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PROJECT REPORT

PLAINTIFF'S EXHIBIT

UC-3691

BOUND BROOK PLANT

INDUSTRIAL HYGIENE PROGRAM — AIR ANALYSES

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SUMMARY The Bound Brook Plant was visited August 8-10 to obtain various air samples, to acquaint Messrs W. D. Neal and E. J. Legat in the use of the Century Organic Vapor Analyzer, and to assist Mr. Neal in planning and conducting the Plant industrial hygiene program.

Air samples were taken in the Building 3, third floor operating area when no asbestos products were being made on any of the units. The results in Table I indicate that there are airborne fibers other than asbestos during the charging of cellulosic raw materials. There is evidence that these fibers settle rapidly, contributing less than 1 fiber per milliliter interference to air samples taken during asbestos charging.

The asbestos in air samples obtained were comparable to previous samples taken on the same products. These meet the current OSHA standard of 5 fibers per ml.

Air samples taken for mercury vapor concentration in the Instruments Shop show that concentrations are well below the TLV of 0.05 milligrams per cubic meter of air.

There are several vents on Building 105, Fiber and Fabrics, that were analyzed using the Century OVA. The results are shown in Table II.

A sample of condensables from the ovens on the foam line in Building 105 contained approximately 125 ppm lead, indicating a possibility of operator exposure to lead under abnormal operating conditions. Gollob Analytical Service has been contracted to take samples to define the airborne lead problem.

INTRODUCTION The Bound Brook Plant was visited August 8, 9, and 10 as a part of their continuing industrial hygiene program. It also was an opportunity to assist Mr. W. D. Neal in undertaking his new responsibilities as the plant industrial hygienist.

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Mr. E. J. Legat had requested that the Century Organic Vapor Analyzer be made available on loan so that Bound Brook could determine their potential need for such an instrument. Field testing is an integral part of our program for evaluating instruments of potential value to Group I Plants.

DISCUSSION One of the primary reasons for making the visit was to get air samples for asbestos on units A, B, and C in Building 3 when products were being manufactured on which we had very little data. Due to a last minute change in production schedules, we were unable to do this. However, there were some products being made which contained no asbestos. This was an opportunity to determine the possible contribution of other raw materials to the asbestos counts. Table I shows the results of these analyses. Samples 1, 2, 3, and 4 were taken when no asbestos products were being made on any of the units. Samples 2 and 3 show that there are fibers in the air during the charging of cellulosic materials. These fibers do not look the same as asbestos when examined microscopically but it is doubtful that they would be easily eliminated in determinations of asbestos counts. In any event, samples 1 and 4 suggest that the non-asbestos fibers settle rapidly and do not become widespread in the operating area. The samples do illustrate that sampling for asbestos should only be done during the actual period of handling and charging of asbestos to the unit.

Samples 5 and 7 were taken during the charging of asbestos to units A and C, respectively. These were personal samples taken on the operator. This may account for the results being somewhat higher than results obtained on the same products when the sample was taken as close as possible to the operator(1). The results are less than the TLV of 5 fibers per milliliter as prescribed by OSHA.

Dr. McKinley requested that the Instruments Shop be sampled for mercury vapor again. The J and W Model MV-2 Mercury Sniffer was used to make the determinations. The results shown in Figure 1 indicate that mercury levels in the room are within the TLV of 0.05 mg/M^3. There were two floor areas which show that mercury has been spilled and not thoroughly cleaned. The wastecan also has a mercury concentration of approximately the TLV. The only ventilation in the shop during sampling was provided by two air conditioners in the south wall.

Doug Neal and Ed Legat were given help in the proper use of and precautions to be observed in making determinations with the Century Organic Vapor Analyzer. The method of changing the hydrogen cylinder and the start-up and shut-down procedures were particularly emphasized. The Century will be kept at Bound Brook for six to eight weeks to ascertain its usefulness in the industrial hygiene and air pollution programs.

A primary area of potential application for the Century is in Building 105, Fibers and Fabrics. There are a number of potential sources of organic vapors in operating areas and from vents and stacks. Mr. G. H. Morton is particularly concerned with emissions of hydrocarbons from the No. 1 printing machine, the foam line, and

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the calenders of lines 1000, 2000, and 3000. Lines 1000, 2000, and 3000 were down but determinations were made with the Century at the other locations. These are shown in Table II. Mr. Morton had previously done some monitoring with the J and W Model SSP so it was taken along for comparison purposes. These results are also included in Table II. It should be noted that results with either of these analyzers are "ball-park" figures because the instruments have not been calibrated for the compounds present in the sampled streams.

There is another possible problem at the foam line in Building 105. A lead stabilizer is used in some products. When a break-down occurs on the line, it is sometimes necessary to open the ovens, releasing smoke and vapor that normally goes to the incinerator, into the operating area. There is a question as to whether this would result in lead exposures. A liquid sample of the condensables was taken from the No. 3 and 4 ovens to determine whether there was the possibility that lead existed in some vapor form in the vent system. This sample was analyzed in the South Charleston R/D Department by atomic absorption. The result was approximately 125 ppm lead. In the meantime, arrangements were made to have Gollob Analytical Service, Berkeley Heights, N.J., to take and analyze air samples to determine the concentration of airborne lead in the system. The results of this work were not available at the time of this writing.

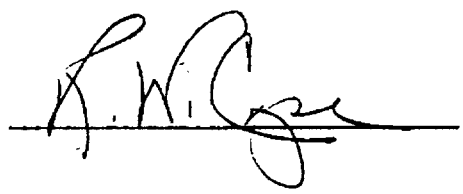
There was also some time available during this visit to review some of the Bound Brook industrial hygiene program; pointing out problem areas, where samples were taken, and some of the results of these studies. Mr. Neal is making good progress in working into his new assignment.

BIBLIOGRAPHY

(1) R. W. Cope, Letter to Mr. D. R. Albright, July 27, 1972.

NOTEBOOK REFERENCE

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Attachments: 1 Figure
2 Tables
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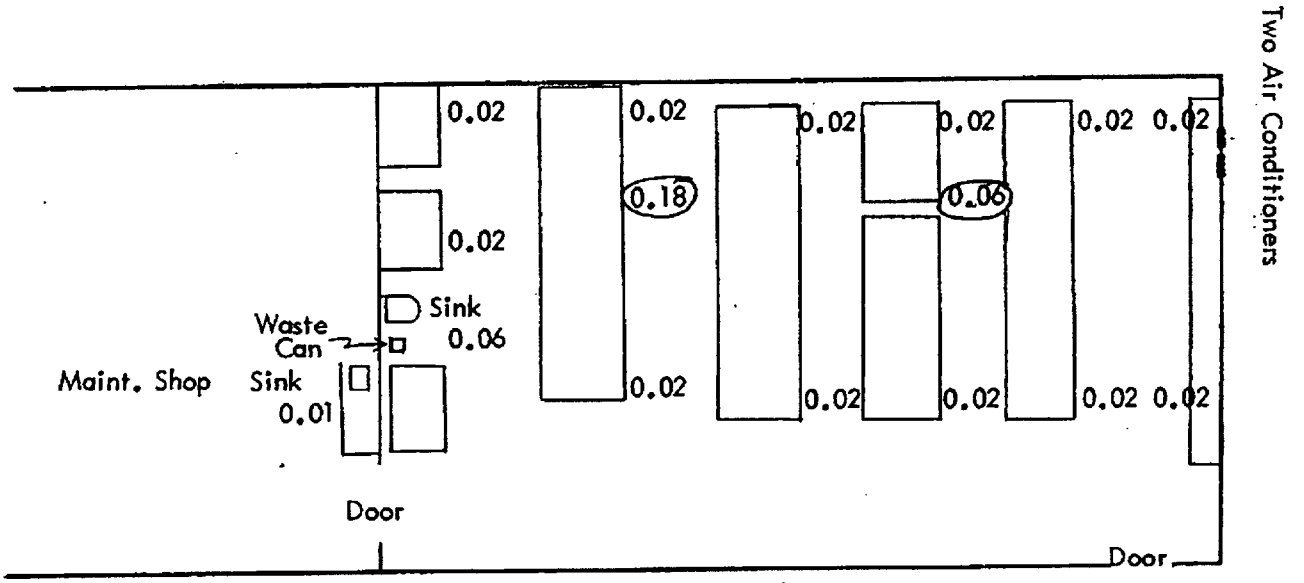
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FIGURE 1

MERCURY VAPOR
INSTRUMENTS SHOP, BUILDING 11

All samples were taken at face level in the various areas unless otherwise noted.



⬭ - Circled results were at floor level.

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TABLE I

ASBESTOS DUST

BUILDING 3, UNITS A, B, AND C

Sample No.	Date	Time	Sample Description and Location	Asbestos Fibers 5 Microns Per Ml
1	8-8-72	1:48 pm	Third floor general operating area of Units A, B, and C. All units down at beginning of sampling period. Unit A started on BMMB 5020 during sampling.	0.6
2	8-8-72	1:53 pm	Personal samples taken during charging of Unit A by mixer man. Product BMMB 5020 Bk 25. No asbestos charged.	1.8
3	8-8-72	2:32 pm	Personal samples taken during charging of Unit B by mixed man. Product BMG 2080 Bk 25. No astestos charged.	3.0
4	8-8-72	2:38 pm	Third floor general operating area. No units being charged but sample taken just after Unit B had been charged. No asbestos charged.	0.2
5	8-9-72	2:58 pm	Personal samples taken during charging of Unit A by mixer man. Product BMNC 5333 Bk 25. Taken while charging 5 bags of asbestos.	4.6
6	8-9-72	3:01 pm	Third floor general operating area. Taken just after charging asbestos to Unit A.	0.6
7	8-10-72	8:35 am	Personal sample taken during charging of Unit C by mixer man. Product BMNS 5440 Bk 25. Taken while stacking, charging and sweeping up floor (7) bags of asbestos charged.	3.0
8	8-10-72	8:45 am	Third floor general operating area. Taken just after charging asbestos to Unit C.	0.6

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TABLE II

SOLVENT VAPOR
BUILDING 105

Sample Description and Location	Total Hydrocarbons, ppm Century-OVA	J/W-SSP
No. 1 Printing Mochine, roof vent from oven area	290-310	340
No. 1 Printing Mochine, roof vent from local exhausts	100	180
No. 1 Printing Machine, East exhaust vent on the North side of the building	9	80
No. 1 Printing Machine, West exhaust vent on the North side of the building	10	90
Foam Line, roof vent from the No. 1 oven	12-15	0
Foam Line, roof vent from the No. 2 oven	12	0
Foam Line, plenum for No. 2nd No. 4 ovens at the slide gate	10	0

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