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1. [illegible]

The Asbestosis Research Council was established on the 1st October, 1957. This report details the activities sponsored by the Council during the fourteenth year of its operation.

2. [illegible]

The Constitution was revised in August 1965 to [illegible] the field of activities to asbestos or [illegible] other than textile and to provide for the admission of [illegible] as well as full [illegible] and to provide a new [illegible] to cover the activities of the Environmental Control Committee.

3. [illegible]

The Membership of the Council during the year was as follows:-

Full Members

B.B.A. Group Limited.
The Cape Asbestos Company Limited.
Turner & Newall Limited

Home Associate Members

The Atlas Stone Company Limited.
Bell's Asbestos and Engineering Limited.
Carlson-Ford Limited.
Richard Klinger Limited.

Overseas Associate Members

James Hardie & Coy. Pty. Ltd.
Johns Manville Corporation
The Quebec Asbestos Mining Association.
The Cyprus Land Exploration & Finance Co. Ltd.
Eternit S.A. (Belgium).

4. [illegible]

The affairs of the Council were administered by the Committee, the Management Committee, the Research Committee and the Environmental Control Committee. The membership of these committees during the year was :-

(a) Management Committee

Chairman	-	Mr. D.A. Mills	- Turner & Newall Ltd.
		Mr. J.L. Sharrard	- Turner & Newall Ltd.
		Mr. C.M. Preston	- BSA Group Ltd.
		Dr. G.G. Armingley	- BSA Group Ltd.
		Dr. R. Case	- The Cape Asbestos Co. Ltd.
		Mr. G.A. Higham	- The Cape Asbestos Co. Ltd.
Secretary	-	Dr. S. Holmes	- Turner & Newall Ltd.

After three years as Chairman, Mr. D.A. Mills resigned from the Management Committee of the Council in October 1970, his place being taken by Mr. G.A. Higham.

Management Committee Meetings were held as follows:-

London	-	15th October, 1970
Edinburgh	-	6th April, 1971

(b) Research Committee

Chairman	-	Dr. W.J. Gardner	- The Cape Asbestos Co. Ltd.
		Dr. A.A. Wilkinson	- The Cape Asbestos Co. Ltd.
		Dr. M.H.A. Beverley	- BSA Group Ltd.
		Mr. R. Hurt	- BSA Group Ltd.
		Mr. H.A. Wells	- Turner & Newall Ltd.
		Dr. H.C. Lewinsohn	- Turner & Newall Ltd.
Secretary	-	Dr. S. Holmes	- Turner & Newall Ltd.

Research Committee Meetings were held as follows:-

Edinburgh	-	20th January, 1971
Rochdale	-	21st April, 1971
Cleckheaton	-	7th July, 1971
Uxbridge	-	14th/15th September, 1971

(c) Environmental Control Committee

Chairman	-	Mr. A.A. Cross	- The Cape Asbestos Co. Ltd.
		Mr. W.P. Macklin	- Turner & Newall Ltd.
		Mr. M.L. Pentley	- BSA Group Ltd.
		Dr. S. Holmes	- Turner & Newall Ltd.
		Mr. R. Pelham-Reid	- The Cape Asbestos Co. Ltd.
		Mr. K.C. Merrill	- BSA Group Ltd.
		Mr. R.W. Shuttell	- BSA Group Ltd.
Secretary	-	Miss H.M. Cormack	- The Cape Asbestos Co. Ltd.

Environmental Control Committee Meetings were held as follows:-

Rochdale	-	22nd April, 1971
Manchester	-	21st September, 1971

5. FINANCE

(a) Banking Arrangements

The finances of the Council have continued to be administered through an account with the National Westminster Bank, Terminal House, Rochdale.

(b) Budget and Expenditure

Council Budget £[illegible]
Expenditure £[illegible]

6. LIAISON WITH OTHER ORGANISATIONS

Contact has been maintained with the Department of Employment (Medical Services and Factory Inspectorate). The Council has collaborated in formulating the scheme for the medical examination of [illegible]

Liaison has continued with the Pneumoconiosis Research Unit of the Medical Research Council.

The Council has continued to be represented on the British Occupational Hygiene Society Committee dealing with hygiene standards for asbestos dust. It is recommended for the present in the standard [illegible] and a separate standard for amosite cannot yet be [illegible]

Exchange of scientific and technical information has continued with the Pneumoconiosis Research Unit of the South African Institute for Medical Research [illegible]

Liaison has continued with the U.S. Public Health Service and with the Air Hygiene Committee of the Asbestos Textile Institute.

7. RESEARCH PROGRAMME

A summary of the year's work is given below. Appendices 2 to 8. It should be [illegible] detailed reports represent the individual views of workers and not necessarily the official views [illegible]

Inhalation experiments involving [illegible] and rats to crocidolite and chrysotile [illegible] Experiments with crocidolite (blue) asbestos [illegible] Cape and from the Transvaal revealed some [illegible] but were not conclusive. Experiments [illegible] with different modified surfaces have shown that if the asbestos is coated with [illegible] is removed much more rapidly from the [illegible] appears to be more effective in this respect [illegible] polymer.

Wear dust from brake linings and floor tile dust heated to various temperatures have been tested by intra[illegible] injection in mice. Minimal tissue reaction was produced by the brake lining dust and there was little reaction also to the heated chrysotile provided that this also was in finely divided form.

Little work was possible on [illegible] structure due to continued difficulty in obtaining [illegible] material, but a total of twelve [illegible] has now been seen in mice and guinea pigs ([illegible]) after intrapleural injection of asbestos.

Animal experiments on the inhalation of asbestos [illegible] rats [illegible] over twelve months [illegible] crocidolite (blue) asbestos from either the Transvaal or the North West Cape. A residual group of rats from an earlier experiment on chrysotile was sacrificed, but no visceral or pulmonary tumours were found.

Work on the surface chemistry of asbestos has continued. The leaching of the [illegible] elements of chrysotile, [illegible] in water for long periods has been studied. The [illegible] properties of the leached material has also been investigated.

Following a pilot study carried out last year, an electron microscope technique has been developed for the estimation of chrysotile asbestos in the general atmosphere, where the quantities have been found to be too small for X-ray diffractometry. Tests in the vicinity of factories and in urban and rural environments have been carried out. It is reassuring to report that the quantities of chrysotile present in such circumstances is generally less than 10^{-9} g/m³, near to the lower limit of detection of the most sensitive modern instruments.

An investigation designed to relate lung function measurements in guinea pigs exposed to asbestos dust to the histological changes observed has commenced at the University of Manchester.

A new immunology study commenced during the year at St. Luke's Hospital, Bradford, based on the examination of the effect of asbestos dust on blood sera and sputum proteins.

8. THE ASBESTOSIS RESEARCH COUNCIL FOUNDATION

The Council had for some time past been giving consideration to means of making the best use of its resources available for research work and it was decided that this work should be concentrated as far as possible in one establishment, to ensure interchange of ideas between the research workers and cross-fertilisation between the different disciplines involved. By arrangement with the National Coal Board an Asbestosis Research Council Foundation was therefore established within the Institute of Occupational Medicine in Edinburgh. The Foundation came into being in April 197[illegible] and it is planned that it shall be built up over a three year period as the Council's outside commitments are wound up. Dr. D.C.F. Muir of the Institute staff has been appointed head of the Foundation and a preliminary report is given in Appendix [illegible]

CONTRIBUTED BY WILLSON RESPIRATOR LABORATORY
No. 16

STERILIZATION OF RESPIRATORS

Respirators used in industry for the protection of workers against injurious dusts, vapors and gases are often turned into the plant dispensary or laboratory at the end of the day for cleaning and are redistributed among the workers on the following morning. It is recommended that each worker is assigned his own respirator. Where this is not done it is important that the respirator be sterilized in addition to being cleaned. Adequate sterilization may be accomplished by:

1. Washing the rubber and metal parts with soap, a brush and warm water, after which the respirator is sterilized by immersion for 10 minutes in a solution of formalin made by placing 1 part of 40 per cent formaldehyde solution into nine parts of water.

2. Washing the rubber and metal parts with soap and warm water, after which the respirator is sterilized by dipping in a 3 per cent solution of carbolic acid, a 2 per cent solution of lysol, or a 70 per cent solution of denatured alcohol.

3. Subjecting the respirator to sterilization by a moist atmosphere of antiseptic gas, preferably formaldehyde, for a period of ten minutes at room temperature.

After following any one of the outlined procedures, the respirator should be rinsed with water and hung up to dry. The respirator should not be used until it has been dried thoroughly.

The filters, felt screens, and elastic headbands must always be removed before washing or sterilization of the respirator. With respirators such as the Willson type B bag in which the filter also needs sterilization, any one of the above procedures may be followed providing the filter is dried and aired well before using.

A. D. Brandt
Industrial Hygiene Laboratory
Willson Products, Inc.
Reading, Pa.

9. METHODS OF DUST SAMPLING AND ANALYSIS

This work has continued to be pursued by a Working Group of the Research Committee. A guide to sampling techniques for use with the Asbestos Regulations (A.R.C. Technical Note 2) was published in March 1971.

The method of sampling by membrane filter, developed by the Council, has been recommended by the Working Group on Dust Measurement of the Asbestos Committee of the Permanent Commission and International Association on Occupational Health for adoption as an international standard.

10. ENVIRONMENTAL CONTROL

A further Control and Safety Guide on Insulation Materials and Asbestos Reinforced Building Products has been published by the Environmental Control Committee of the Council and a number of the earlier Guides have been revised. A full report of the work of the Committee appears in Appendix 1.

11. PUBLICATIONS

"Further observations on the ultrastructure and chemistry of the formation of asbestos bodies", J.M.C. Exp. Mol. Path. 13, 356 (1970).

"Epithelial outgrowths from the following intrapleural injection of asbestos experimental animals", Davis, J.M.G. Int. J. 38 (1971).

"Effect of chrysotile . . . chrysotile on macrophage cultures", Beck, G. G., Holt, P. F. and Nasrallah, E. T. Brit. J. Ind. Med. 28, 179 (1971).

"Polyvinylpyridine oxides in pneumoconiosis research", Holt, P. F. Brit. J. Ind. Med. 28, 72, (1971).

"The development of glass fibre bodies in the lungs of guinea pigs". Botham, S. K. and Holt, P. F. J. Path. 103 149. (1971).

12. VISITS

Mr. Cross and Dr. Holmes . . . International Conference on Health and Safety in Ship . . . Repairing held in Helsinki in August 1971.

Dr. Saffiotti and Dr. Holmes attended the IV I.U.C.C. International Conference on Pneumoconiosis in Bucharest in September 1971.

13. STAFF

Dr. Saffiotti continued as Medical Consultant to the Council during the year.

BLOWERS OR LOW PRESSURE COMPRESSORS FOR SUPPLYING AIR TO SUPPLIED - AIR RESPIRATORS.

The use of Supplied-Air Respirators (air line respirators, abrasive blasting helmets and the like) is becoming widespread. In many industries where Supplied-Air Respirators are necessary and practicable, there is no source of compressed air or the present source is unsatisfactory, due either to inadequate volume or to badly contaminated air. In such cases, it is necessary to install blowers or low pressure compressors for supplying air to respirators.

Inasmuch as we do not manufacture this item, we have tested those of several manufacturers, and list below the names of the manufacturers of blowers or low pressure compressors suitable for supplying air to Willson Supplied-Air Respirators. We have not tested a unit of every manufacture; consequently, it is not to be inferred that those not listed below are not acceptable.

1.	Nash Hytor Compressor	Nash Engineering Co., South Norwalk, Conn.
2.	Roots-Connersville Blower	Roots-Connersville Blower Corp. Connersville, Indiana.
3.	Spencer Turbo-Compressor	Spencer Turbine Company Hartford, Conn.

The recommended pressure for suitable operation of the Willson Supplied-Air Respirators, excluding the paint spray respirator, is about 5 lbs. per square inch. For the paint spray respirator, it is about 15 lbs. per square inch. The volume of air required by each worker is 2 to 3 cubic feet per minute.

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