



## Ambient Air Sampling

To: Related Management Company  
 Subject: Summary of Ambient Air Sampling to Date  
 Re: Tribeca Tower  
 From: Fred Burkhardt  
 Date: December 11, 2001

The following is a brief summary of the observations, real-time monitoring, and ambient air sampling performed at Tribeca Tower to date.

### Apartment Visual Inspection

ATC visually inspected 406 units for accumulated dust and/or debris consistent with material that from ATC's experience emanated from the collapse of the World Trade Center Buildings. Thirty-four units were inaccessible or the occupants refused access and were not inspected.

Of the 406 units inspected, ATC did not observe any dust and/or debris accumulations that in ATC's opinion was consistent with widespread deposition of material that emanated from the collapse of the World Trade Center Buildings. However, ATC observed adjacent to open windows in four units, limited dust accumulations (no debris) although inconsistent with material that emanated from the collapse of the World Trade Center Buildings present nonetheless.

### Asbestos Air Sampling via TEM

ATC collected a total of 60 common area and 149 residential unit samples to ascertain the presence or absence of airborne asbestos. All samples were collected and analyzed in accordance with the AHERA Transmission Electron Microscopy (TEM) method as set forth at 40 CFR Part 763, Subpart E, Appendix A which provides resolution down to 0.5µ structure size. Of the total 209 samples collected, a single asbestos structure was detectable on only two samples.

In the absence of a specific ambient air standard, ATC has selected as a criteria for acceptable ambient air sample sets, the AHERA re-occupancy requirement following an asbestos abatement action of an average of less than 70 asbestos structures per square millimeter (<70 s/mm<sup>2</sup>) per sample set. This criteria has been selected because the AHERA requirement is the most stringent reoccupancy requirement available, and has been designed to be protective of children following an asbestos abatement project.

Based upon analytical sample results for all samples recording levels well below the AHERA clearance requirement, it is ATC's opinion that the ambient air samples collected throughout the building are representative of the ambient conditions at the time of testing and that the areas tested meet an acceptable criterion for re-occupancy.

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|-------------------|------------------|---------|----------|------------|---|
| Post-It® Fax Note | 7671             | Date    | 12/13/01 | # of pages | 9 |
| To                | Mr. C. D. Hickey | From    | Krish    |            |   |
| Co./Dept.         | NYC DOH          | Co.     | DEP      |            |   |
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### Fiberglass in Air via PCM

Twelve ambient air samples collected within the common areas lobby were analyzed for fiberglass using the Phase Contrast Microscopy (PCM) analytical method. All samples collected recorded fiber levels less than 0.01 f/cc

In the absence of a specific ambient air standard for fiberglass, ATC has selected as a criteria for acceptable ambient air sample sets, the NYCDEP re-occupancy requirement following an asbestos abatement action of an average of less than 0.01 fibers per cubic centimeter (0.01 f/cc<sup>2</sup>).

In conclusion, based upon the analytical results for fiberglass recording fiber concentrations below the NYC acceptable airborne clearance requirement following an abatement action, it is ATC's opinion that the ambient air samples collected throughout the building meet an acceptable criterion for re-occupancy

### PCB's in Air

One ambient air sample collected within the lobby and analyzed for PCB's recorded analytical results less than analytical detection limit.

### Indoor Air Quality

The IAQ evaluation included collection of seventy-five real-time measurements of temperature, relative humidity, carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), respirable particulates and total volatile organic compounds (TVOC). Currently, there are no regulatory standards for indoor air quality in non-industrial buildings, such as residential units. For the real-time data collected, ATC uses the commonly accepted guidelines cited in the following publications:

- *Ventilation for Acceptable Indoor Air Quality (ASHRAE 62-1999)*, American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE);
- *Thermal Environmental Conditions for Human Occupancy (ASHRAE 55-1992)*;
- *Industrial Hygienists Guide to Indoor Air Quality Investigations (1993)*, American Industrial Hygiene Association (AIHA).

| PARAMETER                                | TARGET LEVEL                                              | AGENCY OR ORGANIZATION               |
|------------------------------------------|-----------------------------------------------------------|--------------------------------------|
| Carbon Dioxide (CO <sub>2</sub> )        | <700 parts per million (ppm) above background level       | ASHRAE 62                            |
| Carbon Monoxide (CO)                     | 9 ppm                                                     | USEPA NPAAQS (as cited in ASHRAE 62) |
| Respirable Particles (PM <sub>10</sub> ) | 50 micrograms per cubic meter of air (µg/m <sup>3</sup> ) | USEPA NPAAQS (as cited in ASHRAE 62) |
| Temperature                              | Summer: 73-79°F at 50% RH<br>Winter: 68-75°F at 50% RH    | ASHRAE 55                            |
| Relative Humidity                        | 30 - 60 %                                                 | ASHRAE 55                            |



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| PARAMETER                               | TARGET LEVEL | AGENCY OR ORGANIZATION |
|-----------------------------------------|--------------|------------------------|
| Total Volatile Organic Compounds (TVOC) | 1 ppm        | AIHA                   |

USEPA = United States Environmental Protection Agency

NPAAQS = National Primary Ambient-Air Quality Standard

AIHA = American Industrial Hygiene Association

All parameters measured during the IAQ assessment were within recommended guideline ranges.

### PCB's In Air

One ambient air sample collected within the lobby and analyzed for PCB's recorded analytical results less than analytical detection limit.

### Dioxins

Results for the one ambient air sample collected within the lobby for airborne Dioxin is pending. The limited availability of Dioxin laboratories and large backlog volume prevents an accurate estimate of return.

### Airborne Metals

One common area and nine residential units were sampled for and analyzed for airborne metals (copper, lead, and chromium). All recorded analytical results were less than analytical detection limit for lead and chromium. Detectable levels of copper were detected in seven samples and were more than 1000 times lower than the best available occupational standards. There was no observed likely source recorded for the copper.