



NICOLET INDUSTRIES INC.

Wissahickon Ave.

Ambler, Pa. 19002

LABORATORY TEST REPORT

Technical Service Dept.

Report on
Measurement of Airborne Asbestos Fibers
by the
Membrane Filter Method
Decorative Micarta Division
Westinghouse Electric Company
Hampton, S. C.

This report covers the sampling and analysis of the air at various locations in the Decorative Micarta Division of Westinghouse Electric Co., Hampton, S. C. The sampling was done on March 22, 1973.

OSHA Procedure:

The unit of measurement for airborne asbestos that is used by OSHA is "the number of fibers longer than five microns per cubic centimeter of air", or briefly, fibers per c.c. To be counted as a fiber, a particle must not only be longer than five microns but must be at least three times as long as its maximum diameter. Five microns are about 1/100th of an inch.

In sampling, a measured volume of air is drawn through a membrane filter which catches all dust particles. The filter is taken to the laboratory, a portion of the filter is mounted on a microscope slide and examined at 400X. The number of fibers longer than five microns in a measured area of the microscope field is counted and this is repeated for 100 different areas or until 100 fibers are counted. The fibers per c.c. can then be calculated.

Two types of samples may be taken: a "personal" sample for which the monitor is attached near the breathing zone of an individual who then performs his usual job functions or an "area" sample for which the monitor is placed in a fixed location to sample the air at that point.

The present OSHA requirements read "The eight-hour time-weighted average (TWA) airborne concentrations of asbestos fibers to which any employee may be exposed shall not exceed five fibers, longer than five microns, per cubic centimeter of air". This means that an employee could be exposed to air containing seven fibers per c.c. for four hours and two fibers per c.c. for four hours and still meet the requirement. $TWA = (4 \times 7 + 4 \times 2) / 8 = (28 + 8) / 8 = 36 / 8 = 4.5$ fibers per c.c. Beginning July 1, 1976, the maximum TWA is reduced to two fibers per c.c.

OSHA also requires that "no employee shall be exposed at any time to airborne concentrations of asbestos fibers in excess of ten fibers, longer than five microns, per cubic centimeter of air."

07008477

Westinghouse Electric Co.
Decorative Products Division

April 4, 1973

Sampling:

On March 22, 1973, 21 samples were collected and of these, ten were analyzed at the Nicolet Laboratories, Ambler, Pa. Three different locations were sampled: the treater, the Porter Saw, and the double-trim saw and sander. Of these three locations, TWA samples could be taken only for the treater operation; at the other two locations, the operations covered such a short time period that sampling times were not long enough for TWA samples to be taken and "Ceiling" samples were collected.

Results:

Attached are copies of all the original data sheets showing information taken at the time of sampling and the laboratory analysis of those samples which were selected for analysis. In addition to the calculated value for fibers per c.c., the 95% Confidence Limits are given. These are statistically calculated from the data and their significance is that one can state with the assurance of being right 95 times out of 100 that the true concentration of fibers per c.c. at the time of test was within this range.

A table showing a summary of the results is attached.

At the treater, a total of eight samples were collected; four were short-time "Ceiling" tests and were not taken because there were too few fibers on the filter. Three TWA samples were taken at the roll unwinder, WH-1, WH-2, and WH-3; only WH-3 was analyzed and a concentration of only 0.08 fibers per c.c. was found. Samples WH-1 and WH-2 had no more fibers than WH-3 and were not analyzed. There is no indication that there is a significant concentration of airborne asbestos fibers in the air around the unwinder.

Sample WH-4 was taken near the sheeter at the finishing end of the treater. While there is no full-time operator at this location, the sample was taken to determine if the sheeter was releasing significant amounts of asbestos fibers into the air. The result found was 0.24 fibers per c.c. which is considered low.

Seven samples were taken at the Porter Saw. Three were short-time samples and were not analyzed because the longer time samples could be analyzed. Of the four samples analyzed, two were collected on the operators, WH-10 and WH-13 and two were collected at the sides of the saw WH-11 and WH-14.

There was no significant difference between the samples from the two sides of the saw: WH-11 had 0.99 fibers per c.c. and WH-14 had 0.65 fibers per c.c. There was a significant difference between the samples for the two operators; WH-10 on J. R. Rowe had 3.6 fibers per c.c. and WH-13 on T. Skinner had 0.55 fibers per c.c. Because of the higher count on J. R. Rowe, a second count of 100 fields was made on WH-10 which confirmed the original data. As noted on the original data sheet, it was observed at the time of sampling that the saw released visible dust on the side away from the aisle where J. R. Rowe was working.

There is no indication that the Ceiling limit of ten fibers per c.c. was being exceeded at the time of test and, since this operation usually is done for less than one hour a day, the eight-hour TWA limit of five fibers per c.c. would not be exceeded.

Six samples were taken at the double-trim saw and sander. Two were for

Westinghouse Electric Co.
Decorative Micarta Division

April 4, 1973

very short intervals and were not analyzed. WH-16 was attached to Ferrel Moore who fed rough sheets into the saw. This sample gave 1.9 fibers per c.c. and was the highest found for the three workers on this equipment. The airborne asbestos probably came from abrasion as the rough sheets were slid over one another.

Sample WH-17 was taken on W. Williams who separates the trimmed sheets and feeds them into the sander. Visible dust was observed at this operation; however, a fan behind Williams blew the dust away from him and into an exhaust system. WH-17 gave a result of 0.74 fibers per c.c.

Sample WH-18 was taken on J. Gletley who stacks banded sheets. His position is some distance from the sander and the result was 0.43 fibers per c.c., the lowest of the three workers.

Visible dust was noted coming from the side side of the sander and sample WH-19 was collected near this point. It showed 3.5 fibers per c.c. It was probably no higher because of the fan behind Williams and the exhaust system which caused air circulation away from the sander. A second count of 100 fields was made on this sample which confirmed the original data.

There is no indication that the Ceiling Limit of ten fibers per c.c. was being exceeded for any of the operators at the time of test. Since this operation usually requires less than one hour a day, the eight-hour TWA limit of five fibers per c.c. would not be exceeded.

Conclusions:

The results give no evidence that either the Ceiling Limit of ten fibers per c.c. or the eight-hour TWA limit of fibers per c.c. were being exceeded at the time of test for any of the persons or areas which were sampled in the Decorative Micarta Division.

Nicolet Industries, Inc.

Ralph L. Lanz
Ralph L. Lanz
Technical Administrator

RLL/smt
4/3/73

Table 1
Westinghouse Electric Co., Hampton, S. C.
Decorative Micarta Division

Sample No.	Type Sample	Sampling Time, Min.	Equip.	Location of Monitor	Fibers/c.c.	95% Confidence Limits
WH-1	TMA Area	108	Treater	Left side of unwinder facing treater 3 feet above floor.	<.20	Note 2
WH-2	TMA Personal	121	Treater	Attached to J. Padgett who did general work in area of treater.	<.20	Note 2
WH-3	TMA Area	119	Treater	Right side of unwinder facing treater 3 feet above floor.	.08	.05 - .20
WH-4	TMA Area	95	Treater	Treat. sheet on left side about 3 feet above floor.	.24	.00 - .48
WH-5	Ceiling Area	30	Treater	Same as sample WH-1.	Note 1	
WH-6	Ceiling Personal	30	Treater	Same as sample WH-2.	Note 1	
WH-7	Ceiling Area	30	Treater	Same as sample WH-3.	Note 1	
WH-8	Ceiling Area	30	Treater	Same as sample WH-4.	Note 1	
WH-9	Ceiling Personal	11	Porter Saw	Attached to Tommy Skinner who feeds sheets into saw and removes strips - aisle side.	Note 1	
WH-10	Ceiling Personal	28	Porter Saw	Attached to J. R. Rowe who feeds sheets into saw and removes strips --far side of saw.	1.6	4.9
WH-11	Ceiling Area	39	Porter Saw	Aisle side of Porter Saw--30 inches from floor.	.99	.22 - 1.8
WH-12	Ceiling Area	10	Porter Saw	Far side of Porter Saw--30 inches from floor.	Note 1	

0700000000

Sample No.	Sample	Sampling Time, Min.	Equip.	Location of Monitor	Fibers/c.c.	95% Confidence Interval
WH-13	Ceiling Personal	20	Porter Saw	Same as WH-9.	.55	.00 - 1.2
WH-14	Ceiling Area	20	Porter Saw	Same as WH-12.	.65	.00 - 1.4
WH-15	Ceiling Personal	12	Porter Saw	Same as WH-10.	Note 1	
WH-16	Ceiling Personal	21.5	Saw & Sander Attached to Ferrel Moore who feeds large sheets into saw.		1.9	.47 - 3.4
WH-17	Ceiling Personal	21.5	Saw & Sander Attached to Willie Williams who feeds saw cut sheets into saw.		0.74	.00 - 1.6
WH-18	Ceiling Personal	16	Saw & Sander Attached to James Glatley who feeds slatted sheets.		0.43	.00 - 1.2
WH-19	Ceiling Area	15.5	Saw & Sander Attached to Sander who feeds slatted sheets.		3.6	1.9 - 5.3
WH-20	Ceiling Personal	4.5	Saw & Sander Same as WH-16.		Note 1	
WH-21	Ceiling Area	4	Saw & Sander Same as WH-19.		Note 1	

Note 1: These tests were all short-sampling-time duplications of tests with longer sampling times. In every case the longer sample time filters could be analyzed so these were not used.

Note 2: These filters had some asbestos fibers but less than the filter which was analyzed for this equipment. Concentration of asbestos fibers in the air was therefore less than the upper 95% confidence limit for the filter which was analyzed.

NICOTINE ASBESTOS

SAMPLE NO. V, 4-3

LANT: Westinghouse Chem. DEPARTMENT: Treating 91 DATE SAMPLED: 3/22/73

EQUIPMENT OPERATED: Tripal Unwinder PRODUCT: M 2118 Asbestos Penne

JOB TITLE: _____ OPERATORS NAME OR NO.: _____

DESCRIBE WHAT OPERATOR DID DURING SAMPLING PERIOD:

~~RECEIVED~~ WCPY

TYPE SAMPLE: PERSONAL: AREA: CEILING: TWA: SAMPLED BY: RVS

TIME FINISHED: 11:14

TIME STARTED: 9:15

ELAPSED TIME. MIN: 119

NO: 6

RACE, LITERS/MIN: 1.5

YOUNG SAMPLED LITERS: 1785

REMARKS: Right side of unwinder facing  above floor

SLIDE PREPARED: DATE: 3-20-73 BY: [signature] SLIDE COUNTED: DATE: 3-20-73 BY: [signature]

REMARKS:

FIBERS > 5 MICRONS

[illegible]

TOTAL FIBERS _____
TOTAL FIELDS _____
AV. FIBERS/ FIELD _____
FIBERS/cc. _____

The Test result shown herein requires the following to comply with OSHA:

1. Post this report in Department _____
2. No respirator required _____
3. Reduce below _____ fibers/cc. by
engineering methods _____
4. Employee must wear type #1 resp. _____
5. Employee must wear type #2 resp. _____
6. Other _____

95% CONFIDENCE LIMITS (-.05 - .20)

ACBESTOS FIBER COUNT

SAMPLE NO. WH-4

ANT: Westinghouse - Newton DEPARTMENT: Trucking 91 DATE SAMPLED: 3/22/73

EQUIPMENT OPERATED: Sheeting PRODUCT: Saturated asbestos mayer

JOB TITLE: _____ OPERATORS NAME OR NO.: _____

DESCRIBE WHAT OPERATOR DID DURING SAMPLING PERIOD: _____

~~RESPIRATOR WORN?~~

TYPE SAMPLE: PERSONAL: _____ AREA: _____ CEILING: _____ AREA: _____ SAMPLED BY: RY

TIME FINISHED: 11:19

TIME STARTED: 9:45

ELAPSED TIME, MIN: 95

Page No: 5

ROSE LIPS: 1.5

~~YOU'VE SAMPLED~~ LITERS: 142.5

REMARKS: 5' from floor near center of left wall.

SLIDE PREPARED: DATE: 3-27-73 BY: [signature] SLIDE COUNTED: DATE: 3-27-73 BY: [signature]

REMARKS:

FIBERS > 5 MICRONS

0	0	0	1	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	0
1	0	0	0	0
0	0	0	0	0
0	0	1	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	1
0	0	0	0	0
0	0	0	0	1
0	0	0	0	0
1	0	0	0	0
0	0	0	0	0
0	0	0	1	0
1	1	0	0	0
0	0	0	0	0
0	0	0	0	0
1	1	0	0	0
0	0	0	0	0

TOTAL FIBERS 10
TOTAL FIELDS 100
AV. FIBERS/Field 1.0
FIBERS/cc. 1.34

The Test result shown herein requires the following to comply with CSHA:

1. Post this report in Department _____
2. No respirator required _____
3. Reduce below _____ fibers/cc. by
engineering methods _____
4. Employee must wear type #1 resp. _____
5. Employee must wear type #2 resp. _____
6. Other _____

95% CONFIDENCE LIMITS $\pm 1.00 - .42$

07008507

NICOLET INDUSTRIES, INC.
ASBESTOS ABUSE CENTER

SAMPLE NO. W4-5

ANT: Wes-Inchase, Nimola DEPARTMENT: Reading 91 DATE SAMPLED: 3/21/72

EQUIPMENT OPERATED: Unwinder PRODUCT: M 211A Asa Paper

JOB TITLE: _____ OPERATORS NAME OR NO.: _____

DESCRIBE WHAT OPERATOR DID DURING SAMPLING PERIOD:

RESTRICTION COPY

TYPE SAMPLE: PERSONAL: AREA: ☒ CEILING: ☒ SAMPLED BY: RZ

TIME FINISHED: 11:45

FILE NO: 3

TIME STARTED: 11:15

DATE: LIVESTOCK / VIN: 1.5

ELAPSED TIME, MIN: 30

VOLUME SAMPLED LITERS: 45

REMARKS: SAME LOCATION AS WHEX-12. Side of unweathered loess - low.

SLIDE PREPARED: DATE: 3-20-75 BY: JGM/ [signature] SLIDE COUNTED: DATE: BY:

REMARKS :

FIBERS > 5 MICRONS

[illegible]

The Test result shown herein requires the following to comply with OSHA:

1. Post this report in Department _____
2. No respirator required _____
3. Reduce below _____ fibers/cc. by
engineering methods _____
4. Employee must wear type #1 resp. _____
5. Employee must wear type #2 resp. _____
6. Other _____

TOTAL FIBERS

TOTAL FIELDS

AV. FIEBERS/ FIEBES

PIERS/cg.

95% CONFIDENCE LIMITS

07008504

ASBESTOS FIBER COUNT

SAMPLE NO. W4-6

ANT: Westinghouse - Chicago DEPARTMENT: Trading a, DATE SAMPLED: 3/22/73

EQUIPMENT OPERATED: Treater. Unwinder PRODUCT: M 2116 asbestos paper

JOB TITLE: Operator OPERATORS NAME CR. NO.: J. Padgett

DESCRIBE WHAT OPERATOR DID DURING SAMPLING PERIOD: General work in area of

Unwider

RESPIRATOR WORN? *N.*

TYPE SAMPLE: PERSONAL: ☒ AREA: CENSUS: SAMPLED BY:

TIME FINISHED: 1:42

TIME STARTED: 11:12

ELAPSED TIME MIN: 30

FOOT NO:

BATH LITERS/MIN: 1.5

POLINE SAMPLED LITERS: 17

REMARKS: SAME LOCATION AS WH 221

SLIDE PREPARED: DATE: 3-20-73 BY: JRM SLIDE COUNTED: DATE: BY:

REMARKS:

FIBERS > 5 MICRONS

A hand-drawn sketch of a person's head and shoulders, tilted back, with a large, stylized, and somewhat abstract face. The drawing is done in black ink on a grid background. The face features large, expressive eyes, a prominent nose, and a wide, open mouth. The overall style is sketchy and expressive, with some areas of the drawing appearing to be made with a thick marker or charcoal.

The Test result shown herein requires the following to comply with OSHA:

1. Post this report in Department _____
2. No respirator required _____
3. Reduce below _____ fibers/cc. by
engineering methods _____
4. Employee must wear type #1 resp. _____
5. Employee must wear type #2 resp. _____
6. Other _____

TOTAL FIBERS _____
TOTAL FIELDS _____
AV. FIBERS/ FIELD _____
FIBERS/cc. _____

95% CONFIDENCE LIMITS

07002505

ASTROLOGICAL FREER COUNT

SAMPLE NO. W 4-7

PLANT: Washington - Hancock DEPARTMENT: Treasury 91 DATE SAMPLED: 7-2-1-3

EQUIPMENT OPERATED: Treator Unwinder PRODUCT: M 2118 Asbestos Paper

JOB TITLE: _____ OPERATORS NAME OR NO.: _____

DESCRIBE WHAT OPERATOR DID DURING SAMPLING PERIOD: _____

RESPIRATOR WORN?

TYPE SAMPLE: PERSONAL: AREA: / CEILING: / AREA: SAMPLED BY: *[Signature]*

TIME FINISHED: 11:45

TIME STARTED: 11:16

ELAPSED TIME. MIN: 32

FORM NO: 6

~~Flow~~ LITERS/MIN: 1.5

VOLUME SAMPLED. LITERS: 45

REMARKS: SAME LOCATION AS SW 3. (East side of unwinder facing
treater - 3' above floor)

SLIDE PREPARED: DATE: 3-29-91 BY: Sum SLIDE COUNTED: DATE: BY:

REMARKS: 

FIBERS > 5 MICRONS

[illegible]

The Test result shown herein requires the following to comply with OSHA:

1. Post this report in Department _____
2. No respirator required _____
3. Reduce below _____ fibers/cc. by
engineering methods _____
4. Employee must wear type #1 resp. _____
5. Employee must wear type #2 resp. _____
6. Other _____

TOTAL FIBERS _____
TOTAL FIELDS _____
AV. FIBERS/ FIELD _____
FIBERS/cc. _____

99% CONFIDENCE LIMITS _____

07008500

07000100

NICOLE INDUSTRIES, INC.
ASBESTOS FIBER COUNT

SAMPLE NO. W410

PLANT: Washington Lehigh DEPARTMENT: 97 DATE SAMPLED: 2/22/73

EQUIPMENT OPERATED: Porter Saw PRODUCT: Asbestos Mica

JOB TITLE: Operator OPERATORS NAME OR NO.: J.R. Rowe

DESCRIBE WHAT OPERATOR DID DURING SAMPLING PERIOD: Feeds large sheets into saw and removes cut strips

RESPIRATOR WORN?

TYPE SAMPLE: PERSONAL: ☒ AREA: ☐ CEILING: ☐ FLOOR: ☐ SAMPLED BY: Rowe

TIME FINISHED: 1:53:30

ROOM NO: B

TIME STARTED: 1:23:30

RATE, LITERS/MIN: 1.5

ELAPSED TIME MIN: 28

VOLUME SAMPLED LITERS: 42

REMARKS: saw throws dust toward the 3 inch wires on far side of saw

SLIDE PREPARED: DATE: 3-29-73 BY: WJM SLIDE COUNTED: DATE: 3-31-73 BY: WJM

REMARKS:

15/50 19/50

FIBERS > 5 MICRONS

0	1	1	1	0
1	1	1	0	0
1	0	2	0	0
0	0	0	0	0
0	0	2	0	0
1	0	0	0	0
2	1	1	2	0
1	1	0	0	0
3	1	0	0	0
1	0	0	0	0
0	0	0	0	0
0	1	0	0	0
0	0	0	1	1
1	0	0	1	0
0	0	0	0	2
0	0	0	0	1
0	0	1	0	0
0	0	0	1	0
0	1	1	0	0
1	1	0	1	0

TOTAL FIBERS 44
TOTAL FIELDS 150
AV. FIBERS/FIELD 44
FIBERS/cc. 3.6

The Test result shown herein requires the following to comply with OSHA:

1. Post this report in Department _____
2. No respirator required _____
3. Reduce below _____ fibers/cc. by engineering methods _____
4. Employee must wear type #1 resp. _____
5. Employee must wear type #2 resp. _____
6. Other _____

95% CONFIDENCE LIMITS 1.9 - 5.3

07008509

Measurement of Airborne Asbestos Fiber

95% CONFIDENCE LIMITS 1.9-5.4 / 2.4-4.9

07008510

WISCONSIN INDUSTRIES, INC.
ASBESTOS FIBER COUNT

SAMPLE NO. WIS-11

ANT: Nestlinghouse Neph DEPARTMENT: 97 DATE SAMPLED: 3/12/73

EQUIPMENT OPERATED: Porter Saw PRODUCT: Asbestos Neph

JOB TITLE: _____ OPERATORS NAME OR NO.: _____

DESCRIBE WHAT OPERATOR DID DURING SAMPLING PERIOD: _____

TYPE SAMPLE: PERSONAL: _____ AREA: ☒ CEILING: ☒ TWA: ☒ SAMPLED BY: RN

TIME FINISHED: 2:04:30 TIME NO.: 6
TIME STARTED: 1:25:00 RATE, LITERS/MIN: 1.5
ELAPSED TIME, MIN: 39 VOLUME SAMPLED LITERS: 59.5

REMARKS: Right side of machine 3 ft from

SLIDE PREPARED: DATE: 3-28-73 BY: RN SLIDE COUNTED: DATE: 3-28-73 BY: JAM

REMARKS: _____

14 50 9/50

FIBERS > 5 MICRONS

3	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	1	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	0
2	0	0	0	0
1	0	0	0	0
2	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	1	0	0	0
0	0	0	0	0

TOTAL FIBERS 10
TOTAL FIELDS 100
AV. FIBERS/ FIELD .17
FIBERS/cc. .99

The Test result shown herein requires the following to comply with OSHA:

1. Post this report in Department _____
2. No respirator required _____
3. Reduce below _____ fibers/cc. by engineering methods _____
4. Employee must wear type #1 resp. _____
5. Employee must wear type #2 resp. _____
6. Other _____

95% CONFIDENCE LIMITS .22 - 1.9

07005511

ASBESTOS FREE ZONE

SAMPLE NO. WJH-1V

TANT: Waylinehouse, Linophia DEPARTMENT: 97 DATE SAMPLED: 3/2/73

EQUIPMENT OPERATED: Porter Saw PRODUCT: Asbestos Mica

JOB TITLE: _____ OPERATORS NAME OR NO: _____

DESCRIBE WHAT OPERATOR DID DURING SAMPLING PERIOD: _____

~~RESPIRATOR WORN?~~

TYPE SAMPLE: PERSONAL: AREA: ✓ CEMENTING: ✓ TWA: SAMPLED BY: *EX*

TIME FINISHED: 1136:30

TIME STARTED: 12:24:39

ELAPSED TIME. MIN: 10

INDEX NO: 61

LETTERS MON:

MISSING SAFETYED LETTERS: 15

REMARKS: far side of machine 30" from belt - Saw throws dust toward
this side

SLIDE PREPARED: DATE: 3-23-73 BY: [signature] SLIDE COUNTED: DATE: BY:

REMARKS:

FIBERS > 5 MICRONS

A large, stylized, hand-drawn watermark reading "DANIEL" diagonally across the page. The letters are thick and blocky, with a slightly irregular, hand-drawn appearance. The watermark is oriented from the bottom-left towards the top-right.

TOTAL FIBERS _____
TOTAL FIELDS _____
AV. FIBERS/ FIELD _____
FIBERS/cc. _____

The Test result shown herein requires the following to comply with OSHA:

1. Post this report in Department _____
2. No respirator required _____
3. Reduce below _____ fibers/cc. by
engineering methods _____
4. Employee must wear type #1 resp. _____
5. Employee must wear type #2 resp. _____
6. Other _____

95% CONFIDENCE LIMITS

0700.25:2

NICOLET INDUSTRIES, INC.
ASBESTOS FIBER COUNT

SAMPLE NO. 24-13

ANT: Washington Univ, DEPARTMENT: 97 DATE SAMPLED: 3/20/73

EQUIPMENT OPERATED: Porter Saw PRODUCT: Asbestos, Mica

JOB TITLE: Operator OPERATORS NAME OR NO.: Tony Skner

DESCRIBE WHAT OPERATOR DID DURING SAMPLING PERIOD: Feeds 200 sheets into machine and

removes cut strips

~~RESPIRATOR WORK~~

TYPE SAMPLE: PERSONAL: ☒ AREA: CEILING: ☒ TWA: ☒ SAMPLED BY: *[Signature]*

TIME FINISHED: 2:04:30

TIME STARTED: 1:35:30

ELAPSED TIME MIN: 29

REMARKS: SANG AS WH-9

SLIDE PREPARED: DATE: 7-28-73 BY: [signature] SLIDE COUNTED: DATE: 8-4-73 BY: [signature]

REMARKS:

[illegible]

TOTAL FIBERS	7
TOTAL FIELDS	150
AV. FIBERS/ FIELD	.07
FIBERS/cc.	.55

The Test result shown herein requires the following to comply with CSHA:

1. Post this report in Department _____
2. No respirator required _____
3. Reduce below _____ fibers/cc. by engineering methods _____
4. Employee must wear type #1 resp. _____
5. Employee must wear type #2 resp. _____
6. Other _____

95% CONFIDENCE LIMITS $(\bar{X} \pm 1.2 \cdot \frac{s}{\sqrt{n}})$

0700391

ASBESTOS FIBER COUNT

SAMPLE NO. WN-14

ANT: Westinolepis Lemph. DEPARTMENT: 99 DATE SAMPLED: 3/27/73

EQUIPMENT OPERATED: Porter Saw PRODUCT: Asbestos, Mica

JOB TITLE: _____ OPERATORS NAME OR NO.: _____

DESCRIBE WHAT OPERATOR DID DURING SAMPLING PERIOD: _____

TYPE SAMPLE: PERSONAL: AREA: CEILING: SQA: SAMPLED BY:

TIME FINISHED: 2:04:30

TIME STARTED: 1:26:39

ELAPSED TIME. MIN: 28

FILE NO: 1

~~RATE, ANSWERS / MIN:~~ 1.5

VOLUME SAMPLED LITERS: 42

REMARKS: SAME AS WH-12 for side of saw - 30" from floor
Saw trace dust toward this side

SLIDE PREPARED: DATE: 3-28-73 BY: *[Signature]* SLIDE COURTED: DATE: 3-28-73 BY: *[Signature]*

REMARKS: _____

[illegible]

TOTAL FIBERS 8
TOTAL FIELDS 100
AV. FIBERS / FIELD .08
FIBERS/cc. .45

The Test result shown herein requires the following to comply with CSHA:

1. Post this report in Department _____
2. No respirator required _____
3. Reduce below _____ fibers/cc. by
engineering methods _____
4. Employee must wear type #1 resp. _____
5. Employee must wear type #2 resp. _____
6. Other _____

99% CONFIDENCE LIMITS (~~1.5~~ - 1.4

1580085

NICOLET INDUSTRIES, INC.
ASBESTOS FIBER COUNT

SAMPLE NO. WB-15

SALT: Washington - Lansing DEPARTMENT: 90 DATE SAMPLED: 3/22/63

EQUIPMENT OPERATED: Auto Saw PRODUCT: Aluminum Micarta

JOB TITLE: Operator OPERATORS NAME OR NO.: J.R. Love

DESCRIBE WHAT OPERATOR DID DURING SAMPLING PERIOD: Feeds large sheets into saw and
removes cut strips

TYPE SAMPLE: PERSONAL: / AREA: CEILING: / TWA: SAMPLED BY: [Signature]

TIME FINISHED: 2:04:30 NO: 3

TIME STARTED: 11 43:70 ~~C~~ RATE, INCHES/MIN: 1.5

ELAPSED TIME, MIN: 11 FOUND SAMPLED LITTERS: 16.5

REMARKS: Same as W-10 works on top side of saw. Saw throws dust towards this side.

SLIPSE PREPARED: DATE: 3-28-73 BY:  SLIPSE COUNTED: DATE: BY:

REMARKS:

FIBERS > 5 MICRONS

TOTAL FIBERS _____
TOTAL FIELDS _____
AV. FIBERS/ FIELD _____
FIBERS/cc. _____

The Test result shown herein requires the following to comply with OSHA:

1. Post this report in Department _____
2. No respirator required _____
3. Reduce below _____ fibers/cc. by
engineering methods _____
4. Employee must wear type #1 resp. _____
5. Employee must wear type #2 resp. _____
6. Other _____

95% CONFIDENCE LIMITS _____

07008515

01580510

ASBESTOS FREE CONT.

SAMPLE NO. WH-17

ANT: Wandering Sparrow DEPARTMENT: 73 DATE SAMPLED: 3/22/73

EQUIPMENT OPERATED: Double trim saw and sander PRODUCT: Asbestos Micards

JCB TITLE: Sender below OPERATORS NAME OR NO.: Willie Williams

DESCRIBE WHAT OPERATOR DID DURING SAMPLING PERIOD: Feeds saw-cut sheets into shredder

RESPIRATOR WORN 6 1/2 HRS.

TYPE SAMPLE: PERSONAL: ☒ AREA: CEILING: ☒ TWA: ☒ SAMPLED BY: 224

TIME FINISHED: 4:08:30

TIME STARTED: 3:47

ELAPSED TIME, MIN: 21.5

~~CONFIDENTIAL~~ NO: 70

SAFE, INTEREST / MIN: 1.5

VOLUME SAMPLED LITERS: 32.2

REMARKS: Fan blows across worker  vacuum dust collector

SLIDE PREPARED: DATE: 3-26-73 BY: *[Signature]* SLIDE COUNTED: DATE: 3-26-73 BY: *[Signature]*

REMARKS:

2/50
FIBERS > 5 MICRONS

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	0
0	0	0	0	0
6	0	0	0	0
0	0	0	0	0
0	0	0	1	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

TOTAL FEES 2

TOTAL FIELDS	16
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AV. PETERS / ~~SECRET~~

FIBERS/cc.

The Test result shown herein requires the following to comply with OSHA:

1. Post this report in Department _____
2. No respirator required _____
3. Reduce below _____ fibers/cc. by
engineering methods _____
4. Employee must wear type #1 resp. _____
5. Employee must wear type #2 resp. _____
6. Other _____

99% CONFIDENCE LIMITS $(-).16 - 1.6$

[illegible]

95% CONFIDENCE LIMITS .00 - 1.2

Measurement of Airborne Asbestos Fiber

TYPE SAMPLE: PERSONAL AREA: CEILING: FWA: RESPIRATOR WORN?
 TIME FINISHED: TIME NO.
 TIME STARTED: DATE, LITERS/MIN:
 ELAPSED TIME MIN: VOLUME SAMPLED LITERS: 23.2
 REMARKS:

SLIDE PREPARED: DATE BY: SLIDE COUNTED: DATE: 4-2-73 BY: J.A.
REMARKS:

0	0	0	1	2
0	0	0	0	2
0	0	0	1	2
0	0	0	1	2
0	2	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	0
0	2	0	0	0
0	0	0	0	0
2	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
2	0	0	1	1
0	0	1	0	3

FIERS/c 3.7 1 3.6

1. Post this report in Department
2. No respirator required
3. Reduce below fibers/cc. by
engineering methods
4. Employee must wear type #1 resp.
5. Employee must wear type #2 resp.
6. Other

95% CONFIDENCE LIMITS 1.3-6.0 / 1.9-5.2

07008520

