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50983

TEXAS DIVISION
FREEPORT, TEXAS 77541

ENVIRONMENTAL HEALTH REPORT

AIRBORNE ASBESTOS SURVEY
GLASS FABRICATION LAB B-1218

FILE NO. B12-820

DATE February 3, 1976

AUTHOR S. E. Neal

CHECKED R. L. Daniel

DATE February 4, 1976

Summary
Area monitoring was conducted in the glass fabrication lab to determine the levels of airborne asbestos to which personnel were being exposed. Samples collected were all within the present limit of five fibers/cubic centimeter (greater than five microns in length) established by the Occupational Safety and Health Act. They were also below the two fibers/cubic centimeters limit which becomes effective July 1, 1976. They were also below the proposed OSHA limit of 0.5 fibers/cubic centimeter.

The following is a listing of our recommendations:

(1) Advise employees of results of this survey.
(2) Inform employees of hazards of exposure to asbestos (see attached health hazard data).
(3) Request additional surveys be made when work volume or work practices change significantly, so that increased exposure is a possibility.
(4) Repeat informing of employees on an annual basis and document same.

Distribution
J. F. Buettner A-1203
E. H. Holt B1225
*H. H. McClure B1210
W. Stein A1208
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390707

INTRODUCTION

At the request of Central Laboratory supervision, air samples were taken to determine if airborne asbestos levels exceeded the present Occupational Safety and Health Act limit of five fibers per cubic centimeters, greater than five microns in length, in B-1218 laboratory.

METHODOLOGY

Airborne samples of asbestos were collected on a thirty-seven millimeter diameter (.8 micron pore size membrane filter) at a rate of 1500 cubic centimeters per minute. The samples were collected using a Bendix air sampling pump (Bendix Corp., Baltimore, Maryland). Sampling time was 330 minutes.

Samples were analyzed by Central Laboratory, B1225, using the following procedure:

> Four marked squares are cut from a filter half way from the edge of the center. This section is then placed on a drop of clearing solution and placed on a microscope slide. The sample is covered with a cover slip and allowed to clear. The sample count is made on a Reichert Zetopan optical microscope using Nomarski interference contrast at 500 magnification. The data is reported as a total number of counts per filter square.

RESULTS

Results of analysis are showing in Table I. All samples were below all Threshold Limit Values established or proposed by OSHA for asbestos.

RECOMMENDATIONS

1. Advise employees of results of this survey.
2. Inform employees of hazards of exposure to asbestos (see attached data).
3. Request additional surveys be made when work volume or work practices change significantly so that increased exposure is a possibility.
4. Repeat informing of employees on an annual basis and document same.

EHS
SEN/bbs
2-3-76

TABLE I

AIRBORNE ASBESTOS
Fibers greater than 5.0 microns per cubic centimeter

LOCATION	NUMBER OF FIBERS/CC
1. Cantrell's Work Bench	0.005
2. Morrison's Work Bench	0.003

ASBESTOS HEALTH HAZARD DATA

Asbestos poses a hazard as an air contaminant. Tissue pathology may be seen at the site of retained fine asbestos fibers which have been inhaled.

A lung disorder characterized by a diffuse interstitial fibrosis at times including pleural changes of fibrosos and calcification. Accompanying clinical changes may include fine rales, and dyspnea, finger clubbing, and cyanosis. Many of the people exposed to asbestos fibers develop asbestosis if the fibers concentration is high or the duration of their exposure is long. In general, there is a considerable time lapse between inhalation of the fibers and the appearance of changes as determined by x-ray.

Neoplasms, such as mesothelioma, may occur without radiological evidence of asbestosis at exposure levels lower than those required for prevention of radiologically evident asbestosis.

Asbestos workers who smoke have almost 90 times greater risk of cancer as the non-smoking general public.

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FREEPORT, TEXAS 77541

ENVIRONMENTAL HEALTH REPORT

AIRBORNE ASBESTOS SURVEY
PERSONNEL MONITORING
CHLOR-ALKALI I, A-108

FILE NO. A1-822

DATE February 19, 1976

AUTHOR H. N. Edwards

CHECKED L. L. Daniel

DATE Feb. 20, 1976

Summary

Sixty workmen within the Chlor-Alkali area were monitored for potential exposure to airborne asbestos. No workman exceeded the present or proposed levels for a Time Weighted Average (TWA), but five workmen hav a potential for exceeding the proposed peak values.

It is recommended that peak level evaluations be made during the year.

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

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

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* F. D. Axe - California
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* R. D. Olson 607 Bldg.-Midlan
* C. L. Sercu - Ohio

RESULTS

Results of the airborne sample analyses are shown in Table I. All levels are below the new proposed standards.

DISCUSSION

Samples collected during these dates show no levels above the 0.5 fiber, new recommended standard, although several of these workmen do show a potential for overexposure, by possibly exceeding the peak of 5.0 fibers/cc.

If a workman did receive all of the sample that is shown in Table I, in a 15 minute period, and then no other exposure for the rest of the day, then those whose levels are 0.156 (Table I) and above, would be over the 5.0 peak level. Five workmen would exceed this new limit.

CONCLUSIONS

Since an asbestos dust respirator is required by the workman handling the dry asbestos, no workman is likely to be over-exposed even to the new standard.

RECOMMENDATIONS

1. It is recommended that peak level evaluations be made during the year.

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 survey, the hazards of overexposure, and they be reinformed of the proper methods of control. This informing should be documented.

EHS
HNE/bbs
2-19-76

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ASBESTOS ANALYSES

CHLOR-ALKALI I

FIBERS/CC

NAME	MASTER NO.	DATE	JOB CLASSIFICATION	SAMPLE TIME-MIN.	WORK AREA	FIBERS/CC >5.0 µm
D. E. Billings	132154	11-4-75	Production Supt.	120	Office	0.006
D. R. Reichel	132251	12-4-75	Asst. Product. Supt.	210	Office	0.002
A. M. Davila	302093	11-5-75	Sr. Prod. Engr.	150	Power Area	0.002
N. M. Moore	134802	12-3-75	Production Engr.	240	Office	0.001
,ill Winkler	134126	11-3-75	Engineer	480	Office	0.001
E. C. Kotis	136016	12-10-75	Engineer	210	Cell Area	0.021
Z. A. Webb	122998	11-5-75	Production Foreman	150	CA 1	0.003
S. A. Dupont	111551	11-4-75	Production Foreman	510	Cell Area	0.008
R. W. Schroeder	135675	12-8-75	Production Foreman	420	Maint. Shop	0.001
B. L. Neel	134265	12-4-75	Rot. Shift Foreman	210	Control Room	0.021
C. L. Rabon	116103	12-4-75	Rot. Shift Foreman	210	Control Room	0.009
J. W. Woodall, Jr.	115089	12-13-75	Rot. Shift Foreman	450	C.A. 1	0.018
D. E. Ballard	134422	11-25-75	Parts Technician	240	Parts Room	0.001
R. A. Rudy	133664	11-5-75	Instr. Technician	150	CA 1	0.021
W. C. Gernand	136593	12-11-75	Instr. Processman	210	Instr. Shop	0.002
J. D. Todd	137824	11-14-75	Instr. Processman	180	CA 1	0.008
Paul Williams	139129	11-25-75	Instrumentation	210	CA 1	0.006
W. King	136162	11-21-75	Lab Technician	420	Lab	0.010
J. F. Blakenship	132515	12-10-75	Lab Technician	210	Lab	0.022
J. S. Maples	116260	11-4-75	Production Clerk	330	Office	0.000
O. L. Wise	111013	12-3-75	Boilermaker Crewleader	210	Maint. Shop	0.006
L. R. Scheffer	113871	12-3-75	Boilermaker	210	Maint. Shop	0.018
W. Kristof	106299	11-13-75	Electrician	150	Maint. Shop	0.126
C. R. Phelps	134894	11-13-75	Electrician	180	Maint. Shop	0.019
J. L. Gill	132863	11-19-75	Machinist	180	Maint. Shop	0.102
A. G. Ransom	133177	11-20-75	Machinist	210	Maint. Shop	0.211
R. E. Mickens	135686	12-12-75	Machinist Trainee	210	Maint. Shop	0.008
B. E. Rougers	132921	11-13-75	Machinist Trainee	180	Maint. Shop	0.061
P. Holler	136725	11-20-75	Machinist Trainee	210	Maint. Shop	0.030

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TABLE I

(Continued)

ASBESTOS ANALYSES

NAME	MASTER NO.	DATE	JOB CLASSIFICATION	SAMPLE TIME-MIN.	WORK AREA	FIBERS/CC >5.0 µM
O. D. Stine	115936	12-10-75	Painter	180	Maint. Shop	0.062
J. B. Lamar	109955	11-21-75	Pipefitter Crewleader	240	Maint. Shop	0.102
W. L. Jones	132590	11-19-75	Pipefitter	220	Maint. Shop	0.006
R. Lara	134894	11-14-75	Pipefitter	180	Maint. Shop	0.006
L. Sims, Jr.	132717	11-14-75	Pipefitter	180	Maint. Shop	0.018
S. Tims	134953	12-11-75	Pipefitter	180	Maint. Shop	0.127
J. E. Wartelle	131863	11-14-75	Pipefitter Trainee	180	Maint. Shop	0.031
P. D. Broussard	132495	11-12-75	Control Op. A	240	Control Room	0.010
A. L. Carr	108758	11-25-75	Control Op. A	240	Control Room	0.003
C. L. Leverich, Jr.	132293	11-20-75	Control Op. A	240	Control Room	0.008
P. E. Manning	118737	12-2-75	Control Op. A.	240	Control Room	0.016
R. L. Barnhart	134674	12-12-75	Control Op. B	315	Liquefaction	0.009
E. R. Brigance	135737	11-2o-75	Control Op. B	270	Power Area	0.009
D. L. Collins	135300	11-12-75	Control Op. B	180	Cell Area	0.462
J. N. Matt	132743	11-21-75	Control Op. B	210	Liquefaction	0.006
L. E. Williams	112977	12-2-75	Control Op. B	240	Liquefaction	0.008
W. J. Williams	135572	11-13-75	Control Op. B.	180	Maint. Shop	0.002
R. B. Windsor	133162	11-12-75	Control Op. B	180	Caustic Area	0.013
F. A. Boren	116972	12-16-75	Control Op. C	330	Power Area	0.061
E. W. McCann	133163	11-12-75	Control Op. C	180	Power Area	0.008
A. Walker, Jr.	134752	12-14-75	Control Op. C	420	Power Area	0.008
M. E. Decas	117937	11-20-75	Class 1 Op.	180	Cell Area	0.413
T. H. Enderbee	135555	11-20-75	Class 1 Op.	240	Cell Area	0.202
R. M. Gayle	133989	11-20-75	Class 1 Op.	180	Cell Area	0.061
T. C. Lee	138472	11-19-75	Class 1 Op.	180	Cell Area	0.311
S. A. McCann	137551	12-11-75	Class 1 Op.	180	Cell Area	0.106
C. A. Owens	131742	11-25-75	Class 1 Op.	240	Cell Area	0.055
R. W. Stayton	138293	12-2-75	Class 1 Op.	240	Cell Area	0.489
F. A. Corona	139124	12-13-75	Class 2 Op.	510	Loading Rack	0.008
J. G. Gonzales	13752	11-19-75	Class 2 Op.	210	Loading Rack	0.016
K. P. Lassiter	136614	12-12-75	Class 2 Op.	480	Loading Rack	0.009