Table 7: Analytical Results for Complex Simulation Conducted Using One Vermiculite Product (Phase 1)

Simulation Phase	Air Sample Locations	Sample Type	Sample ID	PCM[1] (NIOSH 7400)		TEM[2] (EPA Level II)						
						Results						
						Asbestos Fibers						
				Results (fibers/cc)	Detection Limits (fibers/cc)	<5mm	5-10mm	>10mm	>5mm	total	Fiber Type Observed	Analytical Sensitivity
Background - Prior to Start of Any Activities	Inside Main Containment	Background	AI-100-A	<0.001	0.001					<0.0013	ND	0.0013
		Background	AI-101-A	<0.001	0.001					<0.0013	ND	0.0013
	Inside Small Containment	Background	AI-102-A	<0.001	0.001					<0.0013	ND	0.0013
		Background	AI-103-A	0.001	0.001	<0.0013	0.0013	<0.0013	0.0013	0.0013	actinolite	0.0013
Activity 1: Installation of Vermiculite Attic Insulation	Inside Main Containment	Stationary	AI-104-A	0.027	0.007	0.0316	0.0396	0.0079	0.0475	0.0791	actinolite	0.0079
		Stationary	AI-105-A	0.026	0.007	0.0635	0.0318	0.0079	0.0397	0.1032	actinolite	0.0079
		Personal	AI-108-A	0.181	0.040	<0.0466	0.0466	0.0466	0.0932	0.0931	actinolite	0.0466
		Personal	AI-109-A	0.147	0.039					<0.0461	ND	0.0461
	Inside Small Containment	Settle	AI-106-A	0.007	0.001	0.0065	0.0078	0.0026	0.0105	0.0170	actinolite	0.0013
		Settle	AI-107-A	0.006	0.001	0.0026	0.0065	0.0013	0.0078	0.0104	actinolite	0.0013
3-Day Settling of Vermiculite - No Activity	Inside Main Containment	Settle	AI-112-A	0.002	0.001					<0.0013	ND	0.0013
		Settle	AI-113-A	0.002	0.001					<0.0013	ND	0.0013
		Settle	AI-114-A	0.002	0.001					<0.0013	ND	0.0013
		Settle	AI-115-A	0.002	0.001					<0.0013	ND	0.0013
		Settle	AI-118-A	<0.001	0.001					<0.0013	ND	0.0013
		Settle	AI-119-A	<0.001	0.001					<0.0013	ND	0.0013
Activity 2: Background	Inside Main Containment	Background	AI-120-A	0.001	0.001					<0.0013	ND	0.0013
		Background	AI-121-A	<0.001	0.001					<0.0013	ND	0.0013
Sampling of Floor Dust	Inside Main Containment	Dust	AI-122-A	-	-					<4245.900	ND	1061.480
		Dust	AI-123-A	-	-					<8491.800	ND	2122.950
		Dust	AI-124-A	-	-		1fiber			<4245.900	actinolite	1061.480
Activity 2: Residential Activities in the Attic	Inside Main Containment	Stationary	AI-126-A	0.037	0.007	0.0079	0.0475	0.0237	0.0712	0.0791	actinolite	0.0079
		Stationary	AI-127-A	0.034	0.007	0.0079	0.0079	<0.0079	0.0079	0.0158	actinolite	0.0079
		Personal	AI-128-A	0.268	0.042	0.1479	0.1479	0.0986	0.2466	0.3945	actinolite	0.0493
		Personal	AI-129-A	0.229	0.041	0.1929	0.1929	0.0482	0.2412	0.4341	actinolite	0.0482
	Inside Small Containment	Settle	AI-130-A	overloaded[3]		overloaded					-	-
		Settle	AI-131-A	overloaded		overloaded					-	-
2-day Settling of Vermiculite - No Activity	Inside Main Containment	Settle	AI-136-A	<0.001	0.001					<0.0012	ND	0.0012
		Settle	AI-137-A	<0.001	0.001					<0.0012	ND	0.0012
		Settle	AI-138-A	<0.001	0.001					<0.0013	ND	0.0013
		Settle	AI-139-A	0.001	0.001					<0.0013	ND	0.0013

Table 7: Analytical Results for Complex Simulation Conducted Using One Vermiculite Product (Phase 1)

Simulation Phase	Air Sample Locations	Sample Type	Sample ID	PCM[1] (NIOSH 7400)		TEM[2] (EPA Level II)						
						Results						
						Asbestos Fibers						
				Results (fibers/cc)	Detection Limits (fibers/cc)	<5mm	5-10mm	>10mm	>5mm	total	Fiber Type Observed	Analytical Sensitivity
Activity 3: Background	Inside Main Containment	Background	AI-140-A	<0.001	0.001					<0.0013	ND	0.0013
		Background	AI-141-A	<0.001	0.001					<0.0013	ND	0.0013
Activity 3: Removal of Vermiculite Attic Insulation	Inside Main Containment	Stationary	AI-144-A	0.020	0.007	0.0238	<0.0079	<0.0079	<0.0079	0.0238	actinolite	0.0079
		Stationary	AI-145-A	0.018	0.007	0.0079	0.0237	<0.0079	0.0238	0.0317	actinolite	0.0079
		Personal	AI-142-A	0.131	0.042					<0.0494	ND	0.0494
		Personal	AI-143-A	0.115	0.042	0.0494	0.0988	0.1482	0.2471	0.2965	actinolite	0.0494
	Inside Small Containment	Settle	AI-146-A	overloaded		overloaded					-	-
		Settle	AI-147-A	overloaded		overloaded					-	-
1-Day Settling of Vermiculite - No Activity	Inside Main Containment	Settle	AI-150-A	0.002	0.001	0.0012	<0.0012	0.0012	0.0012	0.0024	actinolite	0.0012
		Settle	AI-151-A	0.001	0.001					<0.0012	ND	0.0012
	Inside Small Containment	Settle	AI-152-A	0.001	0.001					<0.0012	ND	0.0012
		Settle	AI-153-A	0.001	0.001					<0.0013	ND	0.0013
Residual Dust	Inside Main Containment	Dust	AI-156-A	-	-					<20077.500	ND	5019.380

Results for samples taken during simulation activities are in shaded rows

Complex vermiculite product simulation was conducted using the following product:

Bulk Sample ID: 107231 — Bulk Summary: PLM: <1% tremolite; TEM: <0.1% tremolite/actinolite

Location of Bulk Purchase/Sample: Renton, WA — Date of Simulation: 04/27/01 through 05/08/01

Product: Zonolite Vermiculite, Lot# 17K02-1 — Volume of Vermiculite: Two bags (8 cubic feet)

Notes:

1 Phase Contrast Microscopy Analysis not performed on dust samples; Detection limits depend on volume of air sampled

2 Transmission Electron Microscopy, and X-Ray Diffraction; Sensitivity limits for air samples depend on several variables including the volume of air sampled, the number of grids read, and the type of filter used. Sensitivity limits for dust samples depend on the number of grids read, and a dilution factor applied by the laboratory method.

TEM results and analytical sensitivities are presented as fibers/cm^3 for ambient samples and fibers/cm^2 for dust samples.

3 A note of "overloaded" or "residual dust in cartridge" is an indication that all of the asbestos fibers may not have ended up on the air filter and results shown may not reflect actual conditions.

ND=None Detected

NA=Not Applicable