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Enclosure 1

Results of Fiberglass and minerals in Air and Settled Dust Sampling in Building 1

On November 14, 2001, settled dust and air samples were collected from inside 2 residential units and from 1 outdoor area close to your building. The air and settled surface dust were analyzed for crystalline minerals and for fibers. The results of samples collected from your building, along with the results of the samples collected in comparison residential buildings above 59th Street, are the focus of this enclosure.

Explanation of Table 1: Crystalline Minerals found in Air and Settled Dust in Your Building and the Comparison Areas

Air Sample Collection and Analyses:

Air samples were collected using vacuum pumps to draw air through a filter that was suspended at the height of a person's breathing level. Air samples were collected for 3 (*maybe 4 in some letters*) different dust or particulate matter (PM) sizes: PM4, PM10, and PM 100. PM4, particles with diameters of 4 microns or less, contains the fraction of particles that can be inhaled and enter the air exchange region of the lungs (air sacs). This fraction is often referred to as respirable size particles. The PM10 or thoracic fraction contains dust particles with diameters of 10 microns or less. This fraction includes the PM4 fraction, so it contains the respirable size particles along with particles from greater than 4 and up to 10 microns in diameter. These larger particles can deposit along lung airways. The PM100 or inhalable fraction contains particles with diameters of less than 100 microns. It includes particle sizes that can deposit in the lung air sacs (PM4), the lung airways (PM10), and the nose and throat.

X-Ray Diffraction (XRD) was used to analyze each of the different size ranges for all of the crystalline mineral analytes (quartz, cristobalite, tridymite, calcite, port/lime, gypsum, mica, and halite). XRD analysis identifies crystalline materials by their unique fingerprint given off (a diffraction pattern) from a beam of X-Ray.

Because of the quality assurance concerns that surround the sample tracking, the results of the XRD analysis are being categorized as estimated values (commonly referred to as "J" values in environmental sampling). In addition, because of the sample tracking concerns, we are not certain enough of sample location (e.g., indoors vs. common indoor area). Therefore, we are not reporting results by sample location. For this reason, Table 1 only indicates whether a mineral was found (Detect) in the size fraction of interest, or not (Not Detected). More detailed information can be found in the final report (Attachment 2).

Air sampling results indicate the presence of calcite (lime), Port/Lime (cement), and gypsum in the air. Gypsum was found in the air of some of the comparison homes; calcite and Port/lime were not.

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Settled Dust Sample Collection and Analyses:

Settled dust samples were collected from indoor floors by using a specialized vacuum cleaner. The outdoor samples were collected by scraping visibly-settled material into a container. XRD was used to analyze the crystalline mineral content of each sample. Results are reported as percent (%) of the specific mineral per weight of the dust sample.

Crystalline silica, calcite, port/lime, and gypsum were found in your building at levels above those found in the comparison areas. These materials are common components of building and road construction materials.

Please refer to the previous part of this report (flyer) for the limitations of this data, the possible symptoms of exposure, and recommendations on how to reduce your potential for exposure.

Explanation of Table 2: Fibers found in Air and Settled Dust in Your Building and the Comparison Areas

Air Sample Collection and Analyses:

Air samples were collected for up to an eight-hour period using vacuum pumps to draw air past a filter that was suspended at the height of a person's breathing level. All air samples were analyzed for total fibers using Phase Contrast Microscopy or PCM. If levels of total fibers were higher than those found in the comparison areas (0.003 fibers per cubic centimeter of air, or f/cc), the sample was re-analyzed using both Transmission Electron Microscopy (TEM) and Scanning Electron Microscopy (SEM). TEM analysis can distinguish asbestos from other fibers; SEM can distinguish fibrous glass from other fibers.

For an explanation of the asbestos results, please refer to the letter you received from us earlier this year that contained an enclosure titled: "Summary of Asbestos Sampling Results." PCM results in one indoor location were higher than those found in the comparison area samples. Therefore, this sample was re-analyzed using TEM and SEM. Results of TEM showed asbestos less than 0.001 f/cc; results of SEM showed fibrous glass at 0.00016 f/cc. These levels are below those found in comparison area samples.

Settled Dust Sample Collection and Analyses:

Settled dust samples were collected indoors and outdoors in the same manner described previously. At the laboratory, samples were analyzed for asbestos and fibrous glass fibers using Polarized Light Microscopy (PLM). PLM can distinguish asbestos from other fibers like asbestos by the appearance and the distinguishing color given off by each different type of fiber.

For an explanation of the asbestos results, please refer to the letter you received from us earlier this year that contained an enclosure titled: "Summary of Asbestos Sampling Results." Indoor settled dust levels of 20% fibrous glass were found; none was detected in the comparison homes. Surface dust outside your building contained 22% fibrous

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glass. No visibly settled dust was available to collect in comparison building outdoor locations.

Please refer to the previous part of this report (flyer) for the limitations of this data, the possible symptoms of exposure, and recommendations on how to reduce your potential for exposure.

Table 1: Crystalline Minerals found in Air and Settled Dust in Your Building (Building 1) and the Comparison Areas

Air: milligrams of mineral per cubic meter of air (mg/m3)									
Building Number	Method or Location	Crystalline Quartz	Christobalite	Tridymite	Calcite	Port/Lime	Gypsum	Mica	Halite
1	PM100	ND	ND	NA	ND	ND	Detect	ND	ND
1	PM10	ND	ND	NA	ND	ND	Detect	ND	ND
1	PM4	ND	ND	NA	Detect	Detect	Detect	ND	ND
1	PM2.5	NS	NS	NS	NS	NS	NS	NS	NS
Comparison	PM100	ND	ND	NA	ND	ND	ND	ND	ND
Comparison	PM10	ND	ND	NA	ND	ND	Detect	ND	ND
Comparison	PM4	ND	ND	NA	ND	ND	Detect	ND	ND
Comparison	PM2.5	ND	ND	NA	ND	ND	Detect	ND	ND
Settled Dust: percent of sample (by weight) containing the mineral (%)									
1	Common Area	NS	NS	NS	NS	NS	NS	NS	NS
1	Outdoor	26.6	ND	ND	14.5	5.5	13.6	ND	ND
1	Residence 1	19.1	ND	ND	17.5	2.4	30.4	0.27	ND
1	Residence 2	31.4	ND	ND	21.3	6.2	3.6	0.05	ND
Comparison	Common Area	1.3	ND	ND	0.4	0.05	3.1	ND	ND
Comparison	Outdoor	NS	NS	NS	NS	NS	NS	NS	NS
Comparison	Residences	2.2	ND	ND	0.9	0.08	4.2	0.08	0.4
Notes: PM100: particles less than or equal to 100 microns in diameter PM10: particles less than or equal to 10 microns in diameter PM4: particles less than or equal to 4 microns in diameter PM2.5: particles less than or equal to 2.5 microns in diameter ND: Not Detected NS: Not Sampled NA: Not Analyzed Results are maximum values found in comparison areas									

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Table 2: Fibers found in Air and Settled Dust in Your Building (Building 1) and the Comparison Areas

Air: fibers per cubic centimeter of air (f/cc)				
Building Number	Method or Location	Total Fibers (PCM)	Asbestos (TEM)	Fiberglass (SEM)
1	Common Area	<0.001	NA	NA
1	Outdoor	0.001	NA	NA
1	Residence 1	0.006	<0.001	0.00016
1	Residence 2	<0.001	NA	NA
Comparison	Common Area	0.002	NA	0.00004
Comparison	Outdoor	<0.001	NA	<0.00004
Comparison	Residences	0.003	NA	0.00009
Settled Dust: percent of sample (visual area estimation) containing the material (%)				
Building Number	Method or Location	Asbestos Fibers (PLM)	Asbestos (TEM)	Fiberglass (PLM)
1	Common Area	NS	NS	NS
1	Outdoor	ND	<1	22
1	Residence 1	ND	NA	20
1	Residence 2	ND	NA	20
Comparison	Common Area	ND	ND	ND
Comparison	Outdoor	NS	NS	NS
Comparison	Residences	ND	ND	ND
Notes: PCM: phase contrast microscopy analysis TEM: transmission electron microscopy analysis SEM: scanning electron microscopy analysis PLM: polarized light microscopy ND: Not Detected NS: Not Sampled NA: Not Analyzed Results are maximum values found in comparison areas				