March 13, 1980

Mr. C. B. Loflin
Shop Superintendent
Southern Railway Company
312 West Liddell Street
Charlotte, NC 28206

Dear Mr. Loflin:

This is in reply to your request for information concerning so called hazardous ingredients in the COBRA® Brake Shoes you are using on your M. W. vehicles.

At the present time, the friction material in the COBRA brake shoes you are using is the same as the AAR approved COBRA brake shoe friction material in use on interchange freight cars. This COBRA friction material contains a small amount of asbestos, but no lead. We are in the process of obtaining approval for a no-lead, no-asbestos friction material. We anticipate having this material approved by the 4th quarter of 1980.

For your further information, I am attaching a summary of a series of Environmental Safety tests that we have made on COBRA brake shoes.

Sincerely,

E. J. Brannan

Enclosures

EJB/j

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JAK

COBRA® High Friction Composition Brake Shoes
Environmental Safety

This is in response to your request for information concerning possible environmental hazards that could result from the use of COBRA® Composition Brake Shoes. Investigations we have conducted offer reasonable assurance that COBRA® brake shoes do not pose an environmental hazard to either personnel handling them or personnel in close proximity to the point where they are utilized during braking operations.

Specific actions that we have taken to insure the environmental safety of COBRA® brake shoes are as follows:

1. A certain amount of asbestos fiber is included in the composition material and backing stock of each COBRA® brake shoe. During the manufacturing process, the asbestos and other materials are molded into a hard block of friction material which is bonded to a steel backing plate. At this point, the asbestos is effectively contained within the friction material. As a further protection, the entire brake shoe is dipped in a sealant which will prevent any loose asbestos particles becoming airborne during handling of the brake shoes. The sealant also restricts rusting of the backing plate during outside storage and provides the distinctive "red" shoe color.

2. We have been questioned by various groups and individuals concerning the amount of asbestos fiber released by COBRA® brake shoes during braking action. To be able to answer these questions, we ran an elaborate series of dynamometer tests in 1971 during which all the wear dust from various types of braking cycles was collected and analyzed.

   The results of these tests show that almost all of the asbestos fiber is decomposed during brake applications. Less than one percent of the original asbestos fiber in the shoe remains as fiber in the wear dust and less than one tenth of that becomes airborne. Since each stop

wears only a very small amount of material from each shoe, and since each shoe contains only a very small percentage of asbestos fiber, it can be seen that the amount of asbestos fiber that becomes airborne with each stop is not significant.

3. During the same period of investigation covered in 2 above, possible toxicity of gases liberated by COBRA® brake shoes during braking was also given attention. Stop and drag tests were performed and samples of gases given off during braking were collected by a technician from an independent testing laboratory. The samples were subsequently analyzed and the results reported.

   Results showed that the COBRA® brake shoes gave off no extremely toxic materials, and only small amounts of hydrocarbon gases.

   It was concluded that no amounts of harmful gases sufficient to be injurious to health were liberated.

4. The original COBRA® brake shoe composition also contained lead. All shoes manufactured since November 1975 have utilized a lead-free composition. The primary reason for this change was to eliminate lead from our plant environment for the protection of manufacturing employees exposed to the raw material.

5. In early 1977, WABCO, in cooperation with Johns-Manville research personnell, conducted a series of air sample tests in the Boston Subway in an offort to capture chrysotile fiber during train operations. Samples were taken between the cars near the track level, in the passenger and motorman's area, and on the platforms over a 10 hour period of highest density operation. No significant fiber counts were seen on any of the filters.

6. In 1978-79, we developed and have in locomotive and mass transit service a COBRA® Composition Brake Shoe which contains neither asbestos or lead in the friction material.

We trust the above information will provide answers to questions that may arise as to the environmental characteristics of COBRA® brake shoes. Please let us know if any additional information is required.

Sincerely yours,

E. W. Kojsza
Manager-COBRA® Shoe Sales

EWK/j

ATTACHMENT B

[redacted]

Alexandria, Va., April 3, 1930.

File: 130.4511

MR. C. L. BORASSEA:

Reference your letter of March 7, 1930, regarding the Cobra V-235 brake shoe used on work equipment.

The manufacturer advises the present composition shoe has asbestos. They are modifying this shoe to eliminate the use of asbestos.

The asbestos is tightly bound in the rubber type material, and there is probably little free asbestos fiber liberated during the grinding operation; however, a respirator should be worn when any grinding or abrasive operation is performed. In this case, a cartridge, such as Mine Safety Appliance (MSA) #46034 Ultra-Twin S Filter cartridge, should be used in the respirator.

Director, Research & Tests.

HYP/bls

cc - Dr. Max P. Rogers
Mr. F. M. Naylor
Mr. D. C. Mitchell
Mr. J. L. Stubbs
Mr. C. B. Loflin
Mr. J. T. Hayden

LABORATORY WORK REPORT

LAB NO. 0-250 FILE NO. _____

Date Received 3-10-80 Anticipated Completion Date _____

Material Material from brake shoe (COBRA V-23 k

Manufacturer Railway Friction Products Speed for

Submitted by C. L. O'Bonsura, Charlotte Roadwe

Sample Assigned to J. L. Sayon Equip

Purpose of Test _____

ANALYSIS

Organic Matter = 55.11 %

Magnesium Silicate = 19.40
($MgSiO_3$)

Iron oxide = 16.73
(Fe_2O_3)

Insoluble = 3.23

94.97

A.A.
Fe - 11.7 %
Mg - 4.7 %
Cr - .04 %

See attached for information for purpose JLS 3/31/80

RAILROAD FRICTION PRODUCTS CORPORATION
WILMERDING, PENNSYLVANIA 15148 • AREA CODE 412 • 273-1000

March 27, 1980

Mr. J. S. Saxon
Southern Railway Company
P. O. Box 233
Alexandria, VA 22314

Dear Mr. Saxon:

Attached is my letter to Mr. Loflin, Shop Superintendent in Charlotte. Also enclosed, is a report covering emissions from COBRA® brake shoes. If we can be of any further assistance, please let me know.

Sincerely,

E. J. Brannan

E. J. Brannan
Sales Engineer

EJB/j

Encls.

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