INTER COMPANY CORRESPONDENCE

		FILE CODE	DATE November 28, 1972
TO - NAME S. C. Enders	DEPT Manager Friction Products	DIVISION [illegible]cal	PLANT OFFICE Trenton Chemical
FROM - NAME L. P. Gendernalik	DEPT Industrial Hygiene	DIVISION Personnel	PLANT OFFICE Chrysler Center

SUBJECT Asbestos Survey

From November 7 - 13, 1972 a survey was made of the exposure of workers to asbestos dust in the Friction Materials Building, together with a study of the ventilation systems involved in the various processes. The results obtained are shown in the attached tables. Table I should be maintained in your files for a minimum of three years as required by OSHA standards under Section 1910.93a (i)(1).

EXHIBIT [illegible]-72
CHR-32

Discussion

In general, no exposures were found in excess of the current threshold limit value. One area was found, however, in which the exposure to asbestos dust is above the threshold limit value scheduled to become effective on July 1, 1976. This was in the batch-mixing area, where loading and unloading of the #4 mixer, a dry mixer, resulted in an exposure to asbestos dust of 4.3 fibers per cubic centimeter of air.

The hood at the unloading station for the #4 mixer maintained a capture velocity of only 25-50 feet per minute. This hood should be redesigned to provide a minimum capture velocity of 150 feet per minute. In addition, large amounts of dust are generated while the emptied weigh-hoppers are being removed from the hoist at the loading station for the #4 mixer. An overhead slot-type hood should be installed at the loading station to provide a minimum capture velocity of 100 feet per minute, and the weigh-hoppers should be covered before removing them from the hoist.

Several defects were noted in the ventilation systems in other areas of the plant. The dust collector for the ventilation system serving the batch mixers, which is located near the P-Grade Rolling machine in Bay D-3 of the Extruder Room was observed to generate a large amount of dust during shake-down. Although shake-down was done during a normal work break, when no one was in the area, the dust cloud generated persisted in the air even after the workers returned to the area. Hence, it is recommended that consideration be given to enclosing this dust collector and placing the enclosure under negative pressure, to alleviate this source of exposure.

The hooding on the Edge Grinder (Vertical Belt Sander) in Bay E-8 of the Brake Shoe Finishing area was observed to provide unsatisfactory capture of the dust generated. This hooding should be redesigned to meet OSHA specifications as shown in the drawing attached to this report, and any other belt sanders currently in use or installed in the future should receive similar hooding.

The hoods on the Bipel machines were found to provide capture velocities ranging from 125 to 600 feet per minute. The ventilation system serving these hoods should be balanced to provide a minimum capture velocity of 150 feet per minute at each hood.

L. P. Gendernalik

L. P. Gendernalik
Industrial Hygienist

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Attachments

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Table I
Trenton Chemical

Asbestos Dust Exposures
November 1972

Location		Asbestos Concentration fibers (>5μ)/cc
	Threshold Limit Value	5.0
	1976 Proposed Threshold Limit Value	2.0
Bay F-4,	Breathing zone sample, #1 Bipel operator	0.4
Bay F-5,	Breathing zone sample, #3 Bipel operator	0.4
Bay F-5,	Breathing zone sample, #4 Bipel operator	0.4
Bay F-5,	Breathing zone sample, Bipel press operator	1.2
Bay F-5,	Breathing zone sample, Bipel press operator	0.9
Bay F-5,	General area sample, between Bipel presses #16 and #17	0.5
Bay F-7,	Breathing zone sample, #2 Disc Pad Flat Grinder, operator	1.0
Bay F-7,	Breathing zone sample, #2 Disc Pad Flat Grinder, inspector	0.1
Bay F-7,	General area sample, near #2 Disc Pad Flat Grinder	0.1
Bay E-8,	Breathing zone sample, Center brake shoe assembly oven	0.2
Bay E-8,	Breathing zone sample, Brake shoe edge grinder	0.6
Bay E-8,	Breathing zone sample, Brake shoe outer radius grinder	0.7
Bay E-8,	Breathing zone sample, Brake shoe proof tester	0.6

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Asbestos Dust Exposures
November 1972

Location		Asbestos Concentration fibers (>5μ)/cc
	Threshold Limit Value	5.0
	1976 Proposed Threshold Limit Value	2.0
Bay E-8,	Breathing zone sample, Brake shoe packer	0.1
Bay E-8,	General area sample, near foreman's work table	0.0
Bay E-8,	General area sample, south of outer radius grinder	0.1
Bay B-8,	Breathing zone sample, #4 outer radius grinder loader	0.2
Bay B-8,	Breathing zone sample, #4 outer radius grinder take-off man	0.1
Bay B-8,	General area sample, between #4 and #5 outer radius grinders	0.1
Bay D-3,	Breathing zone sample, P-grade rolling machine operator	0.1
Bay D-3,	Breathing zone sample, P-grade rolling machine operator	0.3
Bay D-3,	Breathing zone sample, repeat of above, while #2 and #4 mixers are operating	0.6
Bay D-3,	General area sample, north of P-grade rolling machine	0.1
Bay D-3,	Repeat of above, while #2 mixer is operating	0.8
Bay D-3,	Repeat of above, while #2 and #4 mixers are operating	0.1
Bay D-3,	General area sample, near dust collector, during shake-down	1.3
Bay E-2,	Breathing zone sample, batch weighman	0.3

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Asbestos Dust Exposures
November 1972

Location		Asbestos Concentration fibers (> 5μ)/cc
	Threshold Limit Value	5.0
	1976 Proposed Threshold Limit Value	2.0
Bay E-2,	General area sample, between batch weighing stations	0.1
Bay F-4,	Breathing zone sample, sweeper operator, operating Parke Vac-35	1.0
	Breathing zone sample, batch weighman, while loading and unloading #4 mixer	4.3
	General area sample, on mixer mezzanine, while #4 mixer is operating	0.1
	Breathing zone sample, manufacturing manager, performing normal plant tour	0.0
	General area sample, near manufacturing manager's office	0.0
	General area sample, near center of data processing room	0.0
	General area sample, south end of lunch room	0.1
	Breathing zone sample, dynamometer operator, while running destructive test on disc brake pads	1.0
	Breathing zone sample, garage mechanic brushing dust out of rear brake drums	0.2
	Breathing zone sample, garage mechanic blowing dust out of rear brake drums	0.0

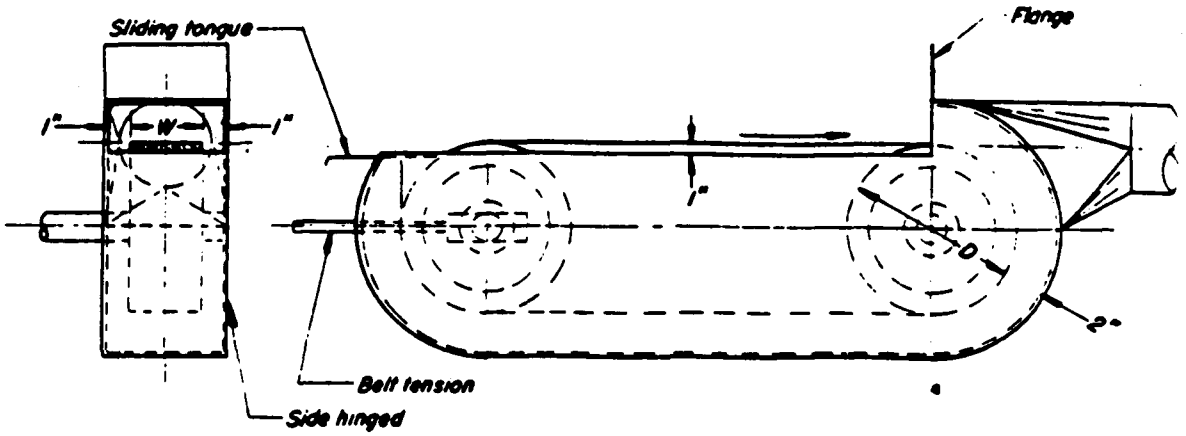
Samples were obtained on cellulose ester, Type AA membrane filters, and analyzed by phase-contrast microscopy.

Table II
Trenton Chemical

Ventilation Survey
November 1972

Location	Capture Velocity Feet per Minute
#1 Bipel machine, loading point	150
#2 Bipel machine, loading point	300
#3 Bipel machine, loading point	125
#4 Bipel machine, loading point	400
#5 Bipel machine, loading point	600
#6 Bipel machine, loading point	300
#1 Disc pad flat grinder, at top of grinding wheel	nil
Bay E-8, edge grinder	unsatisfactory
Bay E-8, outer radius grinder	satisfactory
Bay B-8, #4 outer radius grinder	400-700
Bay D-3, P-grade rolling machine feed hopper side-draft hood	600-800
#4 mixer, unloading station	25-50
#4 mixer, loading hoist	none
Batch weigh stations	satisfactory

Velocity measurements were obtained with smoke tubes and an Alnor Jr. Velometer.



Belt width, inches	Exhaust volume, cfm
up to 3	220
3 to 5	300
5 to 7	390
7 to 9	500
9 to 11	610
11 to 13	740

Minimum duct velocity = 4500 fpm branch, 3500 fpm main.
Entry loss = 0.65 velocity pressure for straight take-off.
0.45 velocity pressure for tapered take-off.