

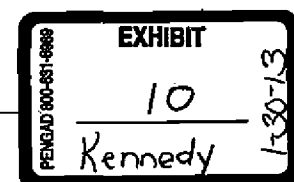
1/7/76

Asbestos Sampling

On December 22, 1975 the following asbestos samples were obtained from the vermiculite expander area. A Micronair sampler was used with a sample rate of 2 LPM and 15 minute sampling time.

Note: Only Libby vermiculite was being expanded.

Sample No.	Time	Location/Area	# Fibers Longer Than 5 Micrometers/CC of Air		Remarks
			Battelle	E.H. Lab	
10	0910 to 0925	Following Operator, Basement, 5th Flr., 4th Flr., 1st Flr.	8.0	7.6	5 Expanders running - #1, #3, #4, #6, & #8
8	0930 to 0945	Following Operator, Shut-off #9 Hydro-filter, Unplugged Cyclone on 4th Flr., to 6th Flr. to check all scrubbers.		4.5	5 Expanders running - #1, #3, #4, #6, & #8
12	0955 to 1010	Following Operator, Checked #9 Cyclone, Went to Control Room, Started Fan, to top of Furnace - Couldn't find brush, to 1st Flr. to get brush, to 2nd Flr. adjust gates on P.P. Verm. Conv.		1.2	5 Expanders running - #1, #3, #4, #6, & #8
6	1015 to 1030	Following Operator, Brushed off top of Furnaces, took 9 min., Checked Screens on Water Supply Line.		5.3	5 Expanders running - #1, #3, #4, #6, & #8 Do this once per day.
4	0850 to 0910	Basement Area, Sampling only area north of Manlift.		5.2	5 Expanders was unloading car of Libby vermiculite
3	1035 to 1050	1st Flr. Expander Area	0.3 3.0	.81	5 Expanders
7	1310 to 1325	3rd Flr. Expander Area		.65	4 Expanders, #6 down at 11:30



SC_DENH001710

Sample No.	Time	Location/Area	# Fibers Longer Than 5 Micrometers/CC of Air		Remarks
			Battelle	E.H. Lab	
11	1330 to 1345	4th Flr. Expander Area		5.2	5 Expanders started #6 at 1330.
5	1355 to 1410	5th Flr. Expander Area		11.8	5 Expanders running.
9	1430 to 1445	6th Flr. Expander Area		5.0	4 Expanders shut #4 down at 1430.
1	1500 to 1515	Sampler hanging approximately 4 ft. above #2 Sand Hopper	5.6	2.2	4 Expanders running, only #3 Expander running into Hopper.
2	1520 to 1535	Following Operator, took B.D. and worked on plugged Sand Hopper.	3.3	.57	4 Expanders running.

The above samples were obtained by Dick Gruenbaum and all samples were analyzed by Environmental Health Labs of Farmington, Michigan. In addition, two samples of raw ore and a sand sample were submitted for asbestos analyses. Sample labeled #1 was African, #2 is Sand from Libby Ore and #3 was Libby Ore.

As an analytical check, samples #1, #2, #3 and #10 were also analyzed by Battelle.

The following analyses were reported from Environmental Health Labs on raw ore and sand samples. By optical analyses fibers were noted in all samples.

Using X-ray defraction the following were noted.

#1 (African Ore)	6% by weight
#2 (Sand)	None
#3 Libby	Less than 1%

Type of fiber noted was chrysotile.

E.H. = Environmental Health