New York City Department of Health

Residential Sampling in Lower Manhattan

Purpose of Sampling

- To determine if residents are being exposed to concentrations of materials that may be of public health concern
- To communicate information to the public on the potential health implications of sample results

What was sampled?

Air:

- Fibers
  - Asbestos
  - Other Fibers (fiberglass, etc.)
- Particulate Matter

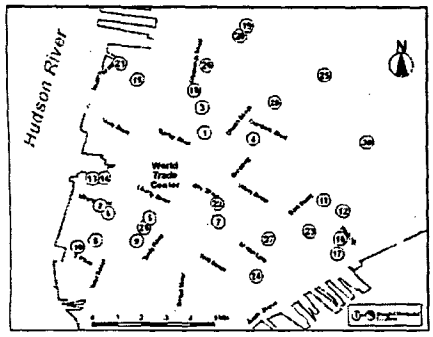
Dust:

- Fibers
  - Asbestos
  - Other fibers (fiberglass, etc..)
- Silica
- Mica
- Calcite
- Gypsum
- pH

How were buildings selected?

- Proximity to Ground Zero
- Willingness to Participate
- Building Condition
  - Cleaned
  - Not cleaned

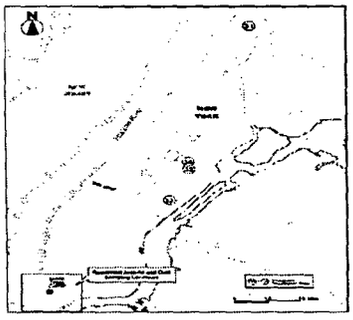
Buildings Sampled in Lower Manhattan



Sampling Locations

- 30 Residential Buildings in Lower Manhattan
  - 1 outdoor area
  - 1 common area (i.e. hallway, lobby)
  - 2 residential units (Unoccupied and Occupied Units)
- 4 Residential Buildings above 59th Street

Background Buildings Sampled



Sampling Methods

- Air Sampling
  - Half-day sampling
    - 'aggressive' sampling
    - passive
- Dust Sampling
  - Outdoor – Visible dust collected from a surface
  - Indoor – Dust vacuumed from a floor

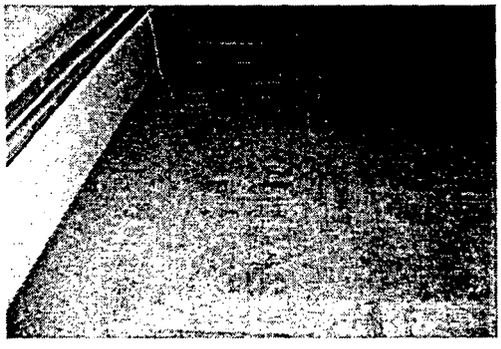
Analytical Methods - Air

- Fibers
  - Phase Contrast Microscopy (PCM)
  - Transmission Electron Microscopy (TEM)
- Particulate Matter
  - Gravimetric (weighed)

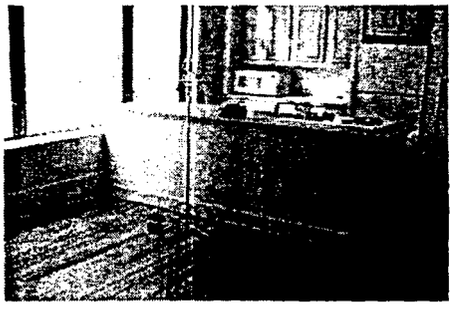
Analytical Methods - Dust

- Fibers
  - Polarized Light Microscopy (PLM)
  - Transmission Electron Microscopy (TEM)
- Mineral Content
  - X-Ray Diffraction (XRD)

Apartment Sampled with Visible Dust



Apartment Sampled With No Visible Dust



Results: Asbestos in Air

- 30 buildings sampled
  - Residential Units
    - 59 apartments sampled
  - Common Areas
    - 29 locations sampled
  - Outdoor
    - 29 locations sampled
- No asbestos in air detected above standard

Results: Asbestos in Dust

- 58 apartments sampled -asbestos detected in 11 units
- 26 common areas sampled - asbestos detected in 5 areas
- 14 outdoor areas samples - asbestos detected in 5 areas

Asbestos Results

- No levels of asbestos fibers were detected above the regulatory standard in any air samples (117 samples collected)
- Asbestos was detected in 21 out of 98 dust samples
- 2 sites (both outdoors) required asbestos abatement

Results: Other Fibers

- Other Fibers in Air
  - Results Pending
- Other Fibers in Dust
  - Fibrous Glass – Preliminary Results
  - Other Analytes Pending

Results: Fibrous Glass - Dust

- 58 apartments sampled – Fibrous Glass detected in 23 areas
- 26 common areas sampled – Fibrous Glass detected in 11 areas
- 14 outdoor samples tested – Fibrous Glass detected in 9 areas

Recommendations

- Continue cleaning
  - Use wet cleaning methods
  - HEPA Vacuum
- Avoid carrying dust into buildings