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REPORT No. Y-7919-2 DATE DEC. 21, 1972
SUBJECT ANALYSIS OF ASBESTOS SAMPLES

CLIENT ROGERS CORPORATION
MANCHESTER, CONNECTICUT 06040

YORK RESEARCH CORPORATION



STAMFORD, CONN.

Rogers-Gough 012031

PURPOSE

Five (5) personal filter samples were analyzed for determination of asbestos concentration.

RESULTS

The following results were found.

Sample No. 1 (Beater Room)	0.88 fibers/ml.
Sample No. 2 (735 Area)	0.40 fibers/ml.
Sample No. 3 (Milled Area)	1.24 fibers/ml.
Sample No. 4 (Dumping Barrel) Grade No. 462	129.30 fibers/ml.
Sample No. 5 (Dumping Barrel) Grade RX-411	24.09 fibers/ml.

Detailed results and Rogers Corporation dust survey forms are included in this report.

CONCLUSION

Some conclusions can be reached from the results. These are:

1. Areas where samples 4 and 5 were taken are in excess of the short-term 10 fibers/ml. limit set for by OSHA. Control equipment and procedures should be initiated.
2. Area where sample 1 was taken (Beater Room) shows significant improvement when hood is used. Concentration prior to use of hood was 7.5 fibers/ml. The concentration was reduced to 0.88 fibers/ml. with hood.
3. Area where sample 2 was taken also shows improvement when the screw conveyor is covered. Previous concentrations were stated to be 18.8 fibers/ml. The values measured are 0.40 fibers/ml.
4. In the future, it is recommended that longer samples be taken. To sample for a short-term limit (10 fibers/ml.), samples should be taken for 15 to 30 minutes. To sample for the daily weighted average (2 fibers/ml.) a sample of 90 minutes should be taken.

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DISCUSSION

The filters were analyzed according to approved NIOSH and OSHA techniques. The preparation of the sample was as follows:

A drop of mounting medium, having a refractive index of 1.47 was placed on a freshly cleaned, standard microscope slide. A wedge-shaped piece of filter was cut from the sample filter and placed dust-side-up on the drop of mounting solution. A No. 1-1/2 coverslip, carefully cleaned with lens tissue, was placed over the filter wedge. The fibers were observed under a power of 430 X magnification. Sizing was accomplished by an calibrated eyepiece reticle. Twenty fields located at random on the sample were counted and total asbestos fibers longer than 5 microns are recorded. Any particle having an aspect ratio of three or greater is considered a fiber.

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TABLE OF RESULTSNUMBER OF ASBESTOS FIBER COUNTED

<u>FIELD NO.</u>	<u>SAMPLE IDENT.</u>	<u>SAMPLE IDENT.</u>	<u>SAMPLE IDENT.</u>	<u>SAMPLE IDENT.</u>	<u>SAMPLE IDENT.</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
	<u>NO.</u>	<u>NO.</u>	<u>NO.</u>	<u>NO.</u>	<u>NO.</u>
1	2	4	2	20	4
2	0	2	1	17	4
3	1	3	1	24	12
4	1	1	1	30	4
5	2	2	2	16	9
6	0	9	2	21	3
7	0	7	4	22	6
8	3	1	2	31	4
9	1	1	4	25	3
10	0	2	1	32	6
11	1	2	2	37	7
12	0	4	4	19	6
13	1	3	0	29	4
14	2	2	5	31	4
15	1	1	1	38	6
16	4	4	2	55	3
17	2	2	2	29	7
18	2	2	0	18	4
19	0	0	4	29	8
20	1	2	5	42	5
<u>Average</u>					
Field	1.20	2.70	2.25	29.25	5.45
<u>Asbestos</u>					
<u>Exposure</u>					
Fibers/ml.	0.88	0.40	1.24	129.30	24.09

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ROGERS CORPORATION DUST SURVEY

PLANT: Manchester, Conn. Pump No. 1
Sample No. #1
Results f/cd 0.28
Data Counted _____
Survey for: (Type of Contaminant) Asbestos
Grade: RX 102
Location: Beater Room

Sample No. _____ Time: Start 10:30
Time: End 10:36
Total Time: 6 minutes
Sampling Rate 2 l/min.
Sample Volume 1.2 liters
ARPA ☐ Personal Sample ☒ Name SAILAS WOODWARD

Conditions & Operations:

Asbestos was added during sample using
new hood.

Tentative Recommendations:

SAME AS L.M. #1

CALCULATIONS - SAMPLE 1

$$1. \frac{\text{Filter Area (mm}^2\text{)}}{\text{Field Area (mm}^2\text{)}} = K = \frac{855 \text{ mm}^2}{0.0967 \text{ mm}^2} = 8841.8$$

$$2. \frac{\text{Average Net Count}}{\text{Air Volume Sampled}} \times K = \text{fibers/ml.}$$

Average net count per field of 20 particles = 1.2 fibers

Sample was collected at 2 lit/min for 6 minutes. Then:

$$\frac{(1.2 \text{ fibers})}{2,000 \text{ ml/min)} (6 \text{ min.})} \times 8841.8 = 0.88 \text{ fibers/ml.}$$

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ROGERS CORPORATION DUST SURVEY

PLANT: Manchester, Conn. Pump No. 2
Sample No. 2
Results f/so 0.40
Date Counted 12/12/72
Survey for: (Type of Contaminant) Asbestos
Grade: BX 46.2
Location: 735 Area

Sample No. _____ Time: START 10:34
Time: END 11:04
Total Time: 30 Min.
Sampling Rate 2 l/min.
Sample Volume 60 liters
ARFA ☐ Personal Sample ☒ Other _____

Conditions & Operations:

5 min covered on covered

Tentative Recommendations:

5 MIN AS L.M #2

CALCULATIONS - SAMPLE 2

$$1. \frac{\text{Filter Area (mm}^2\text{)}}{\text{Field Area (mm}^2\text{)}} = K$$

$$2. \frac{\text{Average net count} \times K}{\text{Air Volume Sampled (ml)}} = \text{fibers/ml.}$$

$$\text{Area of filter} = 855 \text{ mm}^2$$

$$\text{Counting Area of one field} = 0.0967 \text{ mm}^2$$

$$K = \frac{855}{0.0967} = 884.18$$

Average Net Count per field of 20 fields - 2.7 fibers

Sample was collected at 2 lit/min for 30 minutes. Then:

$$\frac{(2.7 \text{ fibers}) \times 884.18}{(2,000 \text{ ml/min (30 min)})} = 0.40 \text{ fibers/ml.}$$

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ROGERS CORPORATION DUST SURVEY

PLANT: Manchester, Conn. Pump No. 2
Sample No. # 3
Results f/cu 1.24
Date Counted 12/12/72
Survey for: (Type of Contaminant) Asbestos
Grade: RY 611
Location: Truckers Area

Sample No. _____ Time: Start 11:40
Time: End 11:48
Total Time: 8 minutes
Sampling Rate 2 l/min.
Sample Volume 16 liters
ANPA ☐ Vermin Sample ☒ Name Harold Duseo

Conditions & Observations:

Load mill and dumping loader.

Tentative Recommendations:

Same as S. N. #5

CALCULATIONS - SAMPLE 3

There were predominantly blue irregular shaped particulates.

$$1. \frac{\text{Filter Area (mm}^2\text{)}}{\text{Field Area (mm}^2\text{)}} = K = \frac{855 \text{ mm}^2}{0.0967 \text{ mm}^2} = 8841.8$$

$$2. \frac{\text{Average Net Count} \times K}{\text{Air Volume Sampled (ml.)}} = \text{fibers/ml.}$$

Average net count per field of 20 fields = 2.25 fibers

Sample was collected at 2 lit/min for 8 minutes. Then:

$$\frac{(2.25 \text{ fibers}) \times 8841.8}{(2,000 \text{ ml/min}) (8 \text{ min})} = 1.24 \text{ fibers/ml.}$$

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ROGERS CORPORATION DUST SURVEY

PLANT: Franklin, Conn. Pump No. 2
Sample No. 4
Results f/cc 129.30
Date Collected 12/12/72
Survey for: (Type of Contaminant) Asbestos
Grade: H62
Location: _____
Sample No. _____ Time: Start 2:10
Time: End 2:11
Total Time: 1 minute
Sampling Rate: 2 l/min.
Sample Volume: 2 liters
AHPA ☐ Personal Sample ☐ Name _____

Conditions & Operations:

Inserting barrel into barrel - inside duct
Special test.

Tentative Recommendations:

CALCULATIONS - SAMPLE 4

$$1. \frac{\text{Filter Area (mm}^2\text{)}}{\text{Field Area (mm}^2\text{)}} = K$$

$$2. \frac{\text{Average net count} \times K}{\text{Air Volume sampled (ml)}} = \text{fibers/ml.}$$

$$\text{Area of filter} = 855 \text{ mm}^2$$

$$\text{Counting Area of one field} = 0.0967 \text{ mm}^2$$

$$\text{Average net count per field of 20 fields} = 29.25 \text{ fibers}$$

Sample was collected at 2 lit/min for 1 minute. Then:

$$\frac{855 \text{ mm}^2}{0.0967} = 8841.8 (K)$$

$$\frac{(29.25 \text{ fibers}) \times 8841.8}{(2,000 \text{ ml/min}) \times 1 \text{ min.}} = 129.3 \text{ fibers/ml.}$$

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ROGERS CORPORATION DUST SURVEY

PLANT: Manufacturing, Conn. Pump No. 2
Sample No. 5
Results f/nd 24.09
Date Collected 12/12/72
Survey for: (Type of Contaminant) Asbestos
Grade: QV 466
Location: _____

Sample No. _____ Time: Start _____
Time: End _____
Total Time: 1 min
Sampling Rate 2 l/min.
Sample Volume 2 liters
AREA ☐ Personal Sample ☐ Worn _____

Conditions & Operations:

*Dumping barrel into barrel. Could see
some fiber.
Special Test*

Tentative Recommendations:

CALCULATIONS - SAMPLE 5

$$1. \text{ Filter Area (mm}^2\text{)} = K = \frac{855 \text{ mm}^2}{0.0967 \text{ mm}^2} = 8841.8$$

$$2. \frac{\text{Average Net Count} \times K}{\text{Air Volume Sampled}} = \text{fibers/ml.}$$

Average net count per field of 20 particles = 5.45 fibers

Sample was collected at 2 lit/min for 1 minute. Then:

$$\frac{(5.45 \text{ fibers})(8841.8)}{(2,000 \text{ ml/min})(1 \text{ min})} = 24.09 \text{ fibers/ml.}$$

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STAMFORD, CONNECTICUT

Marvin W. Blachman

Marvin W. Blachman
Industrial Hygienist

A. J. Kurtz

Abraham J. Kurtz
Vice President Environmental Sciences

YORK RESEARCH CORPORATION



STAMFORD, CONNECTICUT