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INDUSTRIAL HYGIENE FOUNDATION OF AMERICA, INC.
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DATE: February 19, 1969

TO: SPONSORS OF IHF RESEARCH PROJECTS

FROM: Robert T. P. deTreville, M.D.

Office of the
Chairman of the Board

FEB 20 1969

SUBJECT: Permission to use Sponsors' names in IHF's 1968 Annual Report

Attached is a copy of the summary of the IHF Research Project sponsored, in part, by your company, which will appear in the Foundation's 1968 Annual Report.

If you should have any comments on the text of this summary or wish to exclude mention of your organization in the list of sponsors, please so indicate on the tear sheet. If we have not received your reply by February 28, 1969, we will assume you have no objections. The copy goes to the printer March 3, and we hope to be able to distribute the Annual Report with the March issue of the Digest.

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R. T. P. deTreville

REPORT OF RESEARCH PROGRAMS

— IHF Research Laboratory —

On January 1, 1968, the IHF Research Laboratory, established in the 1940's through Mellon Institute, became a newly-created Industrial Hygiene Research Unit within the Department of Occupational Health, Graduate School of Public Health, University of Pittsburgh. The Foundation's experimental toxicological and epidemiological research programs continue to be directed by Paul Gross, M. D., Research Professor of Pathology of Industrial Diseases, under the joint administrative supervision of Robert T. P. deTreville, M. D., Sc. D., IHF President, and David Minard, M. D., Ph. D., Chairman of the Department of Occupational Health and IHF Advisory Fellow.

Emphysema Study. In continuing studies of factors that may predispose to the development of emphysema in exposed populations, the tissues of animals exposed in the 1966-67 Emphysema Research Project are being subjected to highly specialized analytical (biochemical and gravimetric) procedures, developed by Herrn Dr. med. W. J. Einbrodt at Max-Planck Gesellschaft, Gottingen, West Germany, and performed in IHF's Laboratory by Jiri Tuma, Ph. D., Biochemist and Toxicologist, with special interest in pulmonary clearance and tissue reaction to industrial dusts and gases.

Publications based on these studies have included: "Enzymatically Produced Pulmonary Emphysema. A Preliminary Report." Gross, P., Babyak, M. A., Tolker, E. B., and Kaschak, M. J. Occ. Med. 6:481-484, Dec. 1964. "Experimental Emphysema: Its Production with Papain in Normal and Silicotic Rats." Gross, P., Pfitzer, E. A., Tolker, E. B., Babyak, M. A., and Kaschak, M. Arch. Environ. Health 11:50-58, July 1965. "Experimental Emphysema: Effect of Chronic Nitrogen Dioxide Exposure and of Papain on Normal and Pneumoconiotic Lungs." Gross, P., deTreville, R. T. P., Babyak, M. A., and Kaschak, M. Arch. Environ. Health 16:51-58, Jan. 1968. "Alveolar Proteinosis: Its Experimental Production in Rodents." Gross, P. and deTreville, R. T. P. Arch. Path. 86:255-261, Sept. 1968. Dr. Gross will present a summary of his findings at an International Conference on Pneumoconiosis in Johannesburg, South Africa in April 1969.

(Sponsors: American Iron and Steel Institute and Bituminous Coal Research, Inc.)

LTE
-dgr. Fibrous Dust Study. A study of pulmonary effects of fibrous dusts is being conducted in a concurrent four-phase program. Progress in Phase I dealing with the development of ferruginous bodies has been reported in papers presented at the Foundation's 31st and 32nd Annual Meetings, "The Pulmonary Reaction to Man's Environment," by Dr. Paul Gross and "Asbestos Bodies and Bioeffects—A Detective Story," by Dr. John M. G. Davis of the University of Cambridge, England, respectively. Publications resulting from this study were "Ferruginous

Bodies in Human Lungs, Prevalence at Random Autopsies," by Drs. H. M. D. Utidjian,* Paul Gross, and R. T. P. deTreville (Arch. Environ. Health 17: 327-333, Sept. 1968) and "Pulmonary Ferruginous Bodies. Development in Response to Filamentous Dusts and a Method of Isolation and Concentration," by Drs. Gross, deTreville, Lewis J. Cralley,** and Davis (Arch. Path. 85: 539-546, May 1968).

Phase II involves experimental studies on rats and hamsters injected intratracheally and intrapleurally with synthetic chrysotile to which nickel, chromium, manganese and cobalt had been adsorbed. These experimental animals are under observation for long-term pathogenic effects of the injected materials.

Phase III involves a study of the comparative bioeffects of chrysotile, amosite and crocidolite as naturally occurring and when associated trace metals and hydrocarbons have been removed and its crystalline structure has been modified by heat.

At a Seminar on Fibrous Dusts held November 22, 1968 at Mellon Institute of Carnegie-Mellon University, Dr. Gross reported that attempts to modify pathogenicity of natural asbestos, as judged by fibrous tissue reaction, have been unsuccessful so far. Proceedings of the Seminar are now in preparation and will appear in 1969 as bulletins in the IHF Medical Series.

Phase IV concerns investigation, by electron microprobe and electron microscope, of ferruginous bodies from human lungs as well as from the lungs of hamsters. Preliminary results reported at the IHF Fibrous Dust Seminar showed that, from studies of the 28 ferruginous bodies isolated from lungs of as many city dwellers (Pittsburgh), all of the central cores were shown not to be chrysotile asbestos when subjected to electron diffraction. A manuscript and editorial based on these findings have been requested by the AMA Archives of Environmental Health, and a summary to be presented by Dr. Gross at the International Pneumoconiosis Symposium will appear in the proceedings of the meeting. Based on these results, sponsored by the National Institutes of Health in Mellon Institute of Carnegie-Mellon University, a more extensive follow-up study will be undertaken, provided that support now being requested from industry becomes available.

(Sponsors: National Institutes of Health, U.S. Public Health Service Division of Occupational Health, Johns-Manville Corporation, PPG Industries, Pittsburgh Corning Corporation, and Raybestos-Manhattan, Inc.)

* Formerly IHF Fellow in Occupational Medicine, now Assistant Professor, Department of Epidemiology, Graduate School of Public Health, University of Pittsburgh.

** Scientist Director, Associate Chief of Occupational Health Program, Field Studies, U.S. Public Health Service National Center for Urban & Industrial Health.

