

February 2, 1953

Mr. C. Wirtz, Plant Manager
The Schaible Company
2620 Cook Street
Cincinnati, Ohio

Dear Mr. Wirtz:

Enclosed are three signed copies of a report describing the results of the supplementary survey made in your plant on December 19, 1953.

Very truly yours,

J. Cholak

JC:ma

cc: Dr. R. A. Kehoe
Dr. J. P. Hughes

Enclosures (3)

KE 0018566

SUPPLEMENTARY REPORT ON
PRELIMINARY SURVEY OF CONDITIONS IN THE FOUNDRY OF THE SCHAIBLE COMPANY

A second visit to the foundry of The Schaible Company was made on December 19, 1952 in order to obtain additional information concerning atmospheric contaminants. Air sampling for lead was repeated at each of four locations where significant exposure to lead fumes was expected to occur. Carbon monoxide determinations also were made in a corner of the plant near a suspected unit heater and in the west section of the core room, immediately after a gasoline powered "Towmotor" had passed in the aisle between the core room and the molding area. The velocity of the movement of air at a number of locations was measured to determine whether stagnant air conditions were present.

Results

Carbon Monoxide

Near #1 molding machine while bottom cover of unit heater was closed	10 p.p.m.
Near #1 molding machine 10 minutes after bottom cover of unit heater had been opened	10 p.p.m.
West end of core room (near #1 molding machine) two minutes after "Towmotor" had passed	25 p.p.m.

Velocity of Air Movement in Feet per Minute

The movement of air in various sections of the plant was measured with the "Anemotherm" air meter (Anemostat Corporation of America). The locations and the velocities of movement in feet per minute were as follows:

Between molding machines #1 and #2	30-50
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In aisle between core room area and molding machine #2	30-50
Center of casting floor (between power conveyor and roller conveyor)	100-250
Near #6 roller conveyor	90
Near #4 roller conveyor	100
Furnace area between furnace platforms (near center)	100
In doorway between grinding room and furnace area	100
In core room	70-100

The Concentration of Lead in Atmospheric Samples from Various Areas

<u>Time Collected</u>	<u>Area</u>	<u>Mg. Pb/M³ air</u>
10:00 A.M.	Between molding machines #1 and #2	0.54
10:05 A.M.	Near #16 molding machine	0.66
10:27 A.M.	Center of pouring area in aisle between power and roller conveyors, while pouring	0.99
10:30 A.M.	Center of furnace area, between platforms	1.61

Discussion

1. The quantities of carbon monoxide in the atmosphere were within satisfactory limits for regular industrial exposure of 8 hours duration per day. The findings are in agreement with those listed in our report of December 1, 1952. It should be noted, however, that two minutes after the "Towmotor" had passed, the air contained carbon monoxide in the concentration of 25 p.p.m. If the machine were to remain in the same location for several minutes with the motor running, the atmosphere in the immediate vicinity might be contaminated with carbon monoxide to

an extent capable of inducing symptoms of poisoning in persons working in the area. This would be true particularly if the area were one in which the air could become pocketed as in a corner of the room.

2. The air velocities in the room varied from 30-250 feet per minute. Such air velocities indicate that stagnant conditions were absent.

3. The results of the analysis of the atmosphere in certain areas for its lead content confirm the conclusion expressed in our report of December 1, that the concentrations of lead in these areas are such as to give rise to hazards to the health of persons who may work in these areas over periods of months or longer.

Visual comparison of in-plant conditions during the days of the two surveys suggested that conditions were worse on December 19. This was true of the furnace area, in particular, where because of the roof fans, fumes were drawn from the furnaces as well as from the pouring area.

From the Kettering Laboratory in the Department of
Preventive Medicine and Industrial Health, College of Medicine,
University of Cincinnati, Cincinnati, Ohio

Work and report by:

J. Cholak
D. Yeager
R. Burkey

Approved:

Robert A. Kehoe
Robert A. Kehoe, M.D.
Director

Date: February 2, 1953

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