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NATIONAL RESEARCH LABORATORIES

PROGRESS REPORT

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DIVISION OF Chemistry.

AUTHOR: D. Wolochow.

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- TOPICS:
1. Annual Meeting of the American Society for Testing Materials.
 2. Fibre Tests on Q. S. Fractions.
 3. Q.A.P.A. Meeting.
 4. Active Silica.
 5. Free Fibre in Tailings.
 6. Visit to Vermont Production Company.

1. Annual Meeting of the American Society for Testing Materials.

This meeting was held on June 29th to July 3rd, 1936, at Atlantic City. The report covering the various items has been prepared in several appendices, attached to this report, as follows:

Appendix

- A. - Opening Session and Marburg Lecture.
- B. - Symposium on Radiography and X-ray Diffraction Methods.
- C. - Committee A-5, on Corrosion of Iron and Steel.
- D. - " C-1, on Cement.
- E. - " D-1, Preservative Coatings for Structural Materials.
- F. - " D-9, Electrical Insulating Materials.
- G. - " D-11, Rubber Products.
- H. - " D-19, Water for Industrial Uses and Joint Research Committee on Boiler Feed Water.
- I. - Interviews.
- J. - List of Preprints available for circulation.

The activities of Committee D-13 are reviewed in a separate report, No. C133-36S, a copy of which is attached. Copies of this special report have been distributed among the Producers.

2. Fibre Tests on Q.S. Fractions.

The tests on the four samples of spinning fibres mentioned in the previous report have been completed, and the results have been presented to the Producers in Report No. C115-36S, dated July 24, 1936, a copy of which is attached.



3. Q.A.P.A. Meeting.

The 29th regular meeting of the Q.A.P.A. was attended on July 27, 1936, at Sherbrooke, P.Q.

(a) Report No. C115-368 was presented and discussed, and the Producers asked that this work be continued on the shorter grades.

(b) The Fibre Inspector's report stated that some over-grade fibre was still going out, though there was a marked improvement in this respect. A set of rules for sampling and testing was requested. Mr. Shoemaker stressed the importance of this as he felt that thousands of dollars were involved.

It was reported that a comparison made with the all-metal machine and the Bureau of Mines machine showed good correlation.

Some difficulty had been encountered in the testing of certain grades of Air Floats, the material staying on the 10 mesh until tapped sharply, after which most of it went through.

It was decided that the Official Inspector supply each company with test adjustment figures for their testing machines, the notice to be posted in the testing room after having been countersigned by the proper officials.

The testing of special Air Floats and the general problem of technique for sampling and testing was assigned to the Technical Committee.

(c) Mr. Johnson expressed himself very strongly against giving the Inspector the authority to reject shipments which tested somewhat above the maximum. He stated that his Company was losing confidence in the testing method as apparently no machine could test fibre correctly because of the many and varying characteristics of asbestos. In addition, new fibres were being constantly introduced, such as processed crudes for example; the question of open and crudy fibres had not yet been settled and so-called dustless fibres were making their appearance. He felt that dust presented a serious problem which was one that might soon be forced upon the Producers by the Consumers. He disapproved of the business methods of some parties and called for co-operation of a proper spirit.

Mr. Shoemaker predicted that they would have a classification based on texture by January 1, 1937.

From the remarks made during the discussion precipitated by Mr. Johnson's protest, it was evident that the Producers realized that they were often robbing their mineral resources, and that a fuller knowledge of their products was needed to prevent this.

(d) In the Report of the Technical Committee it was brought out that the Canadian Johns-Manville Co. had offered to build an opener for the Thetford group and that the Quebec Bureau of Mines had volunteered to contribute substantially toward the equipping of a laboratory in which fibres might be evaluated. The members of this Committee had, however, not yet arrived upon an agreement as to the best method of achieving this.

(e) Mr. C. H. Shoemaker and Capt. J.G. Ross were elected to represent the Association on the new Steering Committee.

(f) After the Meeting I visited the following mills: King, Beaver and Vimy Ridge of the Asbestos Corporation; Thetford and Black Lake mills of Johnson's Company; Bell mill of Keasbey and Mattison Co. and the mill of Canadian Johns-Manville Co. Ltd.

The purpose of these inspections was to get more detailed information about the milling processes employed, with the view of ascertaining what differences existed in the various flow sheets. From the survey it is evident that there are numerous differences, sufficient to produce variations in the fibres, such as we have been finding in the tests being carried out here.

Dust was prevalent in all the mills, though in some the conditions in this respect were very much worse than in others.

4. Active Silica.

(a) The 200 lbs. ordered by the Liquid Carbonic Canadian Corporation were prepared and shipped.

(b) A number of samples have been prepared at the request of Mr. Green, for shipment to a firm in England. Shipping instructions are awaited.

5. Free Fibre in Tailings.

The determination of the amount of free fibre in a number of the samples of tailings collected some time ago was made. The samples were also screened.

6. Visit to Vermont Production Company, Inc.

At the invitation of Mr. F. E. Byrnes, General Manager, I visited the mine and mill of the Vermont Production Co. Inc., Hyde Park, Vermont, formerly the Vermont Asbestos Co., but now owned by the Ruberoid Co. of New York. Mr. Byrnes showed me through the entire property himself and explained everything in detail. They

were putting up a large extension to their dust settling chamber as they were anxious to minimize dust and to increase production of floats. They have a small mill which produces about 10,000 tons a year, from shingle stock down. An increase in the capacity was being considered as soon as business conditions warranted it (Confidential).

Mr. Byrnes was very much interested in the research being done here and his company would have joined the Quebec Asbestos Producers' Association were it not for the fact that they were prohibited by the United States laws. He was of the opinion that the industry needed more extensive research and suggested that their head office would co-operate gladly in an exchange of information.

DeLoach

THIRTY-NINTH ANNUAL MEETING OF AMERICAN SOCIETY FOR
TESTING MATERIALS, ATLANTIC CITY, JUNE 29-JULY 3, 1936.

Opening Session and Marburg Lecture

At the first session, held at 10:30 a.m. on June 30, 1936, the Secretary-Treasurer presented the Report of the Executive Committee, and the President, H.S. Vassar, delivered an address entitled: "The Testing of Non-Materials". Reprints of these are available.

H. P. Parmalee, Editor, Engineering and Mining Journal, read a paper on "Relationship of A.S.T.M. to Modern Developments in Chemical Engineering". This was a very general review dealing mainly with plastics which were divided into three groups: (1) cellulose derivatives, (2) synthetic resins, and (3) rubber derivatives and rubber-like compounds. Mention was also made of carbon as a material of construction, of the new detergents, and of metals and alloys. In discussing the latter, particular mention was made of tellurium lead, for which there was claimed greater tensile strength and more resistance to fatigue and corrosion than was found in other chemical leads. The paper is printed in full in the July Bulletin of A.S.T.M.

The Marburg Lecture was delivered by Dr. Arthur L. Day, Director, Geophysical Laboratory, Carnegie Institution of Washington, on July 1st. The subject was: "Developing American Glass". In outlining the history of the development of the glass industry in the United States, Dr. Day used many personal experiences to illustrate the various stages in this development. It was the war of 1914-1918 which stimulated American research which led to most important advances. Particular mention was made of the development of Pyrex glass and glass-making machinery. The pouring of the 290-inch mirror for the Mount Wilson Observatory was discussed. Several reels of motion pictures and numerous slides were shown.

Interviews - A.S.T.M. Annual Meeting, 1936.

1. Mr. Bradley Dewey, President, Dewey and Almy Chemical Company, Cambridge, Mass.

I had an opportunity to talk to Mr. Dewey after the meeting of Committee G-1 on Cement. His company used to own the Multibestos Co., which they recently sold to the Raybestos-Manhattan group, and considerable work on asbestos has been done in their laboratories, which, I was given to understand, are well equipped and have a staff of about 60. They have been specializing in colloidal phenomena with particular regard to dispersion and wetting. Mr. Dewey mentioned that they were doing some work for Johns-Manville, and it was his opinion that the subject of dust would soon be one of the most important problems in the asbestos industry. He thought that this dust was definitely harmful, the Russian asbestos being perhaps the worst in this respect. For the present this information (or opinion) should be kept confidential. A cordial invitation to visit their laboratories was extended.

2. Mr. H.W. Greider, Director of Research, Philip Carey Manufacturing Co., Lockland, Ohio.

Mr. Greider gave a paper (with G.A. Fasold): "Comparison of Abrasion Test Methods for embedding of granular mineral surfacing on Asphalt Roofing", at the session devoted to Bituminous Materials. After the session I had a short chat with him, during which he told me that their work consisted mainly of testing and investigations relative to the products they manufacture. There was practically no research on fibre. Mr. Greider stated that the reports which we issue to the Producers find their way to his office via Mr. Spafford.

3. Mr. G.A. Albert, Phenolite Division, National Vulcanized Fibre Co., Kenneth Square, Penn.

Had a talk with this man while waiting for one of the subcommittee meetings to begin. His company uses considerable asbestos, but would like to use more because of its resistance to heat and deterioration in general. The electrical insulation properties would have to be improved, however. They would be glad to discuss this problem at any time.

4. Mr. J.H. Adams, Bakelite Corporation, Bound Brook, N.J.

His company, Mr. Adams stated, was very much interested in the use of asbestos as a filler. He suggested that a visit to their plant and an interview with Mr. W.W. Zeinian would be mutually advantageous.