11024

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PLAINTIFF'S EXHIBIT

UC-4846

AIRBORNE DUST COUNTS

for

Conwed Corporation
Cloquet, Minnesota

August 28, 1972

Personnel Present: E. J. Kleber
Customer Service Representative
Union Carbide Corporation

T. P. Norris
Midwest Region Sales Manager
Union Carbide Corporation

E. McGuillvary
Environmental Control
Conwed Corporation

UNION CARBIDE CORPORATION
Mining and Metals Division
Niagara Falls, New York

EXHIBIT "A"

Daniels DEPO. EXH. 41
3/10/89
KIRBY A. KENNEDY
COURT REPORTER

The results of microscope counts for air samples collected at Conwed Corporation, Cloquet, Minnesota, August 9th and 10th, 1972 are attached.

Apparatus & Procedure

Sampling and dust counting were carried out in accordance with OSHA Regulation 1910.93a.

Unico Personal Air Samplers, calibrated to 2 liters per minute, were used to collect personal breathing zone and environmental samples on Millipore membrane filters of 0.8 micron porosity.

Fiber counting was performed on a Leitz microscope utilizing phase contrast illumination at 400X and a Patterson Globe and Circle reticle.

Total dust was determined by light field microscopy at 100X.

Test Results

Three figures have been reported for each sample. They are:

1) Total Fiber - Any material 5 microns or longer having an aspect ratio of 3 or greater. Reported as fibers per milliliter.

2) Asbestos Fiber - Any material, 5 microns or longer, having an aspect ratio of 3 or greater, which in the judgement of the operator could possibly be asbestos. Reported as fibers per milliliter.

3) Total Dust - Any fiber or particle present. Reported as million particles per cubic foot.

Enclosed for reference is a copy of the OSHA Standard for exposure to asbestos dust, which includes silica and inert dust limits.

SUMMARY OF DUST COUNTS

N.B. No.	Description	Asbestos Fiber Count Fibers/ml > 5μ	Total Fiber Count Fibers/ml > 5μ	Tot Du mmc
	BOARD & PULP MILL			
1929-2-1	Personal (7.67 min.) - Bulk fiber bagger - operator	0	0	0.
1929-2-2	Environmental (114 min.) - No. 3 board machine run-out section- 4' from end of conveyor dumping mineral wool into stock chest	0.15	1.01	0.
1929-2-3	Environmental (132 min.) - Mineral slurry hydropulper tub - eye level above tub 2 bags asbestos dumped every 20 minutes (HP Pellets)	0.19	1.40	1.
1929-2-4	Personal (2.08 min.) - Same as #3, during dumping	1.03	2.06	0.
	COATING MAKE-UP AREA			
1929-2-5	Environmental (145 min.) - Coating make-up deck between #35 mix tank and separan tank	0	0	2.
1929-2-6	Personal (9.33 min.) - Coating make-up deck on coating make-up man as batch of #31 coating is prepared	0	0	31.
	FINISHING DEPARTMENT			
929-2-7	Environmental (43 min.) - No. 3 trimmer - operator's desk	0.20	0.40	1.
929-2-8	Environmental (46 min.) - No. 4 trimmer - 9' off floor on catwalk by 2nd arbor	0.28	1.68	0
929-2-9	Environmental (115 min.) - Between #1 and #3 board dryers - by W. broke hydropulper 6' off floor	0.15	0.60	0
1292-2-10	Environmental (194 min.) - No. 3 dry end coating line - slitter area - south side - 6' off floor	0.09	0.64	0
1292-2-11	Environmental (138 min.) - No. 3 dry end coating line - station B. East grading station - 6' off floor	0.16	0.50	0
	TUFFLEX DEPARTMENT			
1929-2-12	Environmental (75 min.) - No. 2 Tufflex line - shredder area eye level mount between cotton linter feeder and E. Shredder [10 min. blow-down with 3 air hoses during sampling]	0	0.17	1

N.B. No.	Description	Asbestos Fiber Count Fibers/ml > 5μ	Total Fiber Count Fibers/ml > 5μ	Tot Du mmc
1929-2-13	Personal (9.75 min.) - No. 2 Tufflex machine - transfer section on backtender's helper	0.88	1.76	2.
	CONWED FABRICS DEPARTMENT			
1929-2-14	Personal (7.0 min.) - Conwed Farbics fiber preparation room - operator feeding cotton linters into P&S feeders	0	5.51	2.
	LO-TONE DEPARTMENT			
1929-2-15	Environmental (104 min.) - Lo-Tone #4 - line grinder area 6' off floor	0.16	1.44	0.

UNION CARBIDE
THE DISCOVERY COMPANY

Calidria ASBESTOS

UNION CARBIDE CORPORATION • MINING & METALS DIVISION • P.O. BOX 579 • NIAGARA FALLS, N.Y. 14302 • TEL: 716-285-3311

RECEIVED
SEP 2[illegible] 19[illegible]
UCC-CALIDRIA

September 1, 1972

Conwed Corporation
Cloquet, Minnesota 55720

Dear Sir:

We would like to have your permission to use the information obtained in the course of the tests conducted at your facility and to furnish it to other parties without identifying your facility as the location at which measurements were taken. The tests shall consist of taking measurements by the membrane filter method of airborne asbestos fiber generated in the course of one or more phases of your manufacturing operations.

If you agree to the foregoing, please so indicate by signing and returning the enclosed copy of this letter. Such action on your part shall constitute authorization to take such measurements at your facility and to use and disclose said information as detailed in this letter.

Very truly yours,

E. J. Kleber
Customer Service Representative

Accepted and Agreed to

this 20 day of

September, 1972

Director of Manufacturing-Cloquet

THE DISCOVERY COMPANY

UNION CARBIDE CORPORATION • MINING & METALS DIVISION • P.O. BOX 579 • NIAGARA FALLS, N.Y. 14302 • TEL: 716-285-3311

August 18, 1972

Mr. Ed McGillivray
Environmental Control
Conwed Corporation
Cloquet, Mn. 55720

Dear Ed:

First of all, work is progressing on the samples we collected last week and, as suspected, the dust levels look quite low. We hope to have a report issued very soon.

I have enclosed some manufacturers literature for M.S.A., Millipore and Edmund Scientific. I would suggest writing for their catalogs, but in the interim these Xerox copies should give you an idea of some of the equipment involved should Conwed wish to set up its own dust monitoring operation.

I would appreciate it if you would keep me informed when the next car of asbestos is being shipped. I certainly don't want to miss this one and the more advance notice I have the easier it will be to schedule another trip to Cloquet.

If we can be of any assistance please don't hesitate to call or write either Tom Norris or myself.

We look forward to seeing you again in the near future.

Best regards.

Very truly yours,

E. J. Kleber
Customer Service Representative

/cvb
Enclosures

cc: Mr. T. P. Norris

	C-15	C-16	C-13	S-4	E-9	E-7	E-8
Sample #	20	48	13	27	25	4	3
Time							
Flow							
1	463	19	511	1746	520	400	27
2	574	6	680	2034	360	210	28
3	673	9	703	2073	380	351	47
4	525	9	601	2141			
5	472	11	578	2027			
6		15					
7		11					
8		8					
9		8					
10		7					
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
TOTAL	2707	85	3073	10021	1260	1314	320
AVG	5414	85	6146	20042	420	438	320
Field Area	.0998						
Filter Area	855						
Volume	6.1048	.4502	4.403	.5723	.5476	6.75	252
Concentration	0.76	0.16	1.20	2.68	31.38	0.53	1.49

Filter Cnt x Filter Area
Field Area x Sample Vol

CONWED CORP.
Dust Sampling 7/10/72
By Union Carbide's Eckle
Tom Nash
(Conwed - Eckle)

No.	Floor No.	Type	Description
1	✓ 48	P.S.	Bulk Fiber Bagger - operator
Board & Polymer			
2	✓ 3	E.S.	No. 3 Board Mach. Run out Section (4' from end of Conveyor dumping mineral wool into stock chest)
3	✓ 26	E.S.	Mineral Slurry Hydropulper Tub (Eye level above Tub)
4	/ 35	P.S.	Slurry Hydropulper operator (same as 26 above)
Coating Make Up			
5	✓ 14	E.S.	Coating Make-up deck - Between #35 mixtank and Soperan Tank
6	/ 27	P.S.	Coating Make-Up deck - on Coating make-up man as batch of #31 Clay is prepared
Finishing Dept			
7	/ 8	E.S.	No. 3 Trimmer Operators deck
8	✓ 43	E.S.	No. 4 " - 9' off floor on catwalk by 2nd Dryer
9	/ 23	E.S.	Between #143 Board Dryers by #1 Beater Hydropulper - 6' off floor
10	/ 17	E.S.	No. 3 Dry end Coating line - Slitter Area - South Side - 6' off floor
11	— 21	E.S.	No. 3 Dry end Coating line - Station B E. grading station 6' off floor

No.	Filter No.	Type	Description
Tuffex Dept			
12	13	E.S.	No. 2 Tuffex line - Shredder Over eye level mount between Cotton linter feeder & E. Shredder C10 min. blowdown with 3 air hoses during sampling
13	31	P.S.	No. 2 Tuffex Mach. - Transfer section on backtender helper's belt
Conwed Fabrics Dept			
14	28	P.S.	Conwed Fabrics Fiber Prep. room operator feeding Cotton linters into P&S feeders
Co-Tone Dept			
15	20	E.S.	Co-Tone #4 Line Grinder Area 6' off floor.

COUNT SHEET

	1	72	207	3	1155	484	40	54	20
Sample #	48	3	26	35	14	27	8	43	23
Time	7.67	114.0	132.0	2.08	145.0	9.33	43.0	46	115
Flow	1.6635								
1				3	1134	2		7	12
2				13	96	26		16	131
3				4	97				92
4		147		9	97		7	16	114
5		97		12	1233	12			9[illegible]
6				4			110		23
7		2	15	8			66		15
8	9	135	151	12				171	20
9				6			59		14
10	1	54	56	3			13		16
11	5								
12	2								
13	20								
14	2								
15	7								
16	2								
17	7								
18	25								
19	2								
20	2								
TOTAL	115	1149	4881	74	6067	4816	885	1889	163
AVG	5.75	114.9	488.1	7.4	1213.4	963.2	88.5	188.4	16.
FIELD AREA									
FILTER AREA									
VOLUME									
CONCENTRATION	0.11	0.14	0.52	0.50	1.28	14.52	0.29	~~0.6~~ 058	0.[illegible]
# OF CNT X FILTER AREA / # OF FIELDS X SQUARE VOLUME							7	4	4

COUNT SHEET

	410	175	105	24	44	245
SAMPLE #	17	21	13	31	28	20
TIME	194.0	138.0	75.0	9.75	7.0	104.0
FLOW						
1	639	411	354	59	117	410
2	456	436	431	48	94	321
3	454	357	440	20	89	293
4	442	383	390	24	97	427
5	573	473	376	23	73	274
6	455	508	292	31	76	268
7	543	577	372	72	108	342
8	534	426	501	35	86	437
9	494	406	332	63	116	243
10	432	238	338	52	87	374
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
TOTAL	5022	4215	3824	429	943	3409
AVG	502.2	421.5	382.4	42.9	94.3	340.9
FIELD AREA						
FILTER AREA						
VOLUME						
CONCENTRATION	0.36	0.43	0.72	0.62	1.90	0.46

FIELD CNT X FILTER AREA
CONC = ——————————
VOLUME X SAMPLE V.C. Pd

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asbestosclaims.law/library/19359/11

COUNT SHEET

Sample #	20 Fib/ASS	20 Dust	28 Fib	28 Dust	14 Dust ~~Fib~~	17 Fib	17 Dust	17 ASB	3 Du
Time	104		7		145		194		
Flow									
1	2/1	258	1	82	1155	0	426	0	12
2	0	264	0	83	1386	10	328	1	7
3	4/0	245	1	121	1009	1	513	0	14
4	3/0	236	0	72	1097	0	451	0	
5	1/0	254	0	107	1130	1	423	0	
6	1/0	247	1	67		5	372	1	11
7	3/1	169	1	114		1	323	0	
8	0	208	0	109		0	343	0	
9	4/1	248	1	98		0	411	0	
10	1/0	315	0	74		2	507	0	
11	2/0		1			1		0	
12	0		1			2		0	
13	1/1		1			0		0	
14	0		0			0		0	
15	1/0		0			1		1	
16	2/0		1			3		1	
17	3/0		0			1		0	
18	4/0		0			0		0	
19	2/0		0			1		0	
20	1/0		0			0		0	
TOTAL	35/4	2446	9	930	5777	29	4097	4	
AVG	1.75/0.2	244.6	0.45	46.5	1155.4	1.45	409.7	0.2	

1034

FIELD AREA ~~1055~~

FILTER AREA ~~1055~~

VOLUME

CONCENTRATION 935

FINAL CUT × FILTER AREA / FIELD AREA × GRAND VOLUME 0.28

COUNT Sheet

SAMPLE # 3/Filo cust 750

TIME 975

FLOW

1	0	29	0
2	1	22	1
3	1	45	0
4	0	47	1
5	0	35	1
6	0	47	0
7	0	42	0
8	1	81	1
9	0	50	0
10	0	82	0
11	0		0
12	0		0
13	0		0
14	0		0
15	0		0
16	0		0
17	0		0
18	1		0
19	0		0
20	0		0
			2
TOTAL	4	480	~~4~~ 2
AVG	0.2	24.0	~~0.2~~ 0.1

FIELD AREA

FILTER AREA

VOLUME

CONCENTRATION

FINAL CUT × FILTER AREA
÷ FIELD AREA × SAMPLE VOL ml

COUNT SHEET

Sample #	3	2	26			25		
	DUST							
Time	→		132	→		208	→	
Flow 1.6635								
1	0	112	0	2	172	0	0	0	0
2	1	[illegible]	0	[illegible]	182	1	0	1	[illegible]
3	1	[illegible]	0	0	193	0	[illegible]	1	[illegible]
4	0	[illegible]	0		131			6	[illegible]
5	1	[illegible]	0	0	162	0	0	[illegible]	[illegible]
6	0	[illegible]	0	1	240	1	0	[illegible]	[illegible]
7	2	[illegible]	0		243		0	4	[illegible]
8	0	76	1	2	276	0	0	[illegible]	0
9	[illegible]	[illegible]	0	1	213	0	0	[illegible]	0
10	[illegible]	[illegible]	1	2	242	0	0	10	[illegible]
11	1	76	0	2		0	0	4	0
12	2	[illegible]	0	2		0	0	1	0
13		76	0	[illegible]		0	0	6	0
14	1	76	0	[illegible]		2		[illegible]	[illegible]
15	1	[illegible]	0	[illegible]		0		[illegible]	[illegible]
16	[illegible]	24	1	3		1	1	0	0
17	1	76	0	2		0	0	0	0
18	3	[illegible]	0	1		0	0	1	0
19	1	60	1	1		0	1	3	0
20	3	76	0	3		1	2	1	0
TOTAL	27	[illegible]	4	43	[illegible]	6	1	61	0
AVG	1.35	72.33	0.2	2.15	208.5	0.3	0.05	3.05	0
Field Area		.1611			.1067		.006	.1067	
Filter Area	855								
Volume	228l	→		→		→	.162	→	
		8.04 %			9.31			.1468	
Concentration	0.8737 f/ml	.072 mmpcf	0.125 f/ml	.1605 f/ml	.199 mmpcf	.1619 f/ml	1.7 f/ml	.17 mmpcf	0

Fiber Cnt × Filter Area

Col Area × Sample Vol Pul

COUNT SHEET

Sample #	48	49	50	51	52	53
	FA	FB	FC	FD	FE	FF
TIME	7:07	→	9:33			→
FLOW	2 l/m	→	→			→
1	0	0	0	0	0	0
2	1	0	0	0	0	0
3	0	2	0	0	0	0
4	0	2	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	0	0	0	0	0	0
9	0	1	0	0	0	0
10	0	1	0	0	0	0
11	0	1	0	0	0	0
12	0	0	0	0	0	0
13	0	1	0	0	0	0
14	0	0	0	0	0	0
15	0	1	0	0	0	0
16	0	0	0	0	0	0
17	0	2	0	0	0	0
18	0	2	0	0	0	0
19	0	1	0	0	0	0
20	0	0	0	0	0	0
TOTAL	0	15	0	0	0	0
AVG	0	0.75	0	0	0	0
FIELD AREA	.006	.1067	.006	.006	.1067	.006
FILTER AREA	→	→	→	→	→	→
VOLUME	5.24	→	18.66	→	→	→
CONCENTRATION	0	0.5415 .01 MMPCF	0	0	0.6586 .593 MMPCF	0

FIELD CNT × FILTER AREA
÷ FIELD AREA × SAMPLE VOL. ml

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Sample #	8 FIB.	8 DUST	8 ASB	43 FIB	43 DUST	43 ASB	23 FIB	23 DUST	2 AS
TIME	43	43	43	46	46	46	115	115	11
FLOW	2 l/m								
1	1	4	1	2	73	1	0	53	0
2	0	2	0	0	68	0	0	68	0
3	0	50	0	1	77	0	0	85	0
4	0	46	0	1	90	0	0	55	0
5	0	38	0	0	107	0	0	77	0
6	0	17	0	0	98	0	0	69	0
7	0	30	0	2	87	0	2	76	1
8	2	37	1	1	88	0	1	64	0
9	0	38	0	0	84	0	1	61	0
10	0	49	0	2	68	0	2	82	1
11	0	54	0	1		1	2		1
12	0	44	0	1		0	0		0
13	0		0	0		0	0		0
14	0		0	0		0	1		0
15	0		0	2		0	0		0
16	0		0	1		0	1		0
17	0		0	0		0	0		0
18	1		0	0		0	3		0
19	0		0	2		1	2		1
20	0		0	0		0	1		0
TOTAL	4	401	2	18	840	3	16	690	4
AVG	0.2	40.1	0.1	0.9	84	.15	.8	69	.2
FIELD AREA	.006	.1067	.006	.006	.1067	.006	.006	.1067	.00
FILTER AREA	855								
VOLUME	8cl	8cl	8cl	92l	92l	92l	230l	230l	23
		3.035T			3.247(2)			8.44	
CONCENTRATION	.331 F/l	.106 F/l	.17 F/l	1.39	.207	.2323	.495 F/l	.068	.123

FIELD CUT X FILTER AREA
FIELD AREA X SAMPLE VOL ml

COUNT SHEET

Sample #	21	21	21	13	13	13
	F10	DUST	ASB	F10	DUST	ASB
Time	138	138	138	75	75	75
Flow	2l/m					
1	0	273	0	0	161	0
2	0	152	0	0	221	0
3	2	159	1	1	289	0
4	0	178	0	0	195	0
5	0	226	0	0	173	0
6	0	263	0	0	126	0
7	0	159	0	0	223	0
8	1	121	1	0	156	0
9	0	173	0	0	237	0
10	2	103	0	0	146	0
11	0		0	0		0
12	0		0	0		0
13	1		1	0		0
14	0		0	0		0
15	1		1	0		0
16	1		0	1		0
17	1		0	0		0
18	0		0	0		0
19	3		1	1		0
20	4		0	0		0
TOTAL	16	1757	5	3	1947	0
AVG	.8	175.7	.25	.15	194.7	0
Field Area	.006	.1067	.006	.006	.1067	.006
Filter Area	855					
Volume	276l	276l	276l	150l	150l	150l
		9.74f³			5.295f³	
Concentration	.413	.145	.077	.1425	.294	0

Fiber Cnt x Filter Area / Field Area x Sample Vol

COUNT SHEET

Sample #	3	10	14	1	98	84	99	84?
Time								
Flow								
1	903 ~~364~~	618	98	78	81	180	7	194
2	891	642	71	72	39	120	63	151
3	1061	663	88	108	71	108	30	133
4	823	742	102	84	48	103	6	87
5	921	736	74		97	133	9	118
6			130					
7			121	35				
8			86					
9			77	3				
10			73	14				
11				4				
12				11				
13								
14				8				
15								
16								
17								
18								
19								
20								
TOTAL	4599	3401	1124		336	649	115	48)
- AVG	919.8	680.2	112.4		67.2	128.8	23	134.6
Field Area								
Filter Area								
Volume			.411	.8				
Concentration	1.02							
					653	5.45	1.68	1.28

Field Cnt x Filter Area
Graticule Area x Sample Vol. ml

CONWED CORP.
DUST SAMPLING SURVEY
BY UNION CARBIDE'S COKE OVEN
TOWER #3
(CONWED - CLOQUET)

#	E. Work	Type	Description
1	48	P.S.	Bulk Fiber Bagger - operator
Board & Paper Mill			
2	3	E.S.	No. 3 Board Mach. Run out Section (4' from end of conveyor dumping mineral wool into stock chest)
3	26	E.S.	Mineral Slurry Hydropulper Tub (Eye level above Tub)
4	35	P.S.	Slurry Hydropulper operator (Same as 26 above)
Coating Make Up			
5	14	E.S.	Coating Make-up desk - Between #35 mix tank and Separan tank
6	27	P.S.	Coating Make-Up desk - on coating make-up man as batch of #31 Coat. is prepar
Finishing Dept			
7	8	E.S.	No. 3 Trimmer Operators desk
8	43	E.S.	No. 4 " - 9' off floor on cat-walk by End Arbor
9	23	E.S.	Between #1 & 3 Board Dryers by M. Beck Hydropulper - 6' off floor
10	17	E.S.	No. 3 Dry end Coating line - Slitter Area South Side - 6' off floor
11	21	E.S.	No. 3 Dry end Coating line - Station 8 E. grading station 6' off floor

	Filter No.	Type	Description
Tufflex Dept			
12	13	E.S.	No. 2 Tufflex line - Shredder Area eye level mound between Cotton linter feeder & E. Shredder (10 min. blowdown with 5 air hoses during sampling
13	31	P.S.	No. 2 Tufflex Mach. - Transfer section on backtender helper's belt
Conwed Fabrics Dept			
1	28	P.S.	Conwed Fabrics Fiber Prep. ... operator feeding Cotton linters into P+S feeders
Co-Tane Dept			
15	20	E.S.	Co-Tane #4 Line Grinder Area 6' off floor

COUNT SHEET

	10	2	9	7	3	14	
SAMPLE #	17	3	23	8	26	28	1
TIME							
FLOW							
1	712	293	~~180~~ 161	181	652	191	225
2	809	279	221	217	714	103	118
3	783	297	173	148	710	183	218
4	773	176	209	173	564	138	
5	831	236	164	203	708	154	
6		299	253	144		114	
7		283	184	208		116	
8		~~325~~ 325	191	187		188	
9		294	149	238		153	
10		300	178	163		124	
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
TOTAL	3908	2842	1863	1862	3348	1470	
- AVG	781.6	284.2	186.3	186.2	669.6	147.0	197
FIELD AREA	850	855	855	855	855	855	
FILTER AREA /	.0656	→	→	→	→	→	
VOLUME	11.3878	6.69	6.75	2.52	7.75	0.4109	
CONCENTRATION	0.89	0.55	0.36	0.96	1.13	4.67	

FINAL CNT × FILTER AREA
FIELD AREA × SAMPLE VOL ml

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The results of microscope counts for air samples collected at Conwed Corporation, Cloquet, Minnesota, August 9th and 10th, 1972 are attached.

Apparatus & Procedure

Sampling and dust counting were carried out in accordance with OSHA Regulation 1910.93a.

Unico Personal Air Samplers, calibrated to 2 liters per minute, were used to collect personal breathing zone and environmental samples on Millipore membrane filters of 0.8 micron porosity.

Fiber counting was performed on a Leitz microscope utilizing phase contrast illumination at 400X and a Patterson Globe and Circle reticle.

Total dust was determined by light field microscopy at 100X.

Test Results

Three figures have been reported for each sample. They are:

1) Total Fiber - Any material 5 microns or longer having an aspect ratio of 3 or greater. Reported as fibers per milliliter.

2) Asbestos Fiber - Any material, 5 microns or longer, having an aspect ratio of 3 or greater, which in the judgement of the operator could possibly be asbestos. Reported as fibers per milliliter.

3) Total Dust - Any fiber or particle present. Reported as million particles per cubic foot.

Enclosed for reference is a copy of the OSHA Standard for exposure to asbestos dust, which includes silica and inert dust limits.

SUMMARY OF DUST COUNTS

I.B. No.	Description	Asbestos Fiber Count Fibers/ml > 5 μ	Total Fiber Count Fibers/ml > 5	Tot Du
	BOARD & PULP MILL			
1929-2-1	Personal (7.67 min.) - Bulk fiber bagger - operator	0	0	0.
1929-2-2	Environmental (114 min.) - No. 3 board machine run-out section- 4' from end of conveyor dumping mineral wool into stock chest	0.15	1.01	0.
929-2-3	Environmental (132 min.) - Mineral slurry hydropulper tub - eye level above tub 2 bags asbestos dumped every 20 minutes (HP Pellets)	0.19	1.40	1.
929-2-4	Personal (2.08 min.) - Same as #3, during dumping	1.03	2.06	0.
	COATING MAKE-UP AREA			
929-2-5	Environmental (145 min.) - Coating make-up deck between #35 mix tank and separan tank	0	0	2.
929-2-6	Personal (9.33 min.) - Coating make-up deck on coating make-up man as batch of #31 coating is prepared	0	0	31.
	FINISHING DEPARTMENT			
929-2-7	Environmental (43 min.) - No. 3 trimmer - operator's desk	0.20	0.40	1.
929-2-8	Environmental (46 min.) - No. 4 trimmer - 9' off floor on catwalk by 2nd arbor	0.28	1.68	0.
929-2-9	Environmental (115 min.) - Between #1 and #3 board dryers - by W. broke hydropulper 6' off floor	0.15	0.60	0.
292-2-10	Environmental (194 min.) - No. 3 dry end coating line - slitter area - south side - 6' off floor	0.09	0.64	0.
292-2-11	Environmental (138 min.) - No. 3 dry end coating line - station 8. East grading station - 6' off floor	0.16	0.50	0.
	TUFFLEX DEPARTMENT			
929-2-12	Environmental (75 min.) - No. 2 Tufflex line - shredder area eye level mount between cotton linter feeder and E. Shredder [10 min. blow-down with 3 air hoses during sampling]	0	0.17	1.

.B. No.	Description	Asbestos Fiber Count Fibers/ml > 5.4	Total Fiber Count Fibers/ml > 5	Total Dust
929-2-13	Personal (9.75 min.) - No. 2 Tufflex machine - transfer section on backtender's helper	0.88	1.76	3.66
	CONWED FABRICS DEPARTMENT			
929-2-14	Personal (7.0 min.) - Conwed Farbics fiber preparation room - operator feeding cotton linters into P&S feeders	0	5.51	2.33
	LO-TONE DEPARTMENT			
929-2-15	Environmental (104 min.) - Lo-Tone #4 - line grinder area 6' off floor	0.16	1.44	0.76

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OK for '76

UNION CARBIDE ASBESTOS

THE DISCOVERY COMPANY

UNION CARBIDE CORPORATION • MINING & METALS DIVISION • P.O. BOX 579 • NIAGARA FALLS, N.Y. 14302 • TEL: 716-285-3311

September 1, 1972

Mr. A. Crewson
Conwed Corporation
Cloquet, Minnesota 55720

Dear Mr. Crewson:

Enclosed is a report of our dust sampling at Cloquet. I think you will find the report self-explanatory, however, should you have any questions please do not hesitate to call me.

I have also enclosed, in duplicate, a letter requesting your permission to use the information obtained by these dust counts. We would appreciate your approval with a signature by proper authority.

Very truly yours,

E. J. Kleber
Customer Service Representative

/cvb
Enclosures

cc: Mr. Llyod Carlson
Mr. T. P. Norris

Caribon ASBESTOS
THE DISCOVERY COMPANY
UNION CARBIDE CORPORATION • MINING & METALS DIVISION • P.O. BOX 579 • NIAGARA FALLS, N.Y. 14302 • TEL: 716-285-3311

September 1, 1972

Conwed Corporation
Cloquet, Minnesota 55720

Dear Sir:

We would like to have your permission to use the information obtained in the course of the tests conducted at your facility and to furnish it to other parties without identifying your facility as the location at which measurements were taken. The tests shall consist of taking measurements by the membrane filter method of airborne asbestos fiber generated in the course of one or more phases of your manufacturing operations.

If you agree to the foregoing, please so indicate by signing and returning the enclosed copy of this letter. Such action on your part shall constitute authorization to take such measurements at your facility and to use and disclose said information as detailed in this letter.

Very truly yours,

E. J. Kleber
Customer Service Representative

Accepted and Agreed to

this ____ day of

_____, 197 :

_____

TABLE II

THRESHOLD LIMIT VALUE FOR ASBESTOS FIBERS[1]

AIRBORNE ASBESTOS

§ 1910.93a Asbestos.

(a) Definitions. For the purpose of this section, (1) "Asbestos includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.

(2) "Asbestos fibers" means asbestos fibers longer than 5 micrometers.

(b) Permissible exposure to airborne concentrations of asbestos fibers - (1) Standard effective July 7, 1972. The 8-hour time-weighted average airborne concentrations of asbestos fibers to which any employee may be exposed shall not exceed five fibers, longer than 5 micrometers, per cubic centimeter of air, as determined by the method prescribed in paragraph (e) of this section.

(3) Ceiling concentration. No employee shall be exposed at any time to airborne concentrations of asbestos fibers in excess of 10 fibers, longer than 5 micrometers, per cubic centimeter of air, as determined by the method prescribed in paragraph (e) of this section.

(e) Method of measurement. All determinations of airborne concentrations of asbestos fibers shall be made by the membrane filter method at 400-450 x (Magnification) (4 millimeter objective) with phase contrast illumination.

[1] Source: Federal Register, Vol. 37, No. 110 - Wednesday, June 7, 1972.

→ & TOTAL DUST IN MILLION PARTICLES PER CUBIC FOOT

The results of microscope counts of airborne fibers, 5 microns and greater in length, for air samples collected at ~~Hooker Chemical Corporation, [illegible] location designated South end of Building [illegible] 10-foot level, July 28, [illegible] are detailed.~~ CONWED CORP., CLOQUET, MN AUGUST 9 & 10, 1972 ARE ATTACHED

APPARATUS AND PROCEDURE

Sampling and dusting counting procedures were in accord with OSHA requirements. Unico personal air samplers, calibrated at 2 liters per minute, were used. Samples were collected at personnel breathing zone and environmental conditions on Millipore membrane filters of 0.8 micron porosity. Dust counting was performed on a Leitz microscope utilizing phase contrast illumination and a Patterson Globe and Circle Reticle. A copy of these procedures is available on request.

TEST PROGRAM AND RESULTS

These tests were conducted in a polyester manufacturing plant. Air samples were obtained prior to and during dumping of "Calidria" RG-244 thixotropic agent into Hooker polyester resin #29391. The resin diluted with monomer was contained in a blend tank approximately 8 feet in diameter equipped with a Lightnin Mixer operating at relatively low rpm (a slight vortex was evident). The tank was covered except for a manhole approximately 24 inches in diameter. The liquid resin level was approximately 3-1/2 feet below the manhole and RG-244 was dumped by slitting the bags and slightly shaking during emptying. The empty bags were disposed of in a drum for that purpose. No local exhaust ventilation was provided. The test site was on the second story 10-foot level of an open bay area.

The sequence of operations and corresponding dust count data are shown in Table I. The allowable threshold limit value for airborne asbestos is summarized for reference in Table II.

THESE TESTS WERE CONDUCTED IN A MINERAL BOARD MILL, EMPLOYING A FOURDRINIER ~~PROCESS~~ MACHINE. SAMPLES WERE TAKEN THROUGHOUT THE MANUFACTURING PROCESS, FROM MIXING OF ASBESTOS, THROUGH GRINDING OF THE BOARD.



BANK OF CALIF. N.A.
Fremont Office
1C C A

#30322374

8/15/72

$315

Bank did alter
XX-out MFG
with Honor

TO (NAME) R. McDANIEL DATE 8/18/72

LOCATION NYO-4 FROM E. KLEBER

SUBJECT DUST COUNTS LOCATION NIAGARA

Paul Here are 3 samples from Conwed Corp.
#14 - Flow = 241.2 l, Filter area = 855 mm²
#21 - Flow = 229.6 l, " " = "
#43 - Flow = 76.5 l, " " = "
My figures mmpcf: #14 = 1.12, #21 = 0.43,
#43 = 0.58

Best regards,
E. Kleber

REPLY IN SPACE BELOW.

DUPLICATE

SNAP OUT AND HOLD THIS COPY UNTIL REPLY RECEIVED. FORWARD BALANCE OF SET INTACT WITH CARBONS TO ADDRESSEE.