval, before proceeding to cost estimation. The leaflet will also be distributed to employees, possibly as an insertion in the Asbestos Producer, as well as to the general public. Copy is submitted under Appendix III.

- c) To support the advertising program, a letter has been prepared which can be sent, when and where deemed advisable, under the signature of the PR Committee Chairman, to any Canadian news medium, which, as indicated by returns from press clipping or monitoring services, carries news items or commentary prejudicial to asbestos in the health context.
- d) Annual State of the Industry Report - (Asbestos in Canada - 1971): - The final draft has now been distributed to Directors before proceeding with cost estimation. Copy is submitted under Appendix IV.
- e) QAMA Geological Guidebook: - Texts and plans for this publication are now 95 per cent complete. An estimated requirement for 3,000 English and 1,000 French copies is indicated for distribution to visiting delegates from the International Geological Congress in 1972 and the Commonwealth Mining Congress in 1974, as well as to visitors to plants of individual member-companies. Estimated production cost, including translation and taxes, is \$4,800 to \$5,400. The Guidebook contains approximately 10,000 words of English text. It is anticipated that approximately 1,000 copies will be distributed free and the balance sold to participating companies at \$1.00 per copy.
- f) QAMA English-French Lexicon: - Under the guidance of Col. G.W. Wright, the task of revising and clarifying the English-language content prior to translation is now almost complete.
- g) Industry Centennial - 1976: - There is no progress to report in the matter of developing plans for a meaningful but low-budget program by which the industry can appropriately and creditably celebrate its Centennial, other than preliminary correspondence with the Canada Post Office concerning the issuance of a commemorative postage stamp.

2. ASBESTOS PRODUCER

- a) So far as can be determined, employee interest in this publication remains high, as does the level of story suggestions originating with employees.
- b) There has been a number of requests from domestic, US and overseas publications for permission to incorporate in their issues story material which has appeared in the Producer. In practically all cases, these requests are for stories concerning end-uses for asbestos or for the article in the January 1972 issue covering the role of the asbestos fibre salesman in West Germany and the competitive pressures to which he is subject.
- c) The Montreal office continues to receive, on virtually a daily basis, requests from school commissions and individual schools for additional complementary subscriptions to the paper. In most cases, the requests originate with vocational guidance departments.

3. OTHER QAMA LITERATURE

Since the start of the 1971-72 school year, the following quantities of QAMA literature have been distributed, from the Montreal office primarily to schools:

This is Asbestos (Orange book)	566 English & French
Facts about Asbestos (Black book)	1,623 English & French
Asbestos Wall-Chart	479 English & French

At the present rate of consumption, supplies on hand of the orange book are sufficient to last until mid-summer 1972.

There has also been a heavy demand for the Asbestos in Canada - 1970 publication, now depleted, by CEGEP and university students with term-paper assignments in economic geography. Applicants are now supplied with photo-copies.

4. PRESS RELATIONS

- a) Recommendations for a public relations program to offset adverse and uninformed asbestos/health publicity were submitted to Directors, at their request, at the January 24 meeting in Montreal, following the CBC-TV program televised in early December and representations subsequently made by Association personnel to senior CBC production officials.
- b) In connection with the above, we have learned indirectly that as far as CBC is concerned, the issue of asbestos and health is now dead. The program was not well received and the Corporation now feels that there is greater popular interest in such matters as food additives. However, it is always possible that on future programs dealing with public health, environmental control, etc. reference may still be made to asbestos as a real or imagined health hazard:
- c) Two association press releases were distributed during the period under review.
 - i) The Asbestos Story Ring presentations in Montreal, December 1971.
 - ii) Election of new Association president and officers, January 1972.

5. MON ONCLE ANTOINE (N.F.B. FILM)

It now appears certain that this feature-length film will experience a modest commercial success, but not, however, to the extent imagined by the news media following its initial showings in Toronto and Montreal. It has not been nominated for an Oscar in the Academy Awards. Nevertheless, the industry is an integral part of the environment portrayed in the film.

The film is bound therefore to:-

- a) Resurrect the spectre of the asbestos strike (the action is set in the period between the end of World War II and 1949 and hints at the first stirrings of Quebec's aspirations for political and economic independence.)
- b) Appeal to Canadian and Quebec nationalists alike, with the industry cast as a symbol of the dire consequences of foreign ownership, the profit motive and Anglo-Saxon management.
- c) Encourage the National Film Board and Quebec film producers, screenwriters etc. to make further films of this type, treatment and theme.

Nevertheless, the film conveys its message in so subtle and low-key a manner that it is unlikely to prove a rallying point for discontented young separatist radicals, the left wing of the labor movement etc.

It is accordingly recommended that industry representatives adopt the position, if publicly discussing the film, that it is a good movie, worth seeing, and that they are happy that the industry was able to cooperate in its production.

The April issue of the Producer will contain a charitable but not evangelical article on the film, plus an interview with its young male star and his father who is employed by a member-company.

5. PUBLIC CONTACT

Requests for information to the Montreal office concerning asbestos have maintained an average of one written and three verbal ones per day during the period under review. The bulk of these requests still originate with teachers and pupils.

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A smaller but significant proportion are from members of the general public, or companies, seeking information regarding the availability of asbestos-based products.

The Montreal office also continues to receive approximately 10 phone-calls per week from job-applicants, particularly students seeking employment next summer.

J.A. Gossip,
Director of Information Services

I.C. Campbell,
Chairman - Public Relations Committee

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11. ENVIRONMENTAL CONTROL COMMITTEE REPORT

QUEBEC ASBESTOS MINING ASSOCIATION
MEETING OF DIRECTORS - CASA MONTEGO, JAMAICA

ENVIRONMENTAL CONTROL COMMITTEE REPORT

The following report is submitted for your consideration:

1. Dust Mask: - No. 8710 3M's dust mask is not available as yet in commercial quantities. In the meantime, most plants are using mask No. 3M-8500.
2. Public Hearing - Environmental Protection Agency (E.P.A.): - At the E.P.A. meeting held in Los Angeles on February 15th and 16th, 1972, Mr. Karl Lindell officially represented the Q.A.M.A. and presented a brief which was well received.

Mr. Ken Nelson, Director - Department of Environmental Sciences of Asarco was scheduled to appear on February 16th but was unable to do so. He was replaced by his assistant, Dr. Thomas Smith. His brief dealt mostly with threshold limits and he recommended permeability of filter bags.

Your Committee will try and obtain copies of all briefs presented in Los Angeles and every member Company will be supplied with a full set.

3. Bag Permeability Report: - A survey was run with all member Companies to get the description of filter bags used, and this information was passed on to Karl Lindell and Ken Nelson.
4. Material Safety Data Sheet: - In order to standardize on this Material Safety Data Sheet requested by the U.S. Department of Labour, your Committee prepared standard answers to the different sections and submitted same to all member Companies for approval. This approval was received during late February and a copy of the Data Sheet was mailed to all member Companies on February 28th.

5. Stabilization and Vegetation Growth on Tailings: - The staff of the Sherbrooke Laboratory has made further studies on growth of vegetation on tailings using material from Asbestos Corporation Limited and Canadian Johns-Manville. Results are still inconclusive and Marcel Cossette plans to carry on with his study.

Arrangements were made for seeding a one acre lot of flat tailings at the Canadian Johns-Manville plant in Asbestos. The area was covered with a thin layer of top soil and seeded. No report has been received on this experiment.

6. Sub-Committee on Design: - One meeting was held at Carey-Canadian Mines on February 10th, 1972; the subject was "Tailings Disposal".

This Sub-Committee is doing excellent work for member Companies and all engineering data dealing with environmental control are freely exchanged between the different Companies; if everybody takes full advantage of this information, one should notice major improvements in the quality of environment at all plants of the member Companies.

7. Crusher Ventilation Course: - A series of lectures were organized by the Quebec Metal Mining Association at L'Ecole Polytechnique on February 22nd and 23rd, 1972.

The asbestos producers were represented by six members of their staff.

Lionel C. Piuze,
Chairman.

12. OCCUPATIONAL AND ENVIRONMENTAL HEALTH COMMITTEE REPORT

QUEBEC ASBESTOS MINING ASSOCIATION
MEETING OF DIRECTORS - CASA MONTEGO, JAMAICA

OCCUPATIONAL AND ENVIRONMENTAL HEALTH COMMITTEE

REPORT OF THE INSTITUTE OF OCCUPATIONAL AND
ENVIRONMENTAL HEALTH - MONTREAL

The following report, covering the period of October 1971 to February 1972, is submitted for your perusal.

GOVERNMENTAL ACTIONS

The past six-months in the U.S.A. were a period of very important developments.

Under the Occupational Safety and Health Act (1970) an "emergency" occupational standard of 5 fpcm³ for asbestos in air was issued on December 7, 1971 and a "permanent" standard is due to be issued within the 6 following months. A voluminous "Criteria document" for this purpose was completed by the National Institute for Occupational Safety and Health which recommends a permanent standard of 2 fpcm³. This Criteria document which is presently under consideration by the U.S. Department of Labor was thoroughly commented and criticized by Dr. Wright. All the material was circulated in Newsletter No. 23 of February 1972.

Under the Clean Air Act (1970) the Environmental Protection Agency (EPA) in March 1971 named asbestos among the three "hazardous air pollutants" for which there is the highest priority in setting the national emission standards. Proposal of national emission standard was issued on December 7, 1971. The document was circulated in Newsletter No. 22 of January 1972. As provided for in this document, a series of public hearings have since been held

by EPA concerning this proposal. On January 18, 1972, a Johns-Manville team (Messrs. J.B. Jobe, E.M. Fenner and Dr. F.L. Pundsack) and Dr. G.W. Wright and Dr. J.C. McDonald appeared at the hearing in New York. Their presentations were circulated in our Newsletter No. 23 of February 1972. On February 15, 1972 in Los Angeles Dr. K.V. Lindell gave testimony and the following day Mr. F.H. Zimmerman spoke for the AIA/NA and Dr. H. Weill (recipient of an IOEH grant) presented his view.* These three documents are presented "in extenso" under Appendix I.

In Canada the National Air Quality Objectives under the Clean Air Act (1971) were proposed for the first five pollutants one of them being "particulate matter". No intention has yet been shown by the government to propose an emission standard specifically for asbestos although some pressure in this direction is being exercised by the Canadian Medical Association.

The government of the Province of Quebec prepares a new anti-pollution law. The cabinet minister responsible for the environment Dr. V. Goldbloom visited Thetford Mines, Que. on October 21, 1972 and met there representatives of the Quebec asbestos mining companies and Dr. P. Cartier, Dr. R. Grsinger, Dr. G. Wright and Dr. P. Pelnar at a conference concerning air pollution by asbestos fibres. An impressive review of technical control of air pollution in asbestos mines and mills was presented by Mr. J.R.M. Hutcheson and research of pertinent biological problems as supported by industry was outlined by Dr. Wright. Following this meeting Dr. Goldbloom had another conference on the same subject with the representatives of the Unions.

On November 19, 1971 another Conference on pollution abatement was organized by Quebec Chamber of Commerce in Montreal. Again, Dr. Goldbloom announced the forthcoming antipollution law. This conference was commented upon in our Newsletter No. 21 of December 1971.

* A fourth presentation (Appendix I) was made on February 16th by Dr. T. Smith, on behalf of Mr. K.W. Nelson of Asarco.

In Denmark an almost complete ban of all kinds of asbestos for insulation was issued with validity from March 1, 1972. The ban does not apply to asbestos-cement products. The document was circulated in our Newsletter No. 24 of March 1972.

Recent developments in biological research are reviewed in the chapter on activities of the Scientific Committee.

ACTIVITIES OF IOEH

Increasing scientific interest in biological problems of asbestos has reached a rate of an "information explosion" over the last years and the activity of IOEH in keeping the documentation up-to-date has had to be accordingly sharply increasing, as shown in figures and tables attached to this report. With more than 1,650 documents filed or listed the IOEH became known as the most complete source of scientific information on asbestos and health and our help is being requested by an increasing number of people from outside our organization. Several comprehensive one-subject-retrievals of documentation were lately made upon request for people preparing reports for the conference of a working group to assess the biological effects of asbestos to be held in Lyon, France on 2nd - 6th October 1972.

Our regular mailings of documentation continued and Collections of documents were sent in October, November (2), 1971 and in January, February 1972. Together 90 documents were sent, 16 of them published in other language than English and provided with English abstracts and 14 up-dating inserts into the Reference Book. In cooperation with the Subcommittee on Asbestosis of the Permanent Commission and International Association on Occupational Health 87 sendings of IESAH (Information Exchange System on Asbestos and Health) were made.

We also collect and keep in our archives 328 books and documents which do not have a character of scientific research such as legislative documents, recommendations, codes of practice, etc. from various countries, most of these are also circulated with our documents. We also actively collect and keep all available information on non-published current research work for use of the Scientific Committee of the Institute.

In addition to circulation of these published documents, Newsletters are issued by IOEH in order to circulate unpublished documents, transcripts and news - items of various kinds. Newsletter No. 20 was issued in October 1971, No. 21 in December 1971, No. 22 in January 1972, No. 23 in February 1972 and No. 24 in March 1972. Increasing number and increasing volume of the Newsletters also illustrate steadily increasing volume and scope of activity of IOEH.

Visit to IOEH: - The Institute was visited in November 1971 by professor Dr. Paul Sadoul from Nancy, France. It will be recalled that Dr. Sadoul, upon invitation from QAMA, had attended both Antigua conferences in 1965 and 1967. He is one of the leading French personalities in the field of occupational pulmonary disease.

SCIENTIFIC CONFERENCES

The Third Fall Scientific Assembly of the American College of Chest Physicians in Philadelphia was attended by Dr. Peinar in October 1971. Dr. Peinar's report was circulated in Newsletter No. 21 of December 1971.

Two important international conferences are planned for 1972.

The XVIth International Congress on Occupational Health will take place in Buenos Aires in September 1972. A session on asbestos is planned by the Subcommittee on Asbestosis of the

- 5 -

Permanent Commission and International Association on Occupational Health. Details were circulated in Newsletter No. 24 of March 1972.

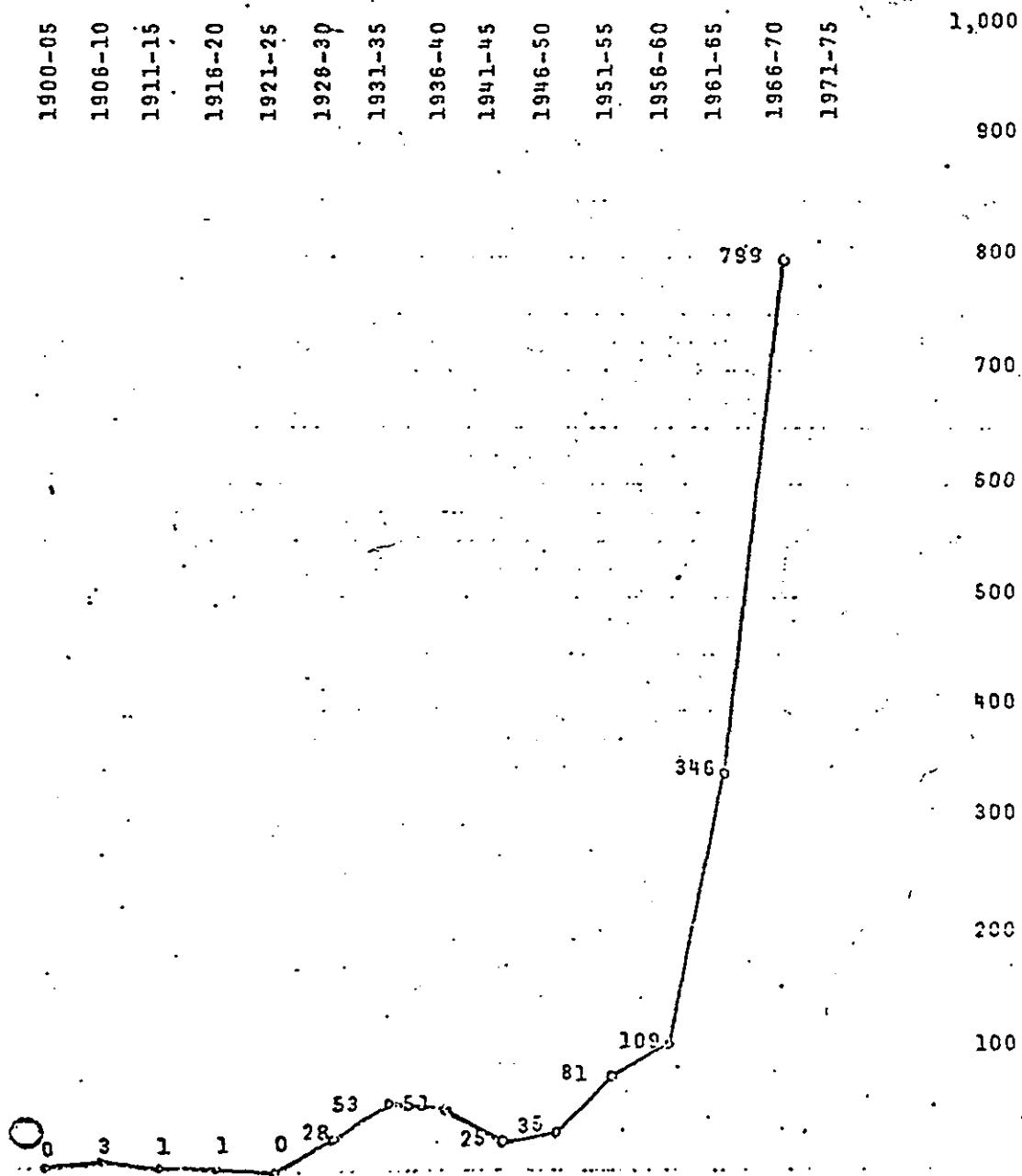
"Meeting of a working group to review the effects of asbestos" (organized mainly by Dr. Christopher Wagner from Penarth) will be held at the International Agency for Research on Cancer in Lyon, France, in October 1972. The tentative program was circulated in Newsletter No. 24 of March 1972.

Premysl V. Pelnar, M.D.
Scientific Secretary

ENCLOSURE II

Number of scientific publications on biological effect of asbestos

1900 - 1971 in IOEN files



ENCLOSURE II

Number of scientific publications on biological effect of
asbestos 1900-1971 in files of IOEH

1900 - 05	0	0%
1906 - 10	3	0.2%
1911 - 15	1	0.05%
1916 - 20	1	0.05%
1921 - 25	0	0%
1926 - 30	28	1.7%
1931 - 35	53	3.3%
1936 - 40	51	3.2%
1941 - 45	25	1.5%
1946 - 50	35	2.1%
1951 - 55	81	4.9%
1956 - 60	109	6.7%
1961 - 65	346	21.2%
1966 - 70	799	48.8%
1971 -	114	6.3%
	1,636	100.00%

ENCLOSURE II

Number of published scientific works on biological effect of
asbestos done in various countries (1900-1971), as filed in IOEH

U.S.A.	424	25.9%
United Kingdom	352	21.4%
Germany	172	10.5%
France	115	7.0%
Italy	105	6.4%
Canada	81	4.9%
South Africa	70	4.2%
U.S.S.R.	57	3.4%
Finland	33	1.9%
Japan	20	1.2%
Others	217	13.2%
	1,636	100.0%

13. APPENDIX I

SUBMISSIONS (4) AT

E.P.A. HEARINGS IN LOS ANGELES

ENCLOSURE I

February 4, 1972

EPA HEARINGS ON PROPOSED EMISSION CONTROL STANDARDS FOR ASBESTOS,
LOS ANGELES, CALIFORNIA, FEBRUARY 15TH 1972 -
STATEMENT OF DR. KARL V. LINDELL, CHAIRMAN, ENVIRONMENTAL AND
OCCUPATIONAL HEALTH COMMITTEE OF THE QUEBEC ASBESTOS MINING ASSOCIATION.

My name is Karl V. Lindell, and I am Chairman of the Environmental and Occupational Health Committee of the Quebec Asbestos Mining Association. I am a Mining Engineer, graduate of the Michigan College of Mines and have been involved in almost all phases of the asbestos industry for over a quarter of a century until my retirement in December 1970, and since then as a consultant dealing more specifically with the problems related to the biological effects of asbestos. I have been asked to be the spokesman for the Canadian mines of asbestos as I have chaired health committee since its inception in 1965. Our first responsibility was to seek the truth as to the biological effects of Asbestos, of all types and to this end organized the Institute of Occupational and Environmental Health of Montreal, which has been sponsored by the Quebec Asbestos Mining Association. I attended the hearings of EPA in New York on January and heard the statements made by my former colleagues from Johns-Manville Corporation, Burt Jobe, Executive Vice-President, Dr. Fred Pundsack, Vice-President of Research, Ed Fenner, Director of Environmental Control, as well as

.../2

Dr. G.W. Wright, Head of Medical Research of Saint Luke's Hospital, Cleveland, and Doctor Corbett McDonald of McGill University, Further as to my qualifications to speak on these matters, I was General Manager of the Asbestos Fiber Division of Canadian Johns-Manville Company Limited, responsible for the exploration for asbestos, world wide, mining and milling at Company owned or operated properties, as well as all problems related to these operations, such as environmental and occupational health. In my later years I was also Chairman of the Board of the Canadian Company as well as a Senior Operating Vice-President and a Director of the parent company, Johns-Manville Corporation with headquarters now in Denver, Colorado. In these capacities I travelled much of the world, visiting most of the operating asbestos mines and mills around the globe as well as manufacturing plants, laboratories doing medical research, and attended conferences in many countries on the biological effects of asbestos. My travels have taken me to the Soviet Union on three occasions on exchange visits, where I visited their asbestos mining and milling operations while there I had an opportunity to discuss health problems learning that their experience paralleled our Canadian in regard to asbestosis and the incidence of lung cancer. Their mills were very clean. The fibre occurrences were identical to Quebec in their characteristics and genesis.

My statement will try to paint with a broader brush the subjects touched upon by some of the statements already submitted to you, but first, let me state that we are entirely in agreement with the EPA that there is a need for control of asbestos emissions. The asbestos industry has recognized for many years that there are occupational health hazards associated with the excessive inhalation of asbestos dust. As a result, the industry, beginning at the Saranac Laboratories in Saranac Lake, New York, in the late 1920's, has sponsored and cooperated in a wide variety of scientific research projects designed to identify these hazards and to eliminate them wherever they may exist, not only in asbestos mines, mills and manufacturing plants, but also among fabricators and applicators of finished asbestos products. In recent years, the asbestos industry, either as individual companies or through the Quebec Asbestos Mining Association's sponsorship of the Institute of Occupational and Environmental Health in Montreal, has or is continuing to support medical research at such highly regarded institutions as McGill University in Montreal, Tulane University in Louisiana, Saint Luke's Hospital in Cleveland, the Environmental Sciences Laboratory at Mount Sinai Hospital in New York, the Industrial Health Foundation in Pittsburgh, the University of California at Berkeley, Fairleigh Dickinson University in New Jersey, the University of Pittsburgh, the Medical College of South Carolina, and a number of others, both here and abroad.

The asbestos industry has also cooperated extensively in various investigations into asbestos-health conducted by agencies of the Federal Government, including the U.S. Public Health Service, the National Institute of Occupational Safety and Health, and the Environmental Protection Agency. Much of the technical and other data that formed the background of the proposed National Emission Standards under review today has been obtained with the complete cooperation and assistance of the asbestos industry.

In addition, in the industry's own research laboratories, scientists and engineers are also engaging in work related to health, developing better handling techniques for loosely bound asbestos products and also developing and improving techniques for the measurement and control of asbestos emissions both in the workplace and in the ambient air.

For many years the asbestos industry has been actively pursuing the goal of control of asbestos emissions, utilizing the best available technology of the times. Thus industry is sympathetic with the concept of controlling emissions, and have invested many millions of dollars in sophisticated and highly efficient dust control equipment and techniques to reduce worker exposure and to prevent the emission of hazardous amounts of asbestos fiber into the air.

Though there are as yet many unanswered questions in regard to the effect of inhalation of asbestos, the following is a partial list of what is known.

- a) The hazard is dose related (Dr. Wright).
- b) Disease can be eliminated if proper control measures are taken (Dr. Knox).
- c) One group study showed that only smokers had lung cancer.
- d) The general public is not at risk.

The report by Dr. McDonald of McGill University on a three year study of chrysotile workers in the Province of Quebec supports this finding.

- e) "Asbestos bodies" or "ferruginous bodies" were as prevalent in the general public in 1934 as they are now in spite of the increased consumption of asbestos. This has been reported by Dr. Selikoff and his associates.

Mesothelioma

I wish only to comment on the occurrence of mesothelioma briefly. Dr. Wagner in his report in 1960 found an excess of mesothelioma in asbestos workers in the Cape Province of South Africa. The particular asbestos involved is crocidolite, commonly called "blue-asbestos". However, several hundreds of miles to the east in the Transvaal area one did not find any mesotheliomas in the blue-asbestos mines. The difference here has not yet been

answered. Could it be that the workers had been also exposed in the chrome and manganese mines of the Kalahari, or to the dry air of the Kalahari desert itself? Professor Thomson in his report predicted an epidemic of mesothelioma because he saw an excess in the Cape Town area and reported that 25% of the public had ferruginous bodies in their lungs. He also hypothesized that that since consumption of asbestos was growing it would create a problem. He named the various asbestos products used as breaking down and causing the pollution though he did not have evidence of this. Up to recent date he has not offered any further data to support his claims.

I would also like to call your attention to the fact that at the largest asbestos operation in Canada no mesotheliomas have been seen. There is not any evidence to support the theory of an impending epidemic.

Sources of Natural Emissions

Dr. Pundsack in his paper in New York went into considerable detail on the dynamic process through which asbestos fibers get into the ambient air by natural means. He limited his discussion to the serpentine rock and asbestos fiber occurrences in the United States. Looking at the geological map on a global basis

we see for example that serpentine rocks occur on the west coast of both North and South America from Alaska to the southern tip of Argentina. Along these coastal ranges you will not find many mines, but, you will find fiber and serpentine occurrences in the ranges which even at this time are going through heavy erosion and weathering process, for the full length of the Western Hemisphere. There are isolated areas of serpentine as you move eastward in the U.S.A. and you will find them also in Canada, Mexico, and farther south in Central Brazil. Further east, there are extensive occurrences from the St. Lawrence River near Mont-Joli, Quebec, on down through the state of Vermont, on through the Appalachian Mountains and further south to the Carolinas. The parallel ranges in the Soviet and South Africa have proceeded further in the weathering process, but they can be seen on the surface. We wish to note here that there are crocidolite occurrences on this continent also, even though there are not any commercial deposits in this hemisphere except in Bolivia. Thus the natural sources of emission of asbestos are quite extensive. From the foregoing it is obvious that man has been exposed to asbestos fibers in the ambient air for a long time. Much work is needed to be done to determine what is the threshold limit value for this background natural pollution. This of course only emphasizes the need to control man-made emissions.

Man-Made Emissions

I will not delve into man-made emissions except to comment on Talc which was mentioned briefly by Dr. Wright in his statement in New York. I am not aware of research on Talc or its effects. Drs. Wright and Cralley (of U.S.A.) have investigated on few samples of Talcum Powder to learn that they do contain asbestos. Bates in his book on "Geology of the Industrial Rocks and Minerals" published in 1960 by Harper & Brothers, New York, does report on samples of commercial talc which contained either or both tremolite and anthophyllite in amounts varying from seven to seventy-eight percent. Steatite is the name given to pure Talc and it is also a hydrous magnesium silicate the same as chrysotile asbestos. You can picture how generously we usually dust ourselves with this material. It is worth investigating fully.

Further Research

There are many areas of this problem requiring further research. Our Scientific Committee is reviewing this situation as to priorities and availability of researchers and laboratories interested in this type of study.

Equipment Specifications

With reference to the rules for equipment specifications 61.22 and 61.23 it is noted that most of Canadian mines dust control systems do not presently meet these specifications when referred to the fabric only. However, when relating to operation it is believed that they will meet the requirements as the coating of asbestos fines on the cloth reduces the air flow to within the specifications limits. More testing will be needed to verify this.

That is my statement.

Thank you for the opportunity to be heard.

FILTER BAGS

[illegible]

ENCLOSURE I

EPA Hearings on Proposed Emission Control Standards for Asbestos,

Los Angeles, February 16, 1972

Statement of Dr. Hans Weill, Tulane University School of Medicine
New Orleans, Louisiana

My name is Hans Weill and I am a specialist in Pulmonary Disease and Professor of Medicine at Tulane University School of Medicine. For the past ten years I have been actively engaged in the investigation of pulmonary effects of industrial and community environmental inhalants, including organic and inorganic dusts and toxic irritant gases. For the past two years, we have been carrying out a comprehensive investigation of workers engaged in the manufacture of asbestos cement and other asbestos-containing construction products. I appreciate the opportunity to provide this statement, following which I will be pleased to attempt to clarify any further questions which you may have concerning the biological effects of asbestos exposure.

Because of the evidence indicating an association between dose of asbestos exposure and its adverse biological effects, it is not surprising that these reactions are most easily recognized in industrial populations where this exposure is highest. It has been appreciated for one-third of a century that excessive occupational exposure to asbestos dust can result in diffuse pulmonary fibrosis or asbestosis. Recent evidence strongly suggests that this hazard can be controlled by reducing industrial dust levels and there is general agreement that even lower community levels of asbestos

fiber are not likely to be associated with a fibrosing effect on the lungs.

That an excess risk of bronchogenic carcinoma of the lungs occurs in workers exposed to asbestos was established in the late 1940s and early 1950s. This risk is not the same for all types of asbestos exposure and seems to be associated, perhaps synergistically, with at least one other factor, cigarette smoking. Of great importance to the purposes of this hearing is the more recent demonstration that reduced asbestos exposure in the plants results in not only a lower risk of developing pulmonary fibrosis but also is associated with a marked fall in mortality for cancer of the lung. This evidence that the increased risk of developing pulmonary neoplasms can be controlled by adequate dust suppression in the plant comes from two separate studies in the United Kingdom and leads to guarded optimism, not only in relation to the industrial asbestos exposures but, by extrapolation, to the tentative conclusion that the lower general environmental asbestos levels do not constitute a significant risk to the population in terms of the development of lung neoplasms.

If there seems little likelihood that asbestosis or bronchogenic carcinoma of the lung can result from general environmental levels of asbestos fiber, what can be said about the rare but important tumor called mesothelioma which may affect the lining of the chest or abdominal cavities? This complex and interesting story has been evolving during the past decade with interest stemming initially from the reported association of industrial

and geographic proximity to the crocidolite mines in the Northwest Cape of South Africa and the appearance of these tumors. Exposures were not quantitated but were likely to have been quite heavy. Confusion resulted from the observation that similar mines producing blue asbestos in the Transvaal section of South Africa were not associated with cases of mesothelioma in the exposed occupational and geographic populations. While a few cases of mesothelioma have been reported in the surrounding environs of a plant using primarily crocidolite in the United Kingdom, emissions were uncontrolled and likely to have been considerable. In a survey of mesothelioma in Scotland recently reported, it was difficult to separate occupational from residential exposure since most of those working in the asbestos industry lived close to the industrial sites, and only one male case of mesothelioma occurred out of 51 individuals who did not have occupational exposure and who lived within one-half mile of shipbuilding, docks, or asbestos factories. It can be readily appreciated that the evidence supporting an association between mesothelioma and non-occupational residential exposure to asbestos is quite limited, particularly when contrasted to available data which suggests little association between general community asbestos exposure and the development of mesothelioma.

The Mayo Clinic recently reviewed 37 cases of mesothelioma which had been seen during the previous 22 years. In only ten of these was there

a definite or probable occupational exposure to asbestos, while in 27 no history of environmental or occupational exposure was detected. None of these patients lived in major industrial or metropolitan areas and a non-occupational exposure to asbestos fiber seems highly unlikely. The most precise definition and quantitation of asbestos exposure is at present possible only for an industrial environment where significantly lower asbestos dust levels have recently been demonstrated to be associated with a normal or only slightly increased risk for pulmonary or pleural malignancies. If confirmed by continuing studies, this ultimately provides strong evidence that the minimal asbestos exposures in urban communities will have no adverse measurable biologic effects.

Since today our attention is being directed to the portion of the proposed emission standards which prohibits visible emissions of particulate matter from asbestos-containing tailing dumps, let us examine the most pertinent scientific evidence concerning the risk associated with environmental exposures in areas geographically proximate to asbestos mines. Last month at these hearings in New York, Dr. J. C. McDonald of McGill University testified in some detail about the investigations which he has supervised on the Quebec chrysotile mining and milling industries and the Canadian mesothelioma survey. Because of the importance of these results to the hearings, I would like to briefly summarize the appropriate portions of these studies. In the study of mortality in the chrysotile producing industry of Quebec, a very high follow-up of deaths was achieved which presented strong evidence

that even heavy exposure in this industry carried only a modest risk of lung cancer and even a smaller risk of malignant mesothelioma. Again, the evidence that low and moderate asbestos dust levels are not associated with increased risk of developing pulmonary or pleural malignancies in the workers has strong implications concerning that risk in the non-occupationally exposed population. The asbestos-containing tailings dumps in the United States are in chrysotile mines, underlining the importance of Dr. McDonald's findings to this deliberation.

Results of an epidemiologic survey of malignant mesothelioma in Canada are also of interest. Although an association between the development of these tumors and occupational exposure (usually not mining or milling) was found in 1/4th of the cases, after exclusion of occupational and domestic exposures there was no case of mesothelioma occurring in an individual who had a history of ever living within 20 miles of an asbestos mine or mill. This encouraging data concerning chrysotile asbestos health effects, which has been substantiated in chrysotile mining and milling in other portions of the world should be evaluated in view of the facts that all of the asbestos mines and mills in this country produce chrysotile fiber and over 90% of the asbestos used in manufacturing and other utilization is also this fiber type. Strong consideration must be given to the possibility that some or all of the biological effects of asbestos may result from something other than the fiber itself, possibly a contaminant introduced in processing or manufacturing.

This and other unresolved questions will hopefully be answered as the result of intensive research being conducted on this problem.

Because of my interest in maintaining the health of workers and the population in general, I support vigorous efforts in controlling the emission of actual or potential injurious inhalants, even when doses which have been demonstrated to have an adverse biological effect are of a different order of magnitude than those likely to be encountered in the general environment. I, therefore, support most of the provisions of these proposed emission standards but would suggest that present evidence does not indicate a significant risk from the environmental levels of chrysotile asbestos surrounding these mines. While the technology is being developed to control these emissions, continued health surveillance will provide data which hopefully will confirm these present tentative conclusions.

ENCLOSURE I

FEBRUARY 9, 1972

EPA HEARINGS ON PROPOSED EMISSION CONTROL STANDARDS FOR
ASBESTOS - LOS ANGELES, CALIFORNIA, FEBRUARY 16, 1972 -
STATEMENT OF F. H. ZIMMERMAN ON BEHALF OF THE ASBESTOS
INFORMATION ASSOCIATION/NORTH AMERICA

My name is Frank H. Zimmerman and I am Director of Corporate Safety and Environmental Health for the National Gypsum Company. I am here today representing the Asbestos Information Association/North America, which consists of 13 of the nation's largest miners, manufacturers and importers of asbestos and asbestos-containing products. The member companies of the Association are listed on a sheet which I have provided.

We support in general the position taken by the Johns-Manville Corporation in its presentation at the January 18 hearing in New York City, and also contained in the National Academy of Sciences document on asbestos, that at present the general public is not in danger from the minute amounts of asbestos fiber present in the ambient air. We also concur with the position that it is prudent and feasible to establish reasonable emission standards and controls that will protect the public and ensure that hazardous levels of asbestos will not develop in the community air in the future.

We therefore, in principal, support the proposed Environmental Protection Agency National Emission Standards on asbestos.

Nevertheless, there are certain sections of the regulations which we feel require alteration or rewording, and on behalf of the Association, I would therefore like to recommend to the EPA the following changes.

With regard to Section 61.21 Definitions, we agree with the intent of the EPA in trying to establish definitions for visible emissions and particulate matter that would encompass all types of particulate emissions which might possibly contain potentially hazardous amounts of asbestos. Nevertheless, from a practical standpoint, there are difficulties in the definitions as written.

For example, in many asbestos using manufacturing operations, there are particulate emissions to the atmosphere which may be visible but which do not contain any asbestos. As Mr. E. M. Fenner of Johns-Manville pointed out in his testimony in New York, an example of such emissions could be from the sand preparation and drying operations in an asbestos-cement pipe plant.

In another example, a visible particulate emission might contain a very minute percentage of asbestos fibers and would be visible only because of the non-asbestos particulate matter in the emission, yet the standards as written would not differentiate between such an emission and one of pure

asbestos fiber from an uncontrolled plant or improperly maintained bag house.

To resolve this difficulty, I think it is essential to return to the basic intent of the EPA in establishing asbestos standards in the first place, and that was, of course, to protect the general public by reducing emissions of fiber into the ambient air consistent with the best available technology.

While it is always desirable when possible to restrict emissions of any nature from any source, industrial or otherwise, it is not necessary in order to be consistent with the purpose of these regulations to prevent the emission of non-asbestos containing particulate matter. Free asbestos fiber is the declared hazardous substance with which we are concerned, and the primary job of the EPA and the industry should be to keep asbestos emissions, not particulate emissions per se, at as low a level as is possible. As has been pointed out, not all potential particulate emissions from an asbestos manufacturing operation necessarily contain asbestos, and to require that the same strict controls be applied to them as are applied to asbestos emissions goes beyond the scope of the regulations.

We are sure that it was not the intent of the EPA to present insurmountable obstacles to concerned and dedicated companies within the industry, but to ensure that uncontrolled asbestos emissions would be prevented. With this philosophy in mind, I would like to suggest the following solution to this problem.

We suggest that the definition for visible emission be rewritten as follows: "Visible emission" means, for the purpose of this subpart, any visually detectable emission of particulate matter containing free asbestos fibers in excess of the amount which would be emitted from a fabric filter device or other suitable collection installation, as described in section 61.23.

Such a definition would not be inconsistent with the intent of the regulations, and would in fact closely parallel the approach taken by the EPA in section 61.22, subparts (a-1) and (a-2); (b-2) (b-3) and (b-4); (c-1) and (c-2); and in (c-3).

In conjunction with this definition change, we would also suggest that the definition of particulate matter in Section 61.21, subpart (h) be reworded as follows: Particulate matter means any material containing free asbestos fiber, other than uncombined water, which exists in a finely divided form as a liquid or solid.

The wording "free asbestos fiber containing particulate matter" or "particulate matter containing free asbestos fiber" should be used throughout the Standard in place of the less specific terms "material" and "particulate matter."

Our next suggested change in the standards is with regard to Section 61.22, subparts (e-1) and (e-2) regarding the prohibition of the spraying of any product containing asbestos on any portion of a building or structure or in an area directly open to the atmosphere. We realize that this section of the regulations was designed primarily to deal with the problem of the use of asbestos-containing spray fireproofing compounds in high rise building construction.

Those of us in the industry who have followed the course of the spray fireproofing controversy over the past two years can well understand the EPA's decision to prohibit this particular use of asbestos and we cannot disagree with it. However, the regulation as worded would also ban the use of a number of asphalt-asbestos spray roofing and foundation compounds and adhesives that we feel do not fall into the same category as the fireproofing compounds. These asphalt spray compounds contain an average of around 5 per cent asbestos fiber locked solidly in the asphalt binder. They are applied in a manner which could not conceivably create any emissions of free asbestos fiber to the atmosphere.

A member company of the Asbestos Information Association which manufactures these products contacted a number of reputable testing laboratories in the Cincinnati area to run a series of fiber counts on the application of these asphalt-asbestos compounds. When the process was explained to the testing laboratories, they replied that they did not see how any free fiber could be released during application, and concluded that it would be essentially a waste of time to run the tests.

Accordingly, we recommend that Section 61.22, subparts (c-1) and (c-2) be reworded so as to eliminate products of this nature from the proposed ban. This can be accomplished in two ways. Either the proposed ban in (c-1) and (c-2) can be made specific to spray compounds in which water is the liquid agent, or else subparts (c-1) and (c-2) can be totally eliminated, and subpart (c-3) slightly reworded so as to apply to all asbestos-containing spray compounds.

Without going into detail, the Association would also like to express its agreement with the position of Johns-Manville with regard to Section 61.22, subpart (c-1) and Section 61.09 on source reporting, and we would also like to see some clarification from the EPA on the definition of a "source."

Our final suggested change in the regulations is with regard to the prohibition on visible emissions from mine tailings dumps. As was expressed by Mr. Fennar of Johns-Manville at the New York hearing, the control of tailings dump emissions is the one requirement in the regulations with regard to mining operations that the industry at this time does not know how to meet. As the EPA is well aware, the industry has been working on this problem for a number of years without finding a suitable solution, nor are we confident of being able to discover one within the two year waiver period allowed under the law. We would therefore like to recommend to the EPA the following three point plan to deal with this problem.

1. The prohibition on tailings dump emissions should be deleted from the regulations for the present.
2. An industry program should be set up with EPA guidance and approval to discover a suitable method for controlling these emissions.
3. When a method has been developed, the prohibition on visible tailings dump emissions should then be reinserted in the regulations.

I realize that this approach to the problem is somewhat unorthodox, however, there are several points which speak in its favor. Of prime importance is the medical evidence

with regard to the lack of asbestos health hazards in the vicinity of chrysotile asbestos mines. Dr. Hans Waill of Tulane University will speak directly to this aspect of the situation in his presentation. Secondly, the asbestos mines in this country are few in number and, for the most part, located in areas far from any large population centers. Thirdly, as I stated before, the industry does not know how to solve the problem at this time and is skeptical about its chances of doing so in the near future.

This last point is of considerable importance to those companies that are faced with the practical problem of meeting the mining regulations. No matter how well controlled the asbestos mines in this country are at present, it is reasonable to assume that additional funds will be required to comply with the regulations. If a company feels that it will end up closing down its mining operations in two years because of the tailings dump problem, it may very well decide not to spend the money needed to comply with the other requirements of the regulations, and instead close down operations immediately. This is a situation which I am positive none of us would like to see occur.

We feel that this proposal, though somewhat unusual, is not unreasonable in light of the industry's willing acceptance of the vast majority of the proposed regulations, our past

cooperation with the EPA in health matters, and our avowed determination to do all that is necessary within the limits of technical feasibility to control asbestos emissions into the ambient air. We hope that these things will be taken into consideration by the EPA when evaluating our proposal.

In conclusion, I would like to once again express our continuing recognition of the need for effective emission controls, and our general support of the EPA National Emission Standards for Asbestos.

Thank you

Statement
of
K. W. Nelson
Director, Department of Environmental Sciences
American Smelting and Refining Company
Salt Lake City, Utah

Public Hearing on Emission of Hazardous Pollutants
Los Angeles, February 16, 1972

My name is K. W. Nelson. I am Director of the Department of Environmental Sciences of the American Smelting and Refining Company. I have been in environmental health work for 30 years, 26 of them with American Smelting. Because we have an interest in asbestos production and in all the trace metals associated with our principal products - copper, lead, and zinc - I wish to comment on the proposed national emission standards for asbestos and mercury.

During World War II, as a member of a Navy team assigned to develop industrial hygiene programs in shipyards building ships for the Navy and Maritime Commission, I had occasion to observe closely all jobs done in ship construction. One of them was the installation of asbestos insulation, particularly in the boiler rooms of ships. Amosite, chrysotile, and crocidolite forms of asbestos were used.

We knew very well then that inhalation of excessive asbestos dust over a period of time could cause asbestosis. We were appalled to see that asbestos handling, cutting and application were done almost always without regard to dust exposures. Workmen would literally be covered with dust and visibility in engine and boiler rooms would often be diminished by floating dust. My memories of those scenes are vivid.

We urged dust control wherever practicable - which was not often the case then - and at least we urged the wearing of respirators

approved by the U.S. Bureau of Mines for protection against pneumoconiosis-producing dust. But I must say our recommendations were often not followed assiduously.

Also during the war I had occasion to inspect an asbestos textile plant providing Navy goods. Again I saw workrooms with visible dust. Every light fixture or other hanging appurtenance was festooned with fiber masses like trees adorned with Spanish moss. Dust control consisted of sprays of water mist in the room to keep the asbestos damp and to allay dust. The hanging fiber accumulations were evidence that the control was not very successful.

There is no doubt in my mind that the cavalier practices of insulation installers of 30 years ago and perhaps in ensuing years were responsible for the asbestosis discovered in recent years and for the markedly increased incidence of lung cancer which is apparently the result of cigarette smoking plus massive occupational exposures to asbestos dust.

My special interest in mercury began in 1941 when Dr. E. P. Laug and I, working for the Food and Drug Administration in Washington, developed an improved method for determining mercury in biological materials - a method which is still the official one of the Association of Official Agricultural Chemists, though there have since been developed a number of better and faster methods. I assisted also in toxicological studies of mercury's effects on animals.

Since those early experiences I have followed with care the expanding scientific literature on asbestos and mercury and their relationships to environmental health.

The first specific comment I have on the proposed national emission standards for asbestos and mercury is that neither substance, in my opinion, deserves being set aside as an especially hazardous air pollutant. Health effects from excessive exposure to airborne asbestos and mercury have been related almost exclusively to occupational situations which involve exposures for greater than any which the public could experience. An exception may be the "neighborhood" illness cases ascribed to asbestos, but almost certainly such cases resulted from lack of dust collection which would be routine today in order to maintain in-plant airborne fiber levels within occupational health standards.

My point is that almost any substance capable of being airborne and causing "irreversible, or incapacitating reversible, illness" could be classified as a hazardous air pollutant. Carbon monoxide is an obvious example and of course the total national man-hours annually of public exposure to carbon monoxide in significant quantities would far exceed the total man-hours of public exposure to asbestos or mercury. By "significant exposure" I mean one which would be likely to provoke significant physiological change.

My further point is that distinguishing asbestos and mercury as "hazardous" means to the public "extremely hazardous" and arouses unnecessary anxieties. Our environmental anxieties these days may indeed be overshadowing those more deserving of serious public attention. President Nixon's recent message to Congress on environmental pollution effects on health raised questions about our classifications of hazardous substances. He said, in discussing the identification and distribution of adverse agents, "In some cases the grounds for alarm are

well-founded; in others fear goes beyond the evidence. The reasons for inclusion are varied and not always well-founded. There has been little attempt to review the whole range of environmental agents systematically, or to adopt a consistent basis for judging an environmental agent as a hazard."

I would urge the Environmental Protection Agency to re-consider the need for national emission standards for mercury and asbestos on grounds that fears go beyond the evidence.

Paragraph 61.21,(1), defines asbestos tailings as any solid waste product of asbestos mining or milling operations which contain asbestos. This definition is too broad. In the mining industry the word "tailings" applies to the finely divided product of milling or, less commonly, to the oversize material passing over screens. As defined now, the term "tailings" would mean virtually any material from an asbestos mine. The definition should be modified.

Paragraph 61.22,(a),(3), prohibits visible emissions from any mine road surfaced with asbestos tailings. Under the existing tailings definition any road in an open pit mine surfaced with waste rock from the pit, or not especially surfaced at all, would be surfaced with asbestos tailings. And the rock would in all likelihood contain some asbestos.

Both because of this situation and because we believe it impossible not to have, at any time, some visible emission from trucking on roadways, we believe the visible emission prohibition should be dropped. It is routine practice to prevent dusting of roadways and it would be necessary to meet the OSHA airborne asbestos standard for truck drivers

and miners in the area. These facts would preclude, in our opinion,

and miners in the area. These facts would preclude, in our opinion, any possibility of significant neighborhood asbestos contamination from a mining operation.

The complete prohibition of emissions seems to us an impossible requirement in paragraph 61.22,(b),(1), referring to visible emissions from ore dumps, storage areas, conveyors, and tailings dumps, in (d), referring to building demolition, and in (e),(1) and (2), referring to asbestos spraying. Again it seems to us that good dust prevention practices should be applied, but that absolute prevention of a visible emission is impossible.

Paragraph 61.22,(f), is objected to because of the use of the word "tailings" in its overly broad sense. The restriction as it stands would mean hauling in materials from outside a mine area when an abundance of rock, overburden or other waste rock, was immediately available for road construction.

The various categories of fabric permeability specified in paragraph 61.23,(a),(c), and (d) are unnecessary. The high efficiency of fabric filter bags for collecting dust and fibers is principally a function of the filter cake which quickly builds up on the bags when in use. It is a superfluous refinement, in our opinion, to have the various grades. A single specification of 35 or 40 CFM/ft² is recommended.

No risk to the public from airborne mercury in particle or vapor form has ever come to our attention. U.S. Geological Survey professional paper 713 reports atmospheric mercury concentrations at ground level near mercury ore deposits of 20 $\mu\text{g}/\text{m}^3$, diminishing to 0.1 $\mu\text{g}/\text{m}^3$ 400 feet

above ground. Air at ground level over precious metal ores has reached $1.5 \mu\text{g}/\text{m}^3$. Again we raise the question of why mercury should be set aside as a hazardous pollutant. It's relative rarity, relatively high cost, and the lack of any observed community air problems argue against its hazardous classification. We may be creating a problem in trying to solve a non-existent one.

The five-pound per 24-hour emission limitation specified in paragraph 61.53 appears to be purely arbitrary. No allowances are made for the concentration of mercury in a given effluent or for stack height and subsequent dilution. At the very least, an option should be permitted to meet an appropriate ambient air standard, as in the case of beryllium. What the ambient air standard should be is unknown at present, but $1 \mu\text{g}$ seems very conservative. In any case, there is surely time to develop and agree upon an ambient air standard. There is no emergency.

The stack testing and record keeping would be eliminated if an ambient air option were available and chosen. Ambient air monitoring should be permitted on a 26-day a year schedule like that followed by the national air sampling network. After two years of such monitoring, permission to discontinue it should be granted, provided satisfactory evidence is submitted to the administration that ambient air levels have been satisfactory. Changes in plant practices that would increase mercury emission would automatically mean a resumption of ambient air monitoring.

We appreciate this opportunity to express our views on this proposed legislation.

14. APPENDIX II

REPORT OF Dr. G.W. WRIGHT

PRESENTED AT COLORADO SPRINGS, OCTOBER 12, 1971

CONDENSED REVIEW OF THE ACTIVITIES

OF THE SCIENTIFIC COMMITTEE,

INSTITUTE OF OCCUPATIONAL AND ENVIRONMENTAL HEALTH

PRESENTED AT COLORADO SPRINGS, ON OCTOBER 12, 1971

1. RESEARCH PROJECTS SUPPORTED BY THE I.O.E.H.

Several important findings have been developed by Dr. Corbett McDonald's study during the interval between the last meeting of the Q.A.M.A. and this current one. He has demonstrated that an excess of bronchogenic cancer occurs only in those exposed most heavily in mining and milling, approximately 5% of the total worker population. There is no excess in the four categories of exposure below this, and this includes some groups that would consider to be moderately heavily exposed. It would appear rather definite that an excess occurs only in those individuals exposed to more than 400 units, or ten million particles per cubic foot for forty years. This can be estimated to be somewhere in the neighborhood of in excess of ten to twelve fibers per cc for forty years. It is also demonstrated that evidences of "asbestosis" develops at exposures less than this, and therefore the British contention that bronchogenic cancer occurs in excess only in those people with sufficient exposure to cause asbestosis is supported. The level at which asbestosis is apt to occur has not as yet been determined. These data should be of some use in those considerations having to do with establishing a threshold limit value, especially in mining and milling. Some, however, may contend that the circumstances in mining and milling are not necessarily appropriate to those involved in manufacture. It should be pointed out also that five cases of mesothelioma were reported from the

the population of workers under study, and this probably represents a slight excess but still considerably lower than that which has been reported in manufacturing and insulation workers.

There are two features of importance with respect to the current status of Dr. Vigliani's studies being carried out at Balangero. He has continued to confirm the finding that employees in this chrysotile mine who also have asbestosis do have an excess of bronchogenic lung cancer. He has not, however, observed any cases of mesothelioma. Evaluation of this latter finding should recognize that McDonald's study embraces many times larger number of men. Continuation of this study for a longer period has been requested and approved by our Scientific Committee and awaits action by the Executive Committee of the I.O.E.H. Continuation of this study is highly advisable in order to provide further confirmation and in addition, to disclose the relationship of excess bronchogenic cancer to the actual exposure in order that such data might be used in setting a TLV. Extensive monitoring of the concentration of asbestos fibers and particles in the air surrounding the Balangero mine have been carried out. These show a concentration at one fiber per cc or less in the immediate neighborhood of the mine and mill itself with a rapid diminution so that in an area outside of approximately three square kilometers the level is below 0.5 fibers per cc. In the communities of Corio and Balangero the fiber counts are under 0.2 fibers per cc on the average. This information will be of use in the upcoming considerations by E.P.A. with respect to control of emissions from mines and mills. The study of the shipyard workers in Genoa confirms an excess of bronchogenic cancer and mesothelioma in these categories of workers. Unfortunately this study has not developed as well as we had hoped from an epidemiologic point of view and there is some question at this moment as to whether it will be recommended that this be carried forward. The inability to establish actual exposures is the main stumbling point.

The studies being carried out in Finland, originally under the direct supervision of Professor Leo Noro but now under the supervision of Dr. Ahlman are proceeding as anticipated as to schedule. The correlation between the health status of workers in anthophyllite mining and milling and the industrial hygiene studies is still in process, but should be complete within the near future. The same can be said with respect to air pollution studies being carried out in the neighborhood of the mines and the mills. This is of particular interest with respect to the incidence or prevalence of pleura plaques. Of great interest is a current publication by this group indicating the severe dustiness of the environment of thermal insulators and those working in the construction industry. Fiber counts in excess of fifty per cc have been indicated and almost none are below twenty. This study clearly indicates that either American insulation workers follow strikingly different work practices or the estimates that have been indicated by Selikoff's group are erroneous. I do not know how to judge this at the present moment. Asbestosis has been found in this group of workers, but nothing with respect to the incidence of this abnormality has been shown. Also, there is no information as to whether or not there is an excess of bronchogenic cancer or mesothelioma in the insulation and construction workers of Finland. Information along these lines should be forthcoming in the near future.

The study of workers in the asbestos cement industries of National Gypsum and Johns-Manville in New Orleans has proceeded according to schedule. It is not anticipated that anything in the way of correlations between exposure and the health of the workers will be available until late in 1972. Investigation into the feasibility of a study of the prevalence of mesotheliomas in the New Orleans area is underway. Plans for the future include setting up a cohort for long term intermittent study over the ensuing years, and in addition for an immediate study of a cohort identified some years past whose total mortality experience can be examined at the present time.

The study by Gibbs of Dr. McDonald's group with respect to alterations of a chemical and physical nature in insulation as it stands in place is under way, but no information has as yet been developed.

Dr. Pernis has not provided us with a final report, but it is anticipated in the very near future. The major outcome of this study to date is that macrophages in simulated "in vivo" conditions are not killed by the ingestion of asbestos fibers. This is in striking contrast to the reports of the effect of asbestos fibers on macrophages in artificial media where a destruction of the cells occurs with considerable rapidity. This finding is of extraordinary importance because it indicates that the mechanism of the development of fibrogenesis (asbestosis) is apparently quite different with respect to asbestos than it is with free crystalline silica.

The study by Dr. Gross on comparison of the fiber content of urban versus rural lungs has only begun and no report can be made on this at this time.

2. MEETINGS

As some of you know, a large international meeting on the general subject of pneumoconiosis and occupational health was recently held in Bucharest, Romania. I presented an overview of the asbestos biological effects. Dr. McDonald presented in detail the study of the mortality pattern in the Quebec Asbestos mines and mills along the lines given at the beginning of this report. Dr. Selikoff presented preliminary data on exposure of a group of workmen in an insulation manufacturing plant in Patterson, N.J., where the exposure was solely to amosite. He reports an excess of bronchogenic cancer and mesothelioma, as well as asbestosis and concludes that the biological effects in this population are essentially the same as those that he has observed in his

insulation workers. No information on the degree of dustiness was given other than to say that it was a dusty plant. He indicated that one individual had worked only a single day in this plant and subsequently developed mesothelioma. His paper was difficult to evaluate, but it is of importance because it indicates that in a manufacturing exposure solely to amosite (of course there were other materials of a non asbestos nature present) there has developed an excess of mesothelioma whereas in the mining and milling of amosite in South Africa it is reported this does not occur. Dr. Gilson reported a summary and made the important point that the risks of utilizing asbestos products must be taken in perspective. He indicated that the biological effects and mortality pattern in mining and milling of chrysotile in various places throughout the world was clearly a far less serious and disturbing one than is true for the same procedures with respect to crocidolite, at least in the northwest Cape. He also indicated that the biological effects as observed in insulation workers and in the manufacturing processes, especially textile, the health effects were far more severe. He also pointed out that if one takes the mortality pattern as a whole the adverse risks of working in the asbestos industry were considerably less than that of being a fisherman in the ocean surrounding England or in one or another of the other trades in England where the mortality risk was considerably higher. It is of some interest that at this meeting there was no report from any Russians.

3. WHERE ARE THE PRESSING PROBLEMS?

In the U.S.A. regulations will soon be set with respect to the control of emissions of asbestos into the public air. These are of probable importance for Canada also, since what is done in the USA may have an influence on what is done later in Canada. The EPA of the USA asked the National Academy of Sciences of the USA to appoint a committee to bring in a summary of the health effects of asbestos as they might be germane to the problem of the general air pollution. — A report of this has been published and deserves

reading because the story has been reasonably accurately and dispassionately presented. The EPA has prepared a proposed set of regulations and these have in turn been looked at in conference between the EPA and industry. Some changes from the original proposals were made that are of a beneficial nature. As it stands at this time the regulations will not propose any numerical standards, but will be expressed predominantly in what might be called performance criteria and with the prevention of visible emission. There has been a banning of the use of sprayed asbestos where it can get out into the public air and also the use of tailings from asbestos mines and mills for the purposes of road surfacing. There also is a requirement that there be no emissions from tailings dumps. By this it is meant that the emissions should not exceed one-quarter of a Ringelman.

The setting of a new occupational threshold limit value will undoubtedly occur in the next several months. Approximately a year and a half ago a report was prepared by the Bureau of Occupational Safety and Health in conjunction with a committee that they organized. This report suggested a TLV of five fibers per cc. This report has not been released, largely because of extreme pressure from Dr. Selikoff and his labor unions. They are committed to a TLV of less than two fibers per cc. In this connection it should be recalled that Dr. McDonald has shown no excess of bronchogenic cancer until levels of those necessary to produce asbestosis occur. It should be emphasized however that this is in mines and mills and the question will be raised as to whether or not it is appropriate for other settings. This is particularly true since the biological experiences in mining and milling chrysotile have been so much less severe than in the insulation workers and in some manufacturing settings. The long delay in publishing the five fiber recommendation suggests strongly to me that Dr. Marcus Kay faces a dilemma posed by the insistence of the labor group and Dr. Selikoff that the TLV be less than two fibers per cc.

4. A LOOK AT THE FUTURE

For our purposes and those of regulating agencies, we must obtain answers to the following. (1) What are the safe levels of fiber concentration in the ambient air of the worker in mining and milling, manufacture, and those who use asbestos products in terms of protection against fibrosis, pleura plaques, bronchogenic cancer and mesothelioma? The need for this information with respect to the users is going to be emphasized more and more in the future and is of obvious overriding importance. Some information is available in considering this question. There is data from the British textile mills and there is the extensive and very useful data of Corbett McDonald from mining and milling. We are still badly in need of USA data with respect to textiles, asbestos cement (Weil and Zizkin's study) and insulation. (2) Are the effects related to type of fiber or to geometry or both? The fact that the biological experience in mining and milling appears to be much less severe than in manufacturing and possibly in using asbestos products clearly indicates a need for finding out the reason for this difference. Is it co-existing materials? Is it related to the possibility that with each subsequent handling of fiber the fiber diameter gets smaller? No information is available on this question and we must institute some research along these lines in a manner similar to that which Timbral has already done with respect to the difference between the fiber sizes generated in the Transvaal crocidolite mining and milling versus that of the northwest Cape. (3) Has the public experienced any of the adverse effects seen in industry? If so, what? Pleura plaques we know are experienced by the public and by the workers in industry, and we need to have a better understanding of this. Both Corbett McDonald and the Finnish studies are in this direction. Whenever the question of public air exposure or worker exposure is taken up in terms of the safe level of exposure, one invariably comes face to face with the question of mesothelioma. We simply don't have the needed information to approach this problem in a research

way. Such information must be obtained in some way. (4) We badly need to know the parameters of public exposure in terms of numbers. Here we are faced with the question of the electron microscope sized fiber. One can go from this to the question of whether there are biological effects of the electron microscope fiber. We have essentially no data on this latter point, but are accumulating data on the light microscope sized fibers in the public air.

5. ADDITIONAL RESEARCH THAT CAN BE SEEN TO BE NEEDED AT THIS TIME

From an epidemiological point of view we badly need studies of chrysotile textile workers and, if they can be found, we also need crocidolite exposures. In addition, because of Selikoff's report of insulation manufacturers, it is essential that we obtain information in this area as well. It is imperative that we develop information with respect to the frequency of mesothelioma in the public as well as in working places. Dr. Weil will have some information on this, but the study is not broad enough and we need additional work. The number and size of the fibers found in the lungs of persons who die probably represents a sampling of their total lifetime exposure. One of the fruitful approaches, therefore, to past exposure both of worker and the public is to look into the fiber content of the lung at death. Some work along this line is being done by the British, but undoubtedly a great deal more needs to be done in this country with our own kind of exposures. The need for a study of whether or not the fiber geometry in both the air and in the lungs varies when one compares mining and milling to manufacture and use is very clear and must be pursued.

While it can be said that we have generated information over the past few years, it is equally clear that (1) we have not generated enough to answer the rapidly mounting questions put to us and (2) with the development of new information we have generated

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questions that were not obvious at the outset of our attempts to work in this field five years ago. Although a substantial amount of financial support has been generated to study the general problem of biological effects of asbestos, the industry will have to develop more and at a more rapid tempo if it is to have any input into the deliberations having to do with public and occupational TLVs and the utilization of asbestos products.

George W. Wright, M.D.,
Chairman - Scientific Committee.

15.

APPENDIX III

ASBESTOS/HEALTH LEAFLET

QUEBEC ASBESTOS MINING ASSOCIATION
MEETING OF DIRECTORS - CASA MONTEGO, JAMAICA

ASBESTOS AND YOUR HEALTH

WHAT IS ASBESTOS?

Asbestos is a mineral fibre, a hydrated magnesium silicate. There are several different varieties of asbestos. Of these, commercially the most valuable one is chrysotile. The world's three leading producers of chrysotile asbestos are Canada, the USSR and South Africa. Of the 4.5 million tons mined in the world each year, the USSR is the principal producer and user, Canada is the largest exporter and USA is the chief importer. Canada accounts for 35 per cent - 1.6 million tons - of annual world asbestos production, injecting almost a quarter-billion dollars annually into Canada's economy.

WHO USES CHRYSOTILE ASBESTOS?

Virtually everyone does. You cannot operate a road or rail vehicle, a ship or an aircraft without it. It goes into brake linings, roofing products, sewage systems, floor tiling, electrical insulation, fireproof partitioning, the exteriors of buildings, fire-fighting clothing, lubricants and caulking materials, highway asphalt, rockets and space vehicles, acoustical tiling as well as steam, gas-turbine and rocket engines. Skyscrapers sit on lead-and-asbestos pillows: Fresh, pure water flows through asbestos-cement pressure pipes. Chrysotile asbestos goes into prefabricated buildings, ships at sea, subway trains, aircraft and submarines. It has literally scores of essential applications in the office, the plant, the suburban home, the downtown apartment. The paper on which this leaflet is printed could not have been produced without asbestos. On every day, in every way, chrysotile asbestos is essential.

ONCE ASBESTOS ENTERS THE LUNG, DOES ALL OF IT REMAIN THERE FOREVER?

No - The lung's normal cleaning mechanisms quickly remove the majority of inhaled particles, including respirable-sized asbestos fibres.

SHOULD THE USE OF CHRYSOTILE ASBESTOS BE BANNED?

No - Asbestos concentrations both in the workplace and in community air can be satisfactorily controlled. There is therefore, from a public health standpoint, no reason to ban the use of any asbestos - containing product. In fact, society would surely suffer if deprived of the wide range of asbestos products designed to protect health, life and property.

TO WHAT EXTENT IS CHRYSOTILE ASBESTOS AN OCCUPATIONAL HEALTH PROBLEM?

Because of the long latent period of asbestos-related diseases, some cases still occur among long-service employees whose exposure began at a time when little was known of the amount of asbestos a human could tolerate, and when dust control equipment was not as efficient or as widespread as today. With expanding medical knowledge and today's improved dust control measures, however, there is every reason to believe that these cases will decrease in the future and asbestos-related disease will cease to be an occupational problem.

CAN CHRYSOTILE ASBESTOS BE SAFELY USED IN THE WORKPLACE?

Yes - Chrysotile asbestos fibre can be handled and used on the job with perfect safety so long as certain basic precautions are followed. These include the careful handling of containers to prevent spillage, the use of dust control exhaust hoods at all stages of in-plant handling where dust is unavoidably created, the wearing of protective respiratory equipment where necessary, as well as good housekeeping with regard to dust clean-up and disposal procedures.