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DOW CHEMICAL U.S.A.

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TEXAS DIVISION
FREEPORT, TEXAS 77541

PLAINTIFF'S EXHIBIT
DOW-653

ENVIRONMENTAL HEALTH REPORT

FILE NO. A10-863

DATE May 12, 1976

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CHECKED R. L. Daniel

DATE May 12, 1976

AIRBORNE ASBESTOS SURVEY
CELL SERVICES
BUILDING A-1003

DOW CONFIDENTIAL

Summary

Eighteen contract workmen within the Cell Services were evaluated for potential exposure to airborne asbestos. No workman exceeded the present 5.0 fiber/cc level but five exceeded the 2.0 fiber/cc standard. Eight of the 18 exceeded the newly proposed standard of 0.5 fibers/cubic centimeter, and it is believed that several of these workmen may have a potential overexposure to a peak value.

It is recommended that these workmen be re-evaluated during June, and peak levels should also be made at that time.

It is also recommended that your present personnel protective procedures be continued.

It is further recommended that each workman be informed of the results of this study, the hazards of overexposure to asbestos and re-informed on the proper method of control. This informing should be documented.

ST0003138

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LIFE FILE IMAGE

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INTRODUCTION

The Occupational Safety and Health Act (OSHA) requires that occupational exposures to airborne asbestos be controlled so that no worker is exposed to more than 5.0 asbestos fiber per cubic centimeter of air based on the count of fibers greater than 5 micrometers in length. These are determined by a Time-Weighted Average (TWA) exposure for an eight hour work day, and no peak concentrations of asbestos more than 10.0 fibers per cubic centimeter as determined by a minimum sampling time of 15 minutes.

In July, 1976, the limit will be lowered to 2.0 fibers per cubic centimeter.

It is now proposed to lower the limit to 0.5 fibers per cubic centimeter with a peak of 5.0 fibers.

This survey was conducted at Cell Services to evaluate the contract worker exposures by personnel monitoring. The tests were taken from February 5, 1976 to February 26, 1976.

METHODOLOGY

Airborne samples were collected using a Bendix Permissible air sampling pump (Bendix Corp., Baltimore, Md.). The fibers were collected by pulling air through a Millipore filter (AAWG 03700) mounted in an open face Millipore disposable cassette. Flow rates for the pumps were calibrated at 1500 cubic centimeters per minute and sampling times were 180 minutes or greater (Table I). All samples were collected by R. F. Brawner of Cell Services.

Samples were analyzed by Lee Martin of Central Laboratory using the following technique:

Four marked squares are cut from a filter about half-way from the edge to the center. This section is then placed on a drop of clearing solution[1] and placed on a microscope slide. The sample is covered with a cover slip and allowed to clear(about 15 minutes). The sample count is made on a Reichert Zetopan Optical microscope using Nomaraki interference contrast at 500 magnification. Counts are made for particles greater than 5.0 microns, and reported as fibers per filter square.

RESULTS

Results of the airborne sample analyses are shown in Table I. All levels are below the present 8 hour Time Weighted Average (TWA); however, five exceeded the 2.0 fiber/cc standard and eight were above the 0.5 proposed level. It is also possible that there was a potential overexposure to the peak value.

[1] Clearing solution: 0.1 g/ml of clean Millipore filter paper in 1:1 diethyloxalate: dimethylphthalate.

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CONCLUSIONS

There is a possibility that workmen could be overexposed to a peak value, but unlikely because each is properly trained in use of protective equipment.

RECOMMENDATIONS

1. It is recommended that these workmen be re-evaluated during June, and peak levels should be measured at that time.

2. It is also recommended that your present personnel protective procedures be continued.

3. It is further recommended that each workman be informed of the results of this study, the hazards of overexposure to asbestos and re-informed on proper methods of control. This informing should be documented.

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TABLE I

ATMOSPHERIC ASBESTOS
CELL SERVICES
FIBERS/CC

NAME	BADGE NUMBER	DATE	JOB CLASSIFICATION	SAMPLE TIME	FIBERS/CC >5 uM
C. M. Theime	U.S. 186-4947	2-5-76	Foreman	240 min.	0.302
R. T. Gandy	U.S. 4-53-64	2-11-76	F-1	185 min.	0.806
B. M. Chance	U.S. 4-2691	2-13-76	C-2	240 min.	2.163
J. W. Sparrow	U.S. 4-8944	2-13-76	C-3	240 min.	0.300
D. G. Ernst	U.S. 4-6091	2-13-76	C-1	240 min.	0.316
A. L. Hux	U.S. 4-9900	2-17-76	S-1	240 min	3.106
B. Laird	U.S. 4-4220	2-17-76	C-2	240 min.	0.410
W. D. Autry	U.S. 4-0236	2-19-76	C-1	220 min.	0.382
D. Guidry	A. Spec. 174	2-19-76	S-2	195 min.	0.518
J. Lara	U.S. 4-0005	2-19-76	S-1	195 min.	1.030
T. A. Anderson	U.S. 4-2379	2-23-76	C-3	240 min.	0.009
M. L. McWhorter	U.S. 4-4267	2-3-76	C-2	180 min.	0.032
V. A. Staples	G.S. 783	2-23-76	S-2	180 min.	0.009
C. A. Rglant	U.S. 4-9625	2-23-76	C-1	220 min.	2.016
R. Cedillo	U.S. 4-0464	2-24-76	C-2	260 min.	3.021
F. W. Harris	U.S. 4-9213	2-24-76	C-3	260 min.	0.106
S. McWhorter	U.S.-0914	2-26-76	C-3	240 min.	0.088
C. J. Maine	U.S. 4-2264	2-26-76	C-2	240 min.	4.882

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