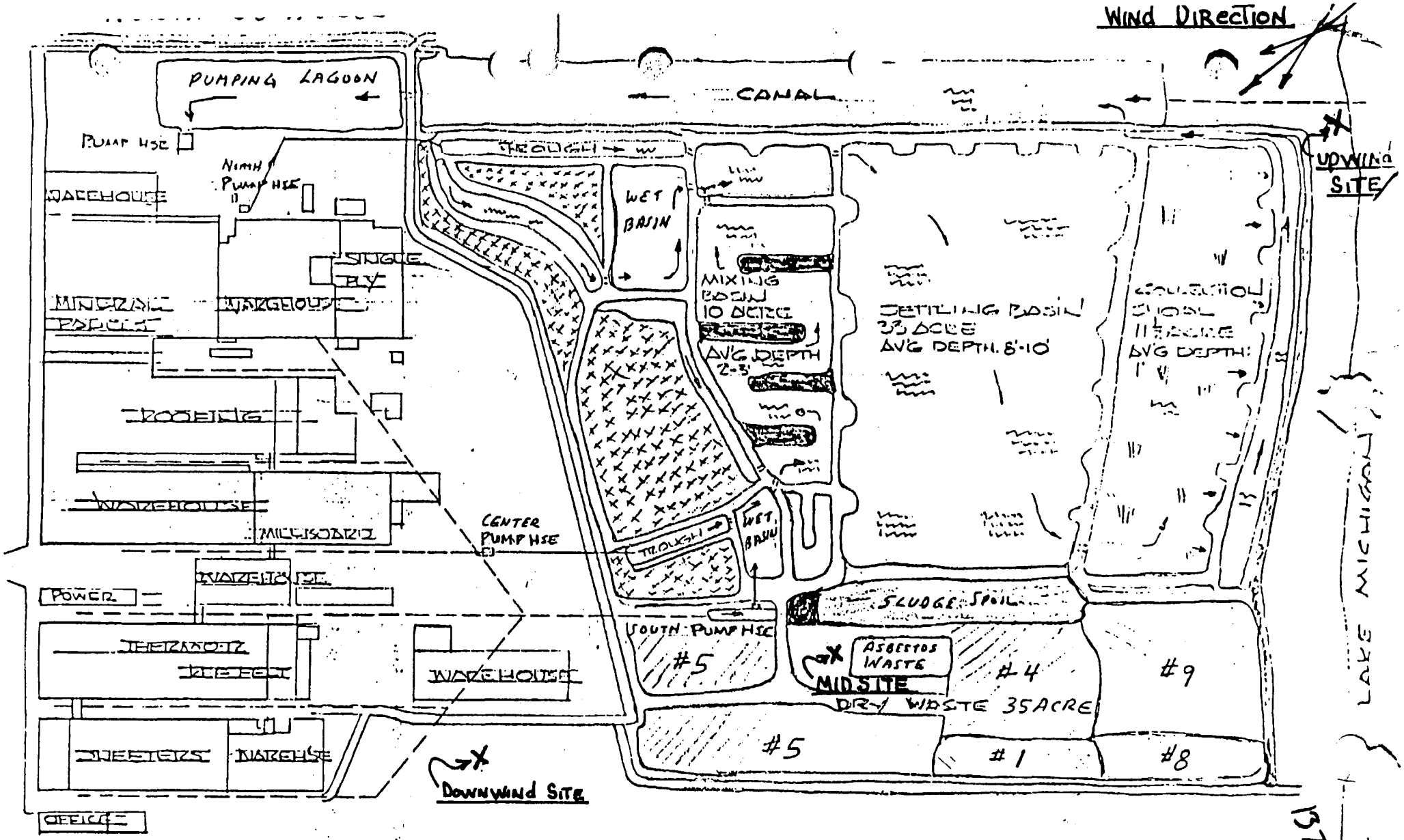

AIRBORNE ASBESTOS SAMPLING LOCATIONS

4/28/82 DBW

MANUFACTURING SEWER LINES & WET-DRY WASTE DISPOSAL AREAS

DR BY WB	DATE 9-25-81	JOHNS-MANVILLE WAUKEGAN, IL	DWG

13702

00042

DATA SUMMARY SHEET

JUN 16 1982 JUL 14

EMS LABORATORIES INC.
Contract Lab

A1613
Sample Number

AMBIENT AIR
Industrial Category

UPWIND (COARSE)
Sample Point Description

5-24-82
Date Analyzed

4289
Blank Number

4196
Standard Number

ANALYSIS INFORMATION:

Detection Limit: 15 Fibers per mm^2

Ashed sample X yes ___ no

Amount of Air Filtered: 0.685 cubic meters

Fields Examined 20

Total Filter Area 960 mm^2

Chrysotile Fibers (all sizes): 73

Chrysotile Concentration:

Calculated Mass 38 ng/m^3

Calculated Fibers 0.7 $fibers/cc^3$

SCC USE ONLY

DATA INTERPRETATION

_____ Shows positive indication of chrysotile asbestos in the ambient air.

_____ Shows no indication of chrysotile asbestos in the ambient air.

_____ Cannot be interpreted because of the limited number of chrysotile fibers counted.

U.S. Environmental Protection Agency
Effluent Guidelines Division

ASBESTOS DATA REPORT

EPA Sample No: A1613
Industrial Category: AMBIENT AIR
Page 1 of 6

JUN 16 1982

SAMPLE DATA

Laboratory: EMS LABORATORIES INC
Lab ID Number: 4239
Date analyzed: 5-24-82
Analyst: B. TOOPER
Filter Type: 0.1 μnucleopore
Preparation technique: modified Jaffe Wick
Method of counting: grid square
Volume of field sample filtered: 0.685

OPERATING CONDITIONS

Mode: TEM
Beam current μA: 35
Sample tilt (°): 0°
Actual screen magnification: x20,000
Av. grid area (mm²): 0.0175
No. of grid squares counted: 20
Address for grid storage: 92-1-JKL

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT R
1	1	✓	✓				21	2	10	5
	2	✓	✓				25	1.5	14	9.3
	3			✓			— 34	2.5	11	4.4
	4	✓	✓				28	1.5	16	10.6
	5	✓	✓				11	1	14	14
	6	✓	✓				9	1	12	12
	7			✓			— 8	1	8	8
2	8	✓	✓				72	2	23	11.5
	9	✓	✓				16	1.5	9	6
	10	✓	✓				01	2.5	102	40.
	11			✓			— 19	2.5	14	5.6
	12					✓	— 15	1.5	10	6.7
	13	✓	✓				22	1.5	18	12
3	14	✓	✓				44	1.5	25	16.7
	15	✓	✓				41	1.5	23	15.3
	16	✓	✓				20	1	25	25
	17				✓		— 14	1	18	18
4	18	✓	✓				53	1	67	67
	19	✓	✓				17	1	22	22
	20			✓			— 25	2	8	4
	21			✓			— 195	3	28	9.3
	22			✓			— 15	1.5	10	6.7
	23				✓		— 27	1.5	15	10
5	24	✓	✓				21	1.5	12	8
6	25	✓	✓				41	1	40	40
TOTALS		16	16	6	2	1				

USE ADDITIONAL PAGES FOR COMMENTS IF NECESSARY

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1613
Industrial Category: AMBIENT AIR
Page 2 of 6

GRID NUMBER (I) II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPEC
6 cont.	1			✓			7	1	• 12	12
	2	✓	✓				8	1	10	10
	3	✓	✓				9	1	12	12
	4	✓	✓				57	1	73	7
	5					✓	71	1.5	• 40	26
7	6	✓	✓				11	1	14	14
	7	✓	✓				41	2	13	6
	8	✓	✓				23	1.5	13	8
	9	✓	✓				10	1	13	1
	10	✓	✓				11	1	14	14
	11			✓			79	3	• 14	4.
8	12	✓	✓				31	1	40	40
	13	✓	✓				30	1	38	3
	14			✓			9	1	• 11	11
	15	✓	✓				37	1	47	47
	16			✓			59	2.5	• 12	4.
	17	✓	✓				53	2	17	8.
	18			✓			126	2	• 40	20
10	19			✓			11	1	• 14	14
	20	✓	✓				186	2	60	30
	21	✓	✓				[illegible]	1.5	20	13.
	22	✓	✓				157	2	50	25
	23	✓	✓				71	1.5	40	26
	24	✓	✓				21	2	10	5
	25	✓	✓				25	1.5	14	9.
TOTALS		13	18	6	0	1				
CUMULATIVE TOTALS		34	34	12	2	2				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1613
Industrial Category: AMBIENT AIR

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION				POSSIBLE EXDRA ID	FIBER SIZE		ASPECT
			(✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN		(mm) DIAMETER	(mm) LENGTH	
10 cont.	1	✓	✓				39.3	1.5	20	13.
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
	10									
	11									
	12									
	13									
	14									
	15									
	16									
	17									
	18									
	19									
	20									
	21									
	22									
	23									
	24									
	25									
TOTALS		1	1	0	0	0				
CUMULATIVE TOTALS		35	35	12	2	2				

COMMENTS:

7628 mm³

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1613
Industrial Category: AMBIENT AIR
Page 4 of 6

GRID NUMBER: I (II) III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION				POSSIBLE EXDRA ID	FIBER SIZE		ASPECT
			(✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN		(mm) DIAMETER	(mm) LENGTH	
1	1			✓				4	46	11.5
	2	✓	✓					1	16	16
	3				✓			1	14	14
	4	✓	✓					1	30	30
	5			✓				1	9	9
	6	✓	✓					1	10	10
2	7	✓	✓					1	27	27
	8			✓				2	10	5
	9			✓				5	38	7.
	10	✓	✓					1	8	8
3	11			✓				1	8	8
	12			✓				1.5	24	16
	13	✓	✓					1	18	18
	14			✓				1.5	10	6.
	15			✓				2	42	21
	16	✓	✓					1.5	11	7.3
	17	✓	✓					2	152	71
	18	✓	✓					1	63	6
	19	✓	✓					2	56	2
	20	✓	✓					6	58	9
4	21	✓	✓					1	9	9
	22	✓	✓					3	30	10
	23	✓	✓					1	16	16
	24			✓				3	10	3.
	25	✓	✓					1	17	17
TOTALS		15	15	9	1	0				
CUMULATIVE TOTALS		50	50	21	3	2				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1613
Industrial Category: AMBIENT AIR
Page 5 of 6

GRID NUMBER: I (II) III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT
(4) cont	1			✓				2	14	7
(5)	2	✓	✓					3	34	11
	3			✓				2	12	6
	4	✓	✓					1.5	10	6
(6)	5	✓	✓					1.5	20	13
	6			✓				3	9	3
	7	✓	✓					1	20	20
	8	✓	✓					1.5	9	6
	9	✓	✓					1	21	21
	10	✓	✓					1	12	12
	11	✓	✓					1	17	17
	12	✓	✓					1	16	16
	13			✓				2	22	11
	14	✓	✓					1	14	14
(7)	15	✓	✓					1.5	15	10
	16	✓	✓					1	24	24
	17				✓			1	10	10
	18	✓	✓					4	40	10
	19			✓				3	13	4
	20	✓	✓					1	12	12
	21					✓		1	11	11
	22	✓	✓					1.5	15	10
(8)	23					✓		1	14	14
	24			✓				2	15	7
	25	✓	✓					2	25	12
TOTALS		16	16	6	1	2				
CUMULATIVE TOTALS		66	66	27	4	4				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1613
Industrial Category: AMBIENT AIR

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION				POSSIBLE EXDRA ID	FIBER SIZE		ASPECT
			(✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN		(mm) DIAMETER	(mm) LENGTH	
9	1	✓	✓					1	27	27
	2	✓	✓					1	10	10
	3			✓				1	12	12
	4	✓	✓					1	17	17
10	5	✓	✓					1	15	15
	6	✓	✓					2	10	5
	7	✓	✓					1	24	24
	8			✓				1.5	8	5.3
	9	✓	✓					1	43	43
	10									
	11									
	12									
	13									
	14									
	15									
	16									
	17									
	18									
	19									
	20									
	21									
	22									
	23									
	24									
	25									
TOTALS		7	7	2	0	0				
CUMULATIVE TOTALS		73	73	29	4	4				

COMMENTS:

DATA SUMMARY SHEET

JUN 16 1982

EMS LABORATORIES INC.
Contract Lab

A1619
Sample Number

AMBIENT AIR
Industrial Category

BLANK
Sample Point Description

5-29-82
Date Analyzed

4289
Blank Number

4196
Standard Number

ANALYSIS INFORMATION:

Detection Limit: 15 Fibers per mm^2

Ashed sample X yes ___ no

Amount of Air Filtered: 0 (BLANK) cubic meters

Fields Examined 20

Total Filter Area 960 mm^2

Chrysotile Fibers (all sizes): 1

Chrysotile Concentration:

Calculated Mass NA ng/m^3

Calculated Fibers NA $fibers/cc^3$

SCC USE ONLY

DATA INTERPRETATION

_____ Shows positive indication of chrysotile asbestos in the ambient air.

_____ Shows no indication of chrysotile asbestos in the ambient air.

_____ Cannot be interpreted because of the limited number of chrysotile fibers counted.

JUN 16 1982

Environmental Protection Agency
Effluent Guidelines Division

ASBESTOS DATA REPORT

EPA Sample No: A1619
Industrial Category: BLANK
Page 1 of 2

SAMPLE DATA

Laboratory: EMS LABORATORIES INC
Lab ID Number: 4289
Date analyzed: 5-29-82
Analyst: B TOOPER
Filter Type: 0.1 μnucleopore
Preparation technique: modified Jaffe Wick
Method of counting: grid square
Volume of field sample filtered: NONE

OPERATING CONDITIONS

Mode: TEM
Beam current μA: 36
Sample tilt (°): 0°
Actual screen magnification: x 20,000
Av. grid area (mm²): 0.0075 mm²
No. of grid squares counted: 20
Address for grid storage: 93-1-DEF

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT
1-2	1									
3	2	✓	✓					1	42	42
4-10	3									
	4									
	5									
	6									
	7									
	8									
	9									
	10									
	11									
	12									
	13									
	14									
	15									
	16									
	17									
	18									
	19									
	20									
	21									
	22									
	23									
	24									
	25									
TOTALS		1	1	0	0	0				

USE ADDITIONAL PAGES FOR COMMENTS IF NECESSARY

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1619
Industrial Category: BLANK
Page 2 of 2

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION				POSSIBLE EXDRA ID	FIBER SIZE		ASPECT
			(✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN		(mm) DIAMETER	(mm) LENGTH	
1-6	1									
	2			✓				1.5	10	6.7
3-0	3									
	4									
	5									
	6									
	7									
	8									
	9									
	10									
	11									
	12									
	13									
	14									
	15									
	16									
	17									
	18									
	19									
	20									
	21									
	22									
	23									
	24									
	25									
TOTALS		0	0	1	0	0				
CUMULATIVE TOTALS		1	1	1	0	0				

COMMENTS:

DATA SUMMARY SHEET

EMS LABORATORIES INC
Contract Lab

A1614
Sample Number

AMBIENT AIR
Industrial Category

UPWIND AIR SAMPLE (FINE)
Sample Point Description

5-25-82
Date Analyzed

4289
Blank Number

4196
Standard Number

ANALYSIS INFORMATION:

Detection Limit: 15 Fibers per mm^2

Ashed sample X yes ___ no

Amount of Air Filtered: 6.15 cubic meters

Fields Examined 20

Total Filter Area 960 mm^2

Chrysotile Fibers (all sizes): 17

Chrysotile Concentration:

Calculated Mass 0.9 ng/m^3

Calculated Fibers 2×10^{-2} $fibers/cc^3$

SCC USE ONLY

DATA INTERPRETATION

_____ Shows positive indication of chrysotile asbestos in the ambient air.

_____ Shows no indication of chrysotile asbestos in the ambient air.

_____ Cannot be interpreted because of the limited number of chrysotile fibers counted.

U.S. Environmental Protection Agency
Effluent Guidelines Division

ASBESTOS DATA REPORT

EPA Sample No: A1614
Industrial Category: AMBIENT AIR
Page 1 of 2

SAMPLE DATA

Laboratory: EMS LABORATORIES INC.
Lab ID Number: 4739
Date analyzed: 5-25-82
Analyst: B. TOOPER
Filter Type: 0.1 μnucleopore
Preparation technique: modified Jaffe Wick
Method of counting: grid square
Volume of field sample filtered:

OPERATING CONDITIONS

Mode: TEM
Beam current μA: 35
Sample tilt (°): 0°
Actual screen magnification: 20,000
Av. grid area (mm²): 0.0075
No. of grid squares counted: 20
Address for grid storage: 9.2.2 ABC

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT
1	1			✓				1	20	20
2-4	2									
5	3	✓	✓					1	15	15
6-7	4									
8	5	✓	✓					1	8	8
	6	✓	✓					2.5	12	4.8
	7	✓	✓					2.5	27	10.8
9	8	✓	✓					1.5	20	13.3
	9	✓	✓					1	14	14
	10			✓				1	18	18
10	11	✓	✓					1	45	45
	12			✓				2	85	42.5
	13	✓	✓					1.5	22	14.7
	14	✓	✓					1.5	30	20
	15	✓	✓					1	22	22
	16	✓	✓					.2	45	22.5
	17	✓	✓					1.5	22	14.7
	18	✓	✓					1	27	27
	19	✓	✓					1	40	40
	20	✓	✓					1.5	42	28
	21									
	22									
	23									
	24									
	25									
TOTALS		15	15	3	0	0				

USE ADDITIONAL PAGES FOR COMMENTS, IF NECESSARY

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1614
Industrial Category: AMBIENT AIR
Page 2 of 2

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPEC
1	1			✓				1	12	12
	2	✓	✓					1.5	17	11.3
2	3									
5	4					✓		1	20	20
6	5									
7	6	✓	✓					2	14	7
	7			✓				1	7	7
8	8									
9	9					✓		2	33	16.
10	10									
	11									
	12									
	13									
	14									
	15									
	16									
	17									
	18									
	19									
	20									
	21									
	22									
	23									
	24									
	25									
TOTALS		2	2	2	0	2				
CUMULATIVE TOTALS		17	17	5	0	2				

COMMENTS: BUNDLES OF FIBERS FOUND IN SQUARES 8, 9, AND 10 OF GRID #I.

DATA SUMMARY SHEET

JUN 16 1982

EMS LABORATORIES INC.
Contract Lab

A1615
Sample Number

AMBIENT AIR
Industrial Category

MIDSITE (COARSE)
Sample Point Description

5-26-82
Date Analyzed

4289
Blank Number

4196
Standard Number

ANALYSIS INFORMATION:

Detection Limit: 150 Fibers per mm^2

Ashed sample X yes ___ no

Amount of Air Filtered: 0.752 cubic meters

Fields Examined 2

Total Filter Area 960 mm^2

Chrysotile Fibers (all sizes): 144

Chrysotile Concentration:

Calculated Mass 450 ng/ ^{3}

Calculated Fibers 12 fibers/cc^3

SCC USE ONLY

DATA INTERPRETATION

_____ Shows positive indication of chrysotile asbestos in the ambient air.

_____ Shows no indication of chrysotile asbestos in the ambient air.

_____ Cannot be interpreted because of the limited number of chrysotile fibers counted.

JUN 16 1982

Effluent Guidelines Division

ASBESTOS DATA REPORT

EPA Sample No: A1615
Industrial Category: AMBIENT AIR
Page 1 of 7

SAMPLE DATA

Laboratory: EMS LABORATORIES INC
Lab ID Number: 4289
Date analyzed: 5-26-82
Analyst: B. TOOPER
Filter Type: 0.1 μnucleopore
Preparation technique: modified Jaffe Wick
Method of counting: grid square
Volume of field sample filtered: 0.752

OPERATING CONDITIONS

Mode: TEM
Beam current μA: 35
Sample tilt (°): 0°
Actual screen magnification: x 20,000
Av. grid area (mm²): 0.00775 mm²
No. of grid squares counted: 2
Address for grid storage: 92-2-DEF

GRID NUMBER: (I) II, III, IV (circle one)

QUARE UMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE (mm) DIAMETER	(mm) LENGTH	ASPECT RATIO
	1	✓	✓					1	10	10
	2			✓				1.5	8	5.3
	3	✓	✓					1	22	22
	4	✓	✓					1	30	30
	5	✓	✓					1.5	15	10
	6	✓	✓					1.5	25	16.7
	7	✓	✓					1	10	10
	8	✓	✓					1	14	14
	9	✓	✓					1	10	10
	10	✓	✓					2	90	45
	11	✓	✓					1.5	65	43.3
	12	✓	✓					1	45	45
	13	✓	✓					1	20	20
	14	✓	✓					1.5	7	4.7
	15	✓	✓					2	10	5
	16	✓	✓					4	12	3
	17	✓	✓					1.5	20	13.3
	18	✓	✓					1	85	85
	19	✓	✓					1	14	14
	20	✓	✓					1.5	100	66.7
	21	✓	✓					4	12	3
	22	✓	✓					1.5	14	9.3
	23	✓	✓					1	20	20
	24	✓	✓					1.5	15	10
	25	✓	✓					4	14	3.5
TOTALS		24	24	1	0	0				

USE ADDITIONAL PAGES FOR COMMENTS, IF NECESSARY

(cont'd)

EPA Sample No: H1015
Industrial Category: AMBIENT AIR
Page 2 of 7

GRID NUMBER: I, II, III, IV (circle one)

JARE MBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT RA
ONT	1	✓	✓					2	45	22.5
	2	✓	✓					1.5	10	6.7
	3	✓	✓					1	20	20
	4	✓	✓					1.5	20	13.3
	5	✓	✓					1	20	20
	6	✓	✓					1	10	10
	7	✓	✓					1	14	14
	8	✓	✓					2	42	21
	9	✓	✓					1	8	8
	10	✓	✓					1.5	35	23.3
	11	✓	✓					1	12	12
	12	✓	✓					1	20	20
	13	✓	✓					1	14	14
	14	✓	✓					1	13	13
	15	✓	✓					1	40	40
	16	✓	✓					1	19	19
	17	✓	✓					1	25	25
	18	✓	✓					1	25	25
	19	✓	✓					1	30	30
	20	✓	✓					1	16	16
	21	✓	✓					2	225	112.5
	22			✓				3	60	20
	23	✓	✓					1	10	10
	24	✓	✓					2	30	15
	25	✓	✓					1	40	40
TOTALS		24	24	1	0	0				
UMULATIVE TOTALS		48	48	2	0	0				

OMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1615
Industrial Category: AMBIENT AIR
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GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPEC
I cont.	1	✓	✓					1	28	28
	2	✓	✓					1	60	60
	3	✓	✓					1	12	12
	4	✓	✓					1.5	27	18
	5	✓	✓					1	35	35
	6	✓	✓					1	14	14
	7	✓	✓					2	20	10
	8	✓	✓					2	30	15
	9	✓	✓					1	22	22
	10	✓	✓					1	20	20
	11	✓	✓					1	10	10
	12	✓	✓					1	14	14
	13	✓	✓					1.5	16	10
	14	✓	✓					1	45	45
	15	✓	✓					1	22	22
	16	✓	✓					1	17	17
	17	✓	✓					1	28	28
	18	✓	✓					1.5	30	20
	19	✓	✓					1	14	14
	20	✓	✓					1.5	12	8
	21	✓	✓					1	16	16
	22	✓	✓					1	10	10
	23	✓	✓					1	14	14
	24	✓	✓					1	55	55
	25	✓	✓					1	20	20
TOTALS		~~25~~	~~25~~	~~0~~	~~0~~	~~0~~				
CUMULATIVE TOTALS		~~73~~	~~73~~	~~2~~	~~0~~	~~0~~				

COMMENTS:

(cont'd)

EPA Sample No: A1613
Industrial Category: AMBIENT AIR
Page 4 of 7

GRID NUMBER: I, II, III, IV (circle one)

QUARE UMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT R/
I cont.	1	✓	✓					1	20	20
	2	✓	✓					2	72	36
	3	✓	✓					1	20	20
	4	✓	✓					1	14	14
	5	✓	✓					1.5	68	45.3
	6	✓	✓					1	48	48
	7	✓	✓					1	60	60
	8	✓	✓					1	45	45
	9	✓	✓					1	20	20
	10	✓	✓					2.5	26	10.4
	11	✓	✓					2	22	11
	12	✓	✓					1.5	14	9.3
	13	✓	✓					1.5	25	16.7
	14	✓	✓					1	20	20
	15	✓	✓					1	8	8
	16									
	17									
	18									
	19									
	20									
	21									
	22									
	23									
	24									
	25									
TOTALS		15	15	0	0	0				
CUMULATIVE TOTALS		88	88	2	0	0				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1615
Industrial Category: AMBIENT AIR
Page 5 of 7

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION				POSSIBLE EXDRA ID	FIBER SIZE		ASPECT
			(✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN		(mm) DIAMETER	(mm) LENGTH	
1	1	✓	✓					1	16	16
	2	✓	✓					1.5	24	24
	3	✓	✓					1.5	16	10.[illegible]
	4					✓		1	14	14
	5	✓	✓					1.5	21	14
	6	✓	✓					1	13	1[illegible]
	7	✓	✓					1	8	8
	8	✓	✓					4	34	8.[illegible]
	9	✓	✓					1.5	40	26.[illegible]
	10	✓	✓					2	33	16.[illegible]
	11	✓	✓					1.5	28	18.7
	12	✓	✓					2	65	32.[illegible]
	13	✓	✓					2	36	18
	14	✓	✓					2	17	8.5
	15	✓	✓					1.5	22	14.[illegible]
	16					✓		1	14	14
	17	✓	✓					1.5	14	9.[illegible]
	18	✓	✓					1.5	15	10
	19	✓	✓					2	20	10
	20	✓	✓					1	37	37
	21	✓	✓					1	27	27
	22	✓	✓					1	12	12
	23	✓	✓					2	44	2[illegible]
	24	✓	✓					1.5	10	6.[illegible]
	25	✓	✓					2.5	20	8
TOTALS		23	23	0	0	2				
CUMULATIVE TOTALS		111	111	2	0	2				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A16 15
Industrial Category: AMBIENT AIR
Page 6 of 7

GRID NUMBER: I, (II), III, IV (circle one)

QUARE UMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT RA
CONT	1	✓	✓					1.5	38	25.3
	2	✓	✓					2	27	13.5
	3	✓	✓					2	22	11
	4					✓		2	23	11.5
	5			✓				2	18	9
	6	✓	✓					3	24	8
	7	✓	✓					2	22	11
	8	✓	✓					1.5	13	8.7
	9	✓	✓					2	11	5.5
	10			✓				3	16	5.3
	11			✓				3	12	4
	12					✓		1	7	7
	13	✓	✓					1	8	8
	14	✓	✓					1.5	22	14.7
	15	✓	✓					1.5	10	6.7
	16	✓	✓					2	30	15
	17	✓	✓					1	17	17
	18	✓	✓					1	10	10
	19	✓	✓					1	9	9
	20	✓	✓					1	17	17
	21	✓	✓					2	45	22.5
	22	✓	✓					1	8	8
	23	✓	✓					1	12	12
	24	✓	✓					2	7	3.5
	25	✓	✓					2	22	11
TOTALS		29	29	3	0	2				
CUMULATIVE TOTALS		131	131	3	0	4				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1615
Industrial Category: AMBIENT AIR
Page 7 of 7

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPEC
II CONT	1	✓	✓					1	11	11
	2	✓	✓					1	20	20
	3	✓	✓					1	30	3[illegible]
	4					✓		1	15	15
	5	✓	✓					2	100	5[illegible]
	6	✓	✓					1	9	9
	7					✓		2	9	4[illegible]
	8	✓	✓					1	19	1[illegible]
	9	✓	✓					1	28	2[illegible]
	10	✓	✓					2	18	9
	11	✓	✓					1	15	1[illegible]
	12	✓	✓					1	9	9
	13	✓	✓					1	13	1[illegible]
	14	✓	✓					2	14	7
	15	✓	✓					1	29	2[illegible]
	16			✓				2	15	7
	17									
	18									
	19									
	20									
	21									
	22									
	23									
	24									
	25									
TOTALS		13	13	1	0	2				
CUMULATIVE TOTALS		144	144	6	0	6				

COMMENTS:

DATA SUMMARY SHEET

JUN 16 1992

EMS LABORATORIES INC.
Contract Lab

A1616
Sample Number

AMBIENT AIR
Industrial Category

MIDSITE (FINE)
Sample Point Description

5-27-82
Date Analyzed

4289
Blank Number

4196
Standard Number

ANALYSIS INFORMATION:

Detection Limit: 21 Fibers per mm^2

Ashed sample X yes ___ no

Amount of Air Filtered: 6.75 cubic meters

Fields Examined 14

Total Filter Area 960 mm^2

Chrysotile Fibers (all sizes): 119

Chrysotile Concentration:

Calculated Mass 270 ng/m^3

Calculated Fibers 0.2 $fibers/cc^3$

SCC USE ONLY

DATA INTERPRETATION

_____ Shows positive indication of chrysotile asbestos in the ambient air.

_____ Shows no indication of chrysotile asbestos in the ambient air.

_____ Cannot be interpreted because of the limited number of chrysotile fibers counted.

JUN 16 1982

U.S. Environmental Protection Agency
Effluent Guidelines Division

ASBESTOS DATA REPORT

EPA Sample No: A1616
Industrial Category: AMBIENT AIR
Page 1 of 6

SAMPLE DATA

Laboratory: EMS LABORATORIES INC.
Lab ID Number: 4284
Date analyzed: 5-27-82
Analyst: B. TOOPER
Filter Type: 0.1 μnucleopore
Preparation technique: modified Jaffe Wick
Method of counting: grid square
Volume of field sample filtered: 6.75 m³

OPERATING CONDITIONS

Mode: TEM
Beam current μA: 35
Sample tilt (°): 0°
Actual screen magnification: x20,000
Av. grid area (mm²): 0.0075
No. of grid squares counted: 14
Address for grid storage: 92-2-GHI

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT
1	1	✓	✓					1	10	10
	2	✓	✓					1	12	12
	3	✓	✓					3	40	13.3
	4	✓	✓					2	12	6
	5	✓	✓					1.5	11	7.3
	6	✓	✓					1.5	20	13.3
	7	✓	✓					40	225	5.6
	8	✓	✓					1.5	15	10
	9					✓		1.5	18	12
	10	✓	✓					2.5	12	4.8
	11	✓	✓					1.5	150	100
	12	✓	✓					1	22	22
	13	✓	✓					1.5	45	30
2	14	✓	✓					1.5	25	16.7
	15	✓	✓					1	37	37
	16	✓	✓					1.5	10	6.7
	17	✓	✓					2	8	4
	18	✓	✓					2	9	4.5
	19	✓	✓					2	18	9
	20	✓	✓					1	20	20
	21	✓	✓					1	14	14
	22	✓	✓					2	48	24
	23			✓				2	42	21
3	24	✓	✓					2	8	4
	25				✓			2	12	6
TOTALS		22	22	1	1	1				

USE ADDITIONAL PAGES FOR COMMENTS IF NECESSARY

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1616
Industrial Category: AMBIENT AIR
Page 2 of 6

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT
3 cont.	1	✓	✓					3	13	4.3
	2					✓		1.5	8	5.3
	3	✓	✓					1	14	14
	4	✓	✓					1	27	27
	5	✓	✓					1	8	8
	6	✓	✓					1.5	30	20
	7	✓	✓					1	17	17
	8	✓	✓					1	22	22
	9			✓				2.5	40	16
	10	✓	✓					1	15	15
	11			✓				2	10	5
	12	✓	✓					1	20	20
	13	✓	✓					1	17	17
4	14	✓	✓					1.5	23	15
	15	✓	✓					1	26	26
	16	✓	✓					1	14	14
	17					✓		1	16	16
	18	✓	✓					1.5	14	9
	19	✓	✓					1	22	22
	20					✓		1	26	26
	21	✓	✓					1.5	22	14
	22	✓	✓					1.5	8	5.3
	23	✓	✓					1.5	12	8
	24			✓				4	160	40
5	25	✓	✓					2	20	10
TOTALS		19	19	3	~~0~~	3				
CUMULATIVE TOTALS		41	41	4	1	4				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1616
Industrial Category: AMBIENT AIR
Page 3 of 6

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT
5 CONT	1			✓				2	80	40
	2			✓				1	18	18
	3			✓				1	20	20
	4	✓	✓					.5	65	13
	5	✓	✓					1.5	35	
	6	✓	✓					2	44	22
	7	✓	✓					1	16	16
	8				✓			2	22	11
	9				✓			1	14	14
	10	✓	✓					1	27	27
	11	✓	✓					2.5	54	16
	12	✓	✓					1	10	10
	13	✓	✓					1	14	14
	14	✓	✓					1.5	38	25
	15	✓	✓					1.5	170	113
	16	✓	✓					1	32	32
	17	✓	✓					1	95	95
	18	✓	✓					1	10	10
	19	✓	✓					1	45	45
	20	✓	✓					2	18	9
	21	✓	✓					2	25	12
	22	✓	✓					2	45	22
	23	✓	✓					1.5	30	20
	24									
	25									
TOTALS		18	18	3	2	0				
CUMULATIVE TOTALS		59	59	7	3	4				

COMMENTS:

HUGE BUNDLE FOUND IN GRID SQUARE #5 OF GRID #1.

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1616
Industrial Category: AMBIENT AIR
Page 4 of 6

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT
1	1			✓				3	24	8
	2			✓				2	14	7
	3			✓				3	16	5.3
	4				✓			1	19	19
	5	✓	✓					1.5	33	22
	6	✓	✓					1.5	24	16
	7	✓	✓					2	15	7.5
	8	✓	✓					2.5	22	8.8
	9	✓	✓					2	34	17
	10	✓	✓					1.5	23	15.3
	11	✓	✓					1	142	142
	12	✓	✓					1	12	12
	13	✓	✓					1	17	17
2	14				✓			1.5	18	12
	15	✓	✓					1.5	12	8
	16	✓	✓					1	10	10
	17	✓	✓					2	18	9
	18	✓	✓					1	8	8
3	19	✓	✓					1	35	35
	20	✓	✓					2	102	51
	21	✓	✓					1.5	386	257
	22	✓	✓					1.5	26	17
	23	✓	✓					1	56	56
	24	✓	✓					2	40	20
	25	✓	✓					1.5	42	28
TOTALS		20	20	3	2	0				
CUMULATIVE TOTALS		79	79	10	5	4				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1616
Industrial Category: AMBIENT AIR
Page 5 of 6

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT
(3) CONT	1	✓	✓					1	17	17
	2					✓		1.5	7	4.[illegible]
	3	✓	✓					1.5	10	6.[illegible]
	4	✓	✓					1	11	11
	5	✓	✓					2	19	9.[illegible]
	6	✓	✓					1.5	90	60
(5)	7	✓	✓					2	24	12
	8					✓		1	9	9
	9	✓	✓					1.5	56	37
	10	✓	✓					3	30	10
	11	✓	✓					1	58	58
(6)	12	✓	✓					1	23	23
	13	✓	✓					2	20	10
	14	✓	✓					1.5	11	7.[illegible]
	15	✓	✓					1	28	28
	16	✓	✓					.5	23	4.[illegible]
(7)	17	✓	✓					2	36	18
	18	✓	✓					3	32	10
	19	✓	✓					1.5	40	26
	20	✓	✓					2	32	16
	21			✓				1.5	19	12.[illegible]
	22					✓		1	10	10
	23	✓	✓					1.5	55	37
	24	✓	✓					1	22	22
	25	✓	✓					.2	21	105
TOTALS		21	21	1	0	3				
CUMULATIVE TOTALS		100	100	11	5	7				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1616
Industrial Category: AMBIENT AIR
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GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT
(7) CONT	1	✓	✓					1	26	2
(8)	2	✓	✓					3	54	18
	3	✓	✓					1.5	55	36
	4	✓	✓					2	40	2
	5	✓	✓					2	24	1
	6	✓	✓					2	15	7
	7	✓	✓					1.5	24	16
	8			✓				2	10	5
	9	✓	✓					2.5	12	4
	10	✓	✓					2	32	1
	11	✓	✓					1.5	50	33
(9)	12			✓				1.5	9	6
	13	✓	✓					2.5	30	12
	14	✓	✓					2	46	2
	15	✓	✓					1	15	15
	16	✓	✓					2	30	15
	17	✓	✓					1.5	82	54
	18	✓	✓					1	15	1
	19	✓	✓					1	13	1
	20			✓				3	24	8
	21	✓	✓					1.5	24	16
	22	✓	✓					1	20	2
	23					✓		1	18	18
	24			✓				2	94	47
	25									
TOTALS		19	19	4	0	1				
CUMULATIVE TOTALS		119	119	15	5	8				

COMMENTS:

DATA SUMMARY SHEET

JUN 16 1982

EMS LABORATORIES INC
Contract Lab

A1618
Sample Number

AMBIENT AIR
Industrial Category

DOWNWIND FINE
Sample Point Description

5-28-82
Date Analyzed

4289
Blank Number

4196
Standard Number

ANALYSIS INFORMATION:

Detection Limit: 6.8 Fibers per mm^2

Ashed sample X yes ___ no

Amount of Air Filtered: 6.8 cubic meters

Fields Examined 20

Total Filter Area 960 mm^2

Chrysotile Fibers (all sizes): 0 OBSERVED

Chrysotile Concentration:

Calculated Mass BELOW DETN LIMIT ng/m^3

Calculated Fibers BELOW DETN LIMIT $fibers/cc^3$

SCC USE ONLY

DATA INTERPRETATION

_____ Shows positive indication of chrysotile asbestos in the ambient air.

_____ Shows no indication of chrysotile asbestos in the ambient air.

_____ Cannot be interpreted because of the limited number of chrysotile fibers counted.

JUN 16 1982

Effluent Guidelines Division

ASBESTOS DATA REPORT

EPA Sample No: A1618
Industrial Category: AMBIENT AIR
Page 1 of 2

SAMPLE DATA

Laboratory: EMS LABORATORIES INC
Lab ID Number: 4289
Date analyzed: 5-28-82
Analyst: B. TOOPER
Filter Type: 0.1 μnucleopore
Preparation technique: modified Jaffe Wick
Method of counting: grid square
Volume of field sample filtered:

OPERATING CONDITIONS

Mode: TEM
Beam current μA: 35
Sample tilt (°): 0°
Actual screen magnification: x 20,000
Av. grid area (mm²): 0.0075 mm²
No. of grid squares counted: 20
Address for grid storage: 43-1-ABC

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT
1	1			✓				1	8	8
2 - 7	2									
8	3			✓				2	48	24
9	4			✓				3	50	16.
10	5									
	6									
	7									
	8									
	9									
	10									
	11									
	12									
	13									
	14									
	15									
	16									
	17									
	18									
	19									
	20									
	21									
	22									
	23									
	24									
	25									
TOTALS		0	0	3	0	0				

USE ADDITIONAL PAGES FOR COMMENTS IF NECESSARY

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1618
Industrial Category: AMBIENT AIR
Page 2 of 2

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION				POSSIBLE EXDRA ID	FIBER SIZE		ASPE
			(✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN		(mm) DIAMETER	(mm) LENGTH	
1 - 6	1									
7	2			✓				25	140	56
8	3			✓				1	8	8
9 - 10	4									
	5									
	6									
	7									
	8									
	9									
	10									
	11									
	12									
	13									
	14									
	15									
	16									
	17									
	18									
	19									
	20									
	21									
	22									
	23									
	24									
	25									
TOTALS		0	0	2	0	0				
CUMULATIVE TOTALS		0	0	5	0	0				

COMMENTS:

DATA SUMMARY SHEET

JUN 16 1982

EMS LABORATORIES INC.
Contract Lab

A167
Sample Number

AMBIENT AIR
Industrial Category

DOWNWIND (COARSE)
Sample Point Description

5-27-82
Date Analyzed

4289
Blank Number

4196
Standard Number

ANALYSIS INFORMATION:

Detection Limit: 150 Fibers per mm^2

Ashed sample X yes ___ no

Amount of Air Filtered: .752 cubic meters

Fields Examined 2

Total Filter Area 960 mm^2

Chrysotile Fibers (all sizes): 250

Chrysotile Concentration:

Calculated Mass 1.9×10^3 ng/m^3

Calculated Fibers 21 $fibers/cc^3$

SCC USE ONLY

DATA INTERPRETATION

_____ Shows positive indication of chrysotile asbestos in the ambient air.

_____ Shows no indication of chrysotile asbestos in the ambient air.

_____ Cannot be interpreted because of the limited number of chrysotile fibers counted.

JUN 16 1982

U.S. Environmental Protection Agency
Effluent Guidelines Division

ASBESTOS DATA REPORT

EPA Sample No: A1617
Industrial Category: AMBIENT AIR
Page 1 of 12

SAMPLE DATA

Laboratory: EMS LABORATORIES INC
Lab ID Number: 4289
Date analyzed: 5-27-82
Analyst: B TOOPER
Filter Type: 0.1 μnucleopore
Preparation technique: modified Jaffe Wick
Method of counting: grid square
Volume of field sample filtered: 0.752

OPERATING CONDITIONS

Mode: TEM
Beam current μA: 35
Sample tilt (°): 0°
Actual screen magnification: x20,000
Av. grid area (mm²): 0.0075
No. of grid squares counted: 2
Address for grid storage: 92-2-JKL

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT
I	1	✓	✓				12.6	1	16	16
	2	✓	✓				30.0	1.5	17	11.
	3	✓	✓				10.2	1	13	13
	4	✓	✓				13.7	1	20	20
	5	✓	✓				1193.8	4	95	23.
	6			✓			154	5	45	9
	7	✓	✓				17	1	22	22
	8	✓	✓				177	3	25	8.
	9	✓	✓				191	3	27	9
	10	✓	✓				314	4	25	6.
	11	✓	✓				36	1	46	46
	12	✓	✓				20	1	25	25
	13	✓	✓				530	3	75	25
	14	✓	✓				126	2	40	20
	15			✓			28	2	12	6
	16	✓	✓					3	580	193.
	17			✓				2	25	12.
	18	✓	✓					2	20	10
	19	✓	✓					1.5	10	6.
	20	✓	✓					1	25	25
	21			✓				2	18	9
	22	✓	✓					1	20	20
	23	✓	✓					1	14	14
	24	✓	✓					2.5	180	72
	25	✓	✓					1	25	25
TOTALS		21	21	4	0	0				

USE ADDITIONAL PAGES FOR COMMENTS IF NECESSARY

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: 01617
Industrial Category: AMBIENT AIR
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GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE (mm) DIAMETER	(mm) LENGTH	ASPEC
D CONT	1	✓	✓					2	14	7
	2	✓	✓					1	12	12
	3	✓	✓					1	48	48
	4	✓	✓					3	25	8
	5	✓	✓					1.5	18	1[illegible]
	6	✓	✓					1	40	40
	7	✓	✓					1	18	1[illegible]
	8	✓	✓					1	17	1[illegible]
	9	✓	✓					1	23	2[illegible]
	10	✓	✓					1	14	1[illegible]
	11	✓	✓					1	22	2[illegible]
	12	✓	✓					1	12	1[illegible]
	13	✓	✓					1	14	1[illegible]
	14	✓	✓					1	8	8
	15	✓	✓					1	10	10
	16	✓	✓					1	14	14
	17	✓	✓					1	17	1[illegible]
	18	✓	✓					1	23	2[illegible]
	19	✓	✓					2.5	15	6
	20			✓				2	16	8
	21	✓	✓					1	18	18
	22	✓	✓					1.5	20	13
	23	✓	✓					1	15	15
	24	✓	✓					4	60	1[illegible]
	25	✓	✓					1	8	8
TOTALS		24	24	1	0	0				
CUMULATIVE TOTALS		45	45	5	0	0				

COMMENTS: TWO ENORMOUS BUNDLES WERE FOUND IN GRID #I

A FEW LARGE BUNDLES WERE FOUND IN GRID #II

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: AV617
Industrial Category: AMBIENT AIR

GRID NUMBER: 1, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION				POSSIBLE EXDRA ID	FIBER SIZE		ASPEC
			(✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN		(mm) DIAMETER	(mm) LENGTH	
1	1	✓	✓					1	10	10
	2	✓	✓					1	16	16
	3	✓	✓					1	13	13
	4	✓	✓					1	45	45
	5	✓	✓					2.5	110	44
	6	✓	✓					1	45	45
	7	✓	✓					1	48	48
	8	✓	✓					2	28	14
	9	✓	✓					2	18	9
	10	✓	✓					1	15	15
	11	✓	✓					1	12	12
	12	✓	✓					1	14	14
	13	✓	✓					1	16	16
	14	✓	✓					1	45	45
	15	✓	✓					1.5	30	20
	16	✓	✓					2.5	28	11.
	17	✓	✓					1	10	10
	18	✓	✓					1.5	16	10.
	19	✓	✓					1	8	8
	20	✓	✓					2	12	6
	21	✓	✓					1	8	8
	22	✓	✓					1	35	35
	23	✓	✓					1.5	8	5.
	24	✓	✓					1	16	16
	25	✓	✓					2	12	6
TOTALS		25	25	0	0	0				
CUMULATIVE TOTALS		70	70	5	0	0				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1617
Industrial Category: AMBIENT AIR
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GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE (mm) DIAMETER	(mm) LENGTH	ASPECT
Dc o.n.	1	✓	✓					1	18	18
	2	✓	✓					2	22	11
	3	✓	✓					1	18	18
	4	✓	✓					1	20	20
	5	✓	✓					1	12	12
	6	✓	✓					1	16	16
	7	✓	✓					1	18	18
	8	✓	✓					1	18	18
	9	✓	✓					1.5	8	5.3
	10	✓	✓					2	42	21
	11	✓	✓					2.5	27	10.8
	12	✓	✓					1	25	25
	13	✓	✓					1	28	28
	14	✓	✓					1	48	48
	15	✓	✓					1	18	18
	16	✓	✓					1	40	40
	17	✓	✓					1	15	15
	18	✓	✓					2.5	22	8.8
	19	✓	✓					1	55	55
	20	✓	✓					1.5	10	6.7
	21	✓	✓					1	42	42
	22	✓	✓					1	16	16
	23	✓	✓					1.5	180	120
	24	✓	✓					1.5	14	9.3
	25	✓	✓					1	53	53
TOTALS		25	25	0	0	0				
CUMULATIVE TOTALS		95	95	5	0	0				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1617
Industrial Category: AMBIENT AIR
Page 5 of 12

GRID NUMBER: 1, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT
DCONT	1	✓	✓					1.5	10	6.[illegible]
	2	✓	✓					1	12	12
	3	✓	✓					1	22	22
	4	✓	✓					1	20	20
	5	✓	✓					1	45	45
	6	✓	✓					1	14	14
	7	✓	✓					1	25	25
	8	✓	✓					2	25	12.[illegible]
	9	✓	✓					2	250	125
	10	✓	✓					2	26	13
	11	✓	✓					1.5	20	13.[illegible]
	12	✓	✓					2	8	4
	13	✓	✓					1	10	10
	14	✓	✓					1.5	12	8
	15	✓	✓					2	18	9
	16	✓	✓					1	16	16
	17	✓	✓					2	15	7.[illegible]
	18	✓	✓					1	8	8
	19	✓	✓					1	10	10
	20	✓	✓					1.5	10	6.[illegible]
	21	✓	✓					2	10	5
	22	✓	✓					1	22	22
	23	✓	✓					1	16	16
	24	✓	✓					2	9	4.[illegible]
	25	✓	✓					1.5	14	9.[illegible]
TOTALS		25	25	0	0	0				
CUMULATIVE TOTALS		120	120	5	0	0				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1617
Industrial Category: AMBIENT AIR

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT
	1	✓	✓					2	12	6
	2	✓	✓					1	18	18
	3	✓	✓					1	18	18
	4	✓	✓					1	50	50
	5	✓	✓					1	25	25
	6	✓	✓					1	65	65
	7	✓	✓					1	18	18
	8	✓	✓					1	14	14
	9	✓	✓					1	16	16
	10	✓	✓					1.5	65	43.3
	11									
	12									
	13									
	14									
	15									
	16									
	17									
	18									
	19									
	20									
	21									
	22									
	23									
	24									
	25									
TOTALS		10	10	0	0	0				
CUMULATIVE TOTALS		130	130	5	0	0				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1617
Industrial Category: AMBIENT AIR

GRID NUMBER: I, (II), III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION				POSSIBLE EXDRA ID	FIBER SIZE		ASPECT
			(✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN		(mm) DIAMETER	(mm) LENGTH	
1	1	✓	✓					1	22	22
	2	✓	✓					3	12	4
	3	✓	✓					1	5	5
	4	✓	✓					2	8	4
	5	✓	✓					1	8	8
	6	✓	✓					1.5	42	28
	7			✓			—	1	16	16
	8	✓	✓					2	28	14
	9	✓	✓					1.5	30	20
	10	✓	✓					2	8	4
	11	✓	✓					1.5	10	6.
	12	✓	✓					1	14	14
	13	✓	✓					1	16	16
	14	✓	✓					2	65	32.
	15	✓	✓					2	15	7.
	16	✓	✓					1.5	12	8
	17			✓			—	10	45	4.
	18	✓	✓					1.5	8	5.
	19	✓	✓					1	14	14
	20	✓	✓					1	10	10
	21	✓	✓					1	25	25
	22	✓	✓					1	20	20
	23	✓	✓					1.5	18	12
	24	✓	✓					1	16	16
	25	✓	✓					1	38	38
TOTALS		23	23	2	0	0				
CUMULATIVE TOTALS		153	153	7	0	0				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A 1617
Industrial Category: AMBIENT AIR

GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION				POSSIBLE EXDRA ID	FIBER SIZE		ASPECT
			(✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN		(mm) DIAMETER	(mm) LENGTH	
/ cont.	1	✓	✓					1	8	8
	2	✓	✓					1	22	22
	3	✓	✓					1.5	14	9.3
	4	✓	✓					1.5	18	12
	5	✓	✓					1	10	10
	6			✓			—	1	8	8
	7	✓	✓					1	8	8
	8			✓			—	1	10	10
	9	✓	✓					1	14	14
	10	✓	✓					1	45	45
	11	✓	✓					6	38	6.3
	12	✓	✓					1.5	50	33.3
	13	✓	✓					1	20	20
	14			✓			—	2	45	22.
	15	✓	✓					1.5	14	9.3
	16	✓	✓					3	60	20
	17	✓	✓					1	22	22
	18	✓	✓					2	18	9
	19	✓	✓					1	30	30
	20	✓	✓					1	12	12
	21	✓	✓					2	14	7
	22	✓	✓					2	20	10
	23	✓	✓					1	18	18
	24	✓	✓					1	25	25
	25	✓	✓					1	14	14
TOTALS		22	22	3	0	0				
CUMULATIVE TOTALS		175	175	10	0	0				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1617
Industrial Category: AMBIENT AIR

GRID NUMBER: I (II) III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION				POSSIBLE EXDRA ID	FIBER SIZE		ASPECT
			(✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN		(mm) DIAMETER	(mm) LENGTH	
1 CONT.	1	✓	✓					1	25	25
	2	✓	✓					1	22	22
	3	✓	✓					1.5	18	12
	4	✓	✓					1	22	22
	5	✓	✓					1	10	10
	6	✓	✓					2.5	52	20.
	7	✓	✓					1	18	18
	8	✓	✓					1	14	14
	9	✓	✓					1.5	16	10.
	10	✓	✓					2	18	9
	11	✓	✓					1.5	12	8
	12	✓	✓					1	25	25
	13	✓	✓					1	20	20
	14	✓	✓					1.5	22	14.
	15	✓	✓					1.5	22	14.
	16	✓	✓					1	30	30
	17	✓	✓					1	8	8
	18	✓	✓					1	20	20
	19	✓	✓					1	22	22
	20	✓	✓					1	20	20
	21	✓	✓					1	8	8
	22	✓	✓					1	25	25
	23	✓	✓					1	10	10
	24	✓	✓					1	14	14
	25	✓	✓					1	16	16
TOTALS		25	25	0	0	0				
CUMULATIVE TOTALS		200	200	10	0	0				

COMMENTS:

(cont'd)

EPA Sample No: A 1617
Industrial Category: AMBIENT AIR
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GRID NUMBER: I, II, III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION: (✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN	POSSIBLE EXDRA ID	FIBER SIZE: (mm) DIAMETER	(mm) LENGTH	ASPECT
1 cont.	1	✓	✓					1.5	200	133.
	2	✓	✓					1	8	8
	3	✓	✓					2	55	27.
	4	✓	✓					1	10	10
	5			✓			—	1	16	16
	6	✓	✓					1	6	6
	7			✓			—	1	18	18
	8	✓	✓					1	17	17
	9	✓	✓					1.5	22	14.7
	10	✓	✓					1.5	52	34.7
	11	✓	✓					1.5	50	33.3
	12	✓	✓					2	60	30
	13	✓	✓					1	14	14
	14	✓	✓					1	22	22
	15					✓	—	1	15	15
	16	✓	✓					1	20	20
	17	✓	✓					1	12	12
	18	✓	✓					1	12	12
	19	✓	✓					1.5	8	5.3
	20	✓	✓					1.5	14	9.3
	21	✓	✓					2	20	10
	22	✓	✓					1	18	18
	23	✓	✓					1	14	14
	24	✓	✓					1	16	16
	25	✓	✓					1	12	12
TOTALS		22	22	2	0	1				
CUMULATIVE TOTALS		222	222	12	0	1				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A1617
Industrial Category: AMBIENT AIR

GRID NUMBER: I (II) III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION				POSSIBLE EXDRA ID	FIBER SIZE		ASPECT
			(✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN		(mm) DIAMETER	(mm) LENGTH	
I cont.	1	✓	✓					1	12	12
	2	✓	✓					1	8	8
	3	✓	✓					1	6	6
	4	✓	✓					1.5	18	12
	5	✓	✓					1	25	25
	6	✓	✓					1.5	14	9.
	7	✓	✓					1.5	25	16.
	8	✓	✓					1.5	28	18.
	9	✓	✓					1	35	35
	10	✓	✓					1.5	18	12
	11	✓	✓					1	20	20
	12	✓	✓					2	18	9
	13	✓	✓					2	20	10
	14	✓	✓					1	18	18
	15	✓	✓					1	22	22
	16	✓	✓					1	18	18
	17	✓	✓					1.5	38	25
	18	✓	✓					2	18	9
	19	✓	✓					14	85	6.
	20	✓	✓					1.5	28	18.
	21	✓	✓					1	22	22
	22	✓	✓					1	18	18
	23	✓	✓					2	18	9
	24	✓	✓					1.5	15	10
	25	✓	✓					1	20	20
TOTALS		25	25	0	0	0				
CUMULATIVE TOTALS		247	247	12	0	1				

COMMENTS:

ASBESTOS DATA REPORT
(cont'd)

EPA Sample No: A 1617
Industrial Category: AMBIENT AIR

GRID NUMBER: I, (II) III, IV (circle one)

SQUARE NUMBER	(✓) FIBER NUMBER	(✓) CHRYSOTILE MORPHOLOGY?	POSITIVE DIFFRACTION PATTERN IDENTIFICATION				POSSIBLE EXDRA ID	FIBER SIZE		ASPEC
			(✓) CHRYSOTILE	(✓) OTHER FIBERS (NON-CHRYSOTILE)	(✓) AMBIGUOUS PATTERN	(✓) NO SAED PATTERN		(mm) DIAMETER	(mm) LENGTH	
1 CONT.	1	✓	✓					1	14	14
	2	✓	✓					1	16	16
	3	✓	✓					1	30	30
	4									
	5									
	6									
	7									
	8									
	9									
	10									
	11									
	12									
	13									
	14									
	15									
	16									
	17									
	18									
	19									
	20									
	21									
	22									
	23									
	24									
	25									
TOTALS		3	3	0	0	0				
CUMULATIVE TOTALS		250	250	12	0	1				

COMMENTS: