Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

Interim Bulk and Air Sampling Report
Wednesday, September 19, 2001

Investigators from the National Institute for Occupational Safety and Health (NIOSH) collected bulk and air samples in areas immediately adjacent to the debris pile and on personnel actively involved in rescue efforts in the vicinity of the debris pile to characterize potential exposures. Below are the interim sampling results for Wednesday, September 19, 2001.

Bulk Samples

Asbestos

- 27 bulk samples were collected from undisturbed loose material within the restricted area
  - Most samples indicated less than 1% asbestos (two contained between 1 and 3% asbestos)

Crystalline Silica

- 27 bulk samples were collected from undisturbed loose material within the restricted area
  - All samples contained quartz, typically in amounts less than 5%, although one sample was as high as 18% quartz
  - None of the samples contained cristobalite

Metals

- 27 bulk samples were collected from undisturbed loose material within the restricted area
  - Nothing of concern was found regarding metal analysis

Air Samples

Asbestos

- 3 personal air samples and 3 area air samples were collected by NIOSH investigators
  - All task-based concentrations were below 0.05 fibers/cc as determined by TEM analysis
- Additional air samples were collected by NYDOH contractors (26 personal and 4 area)
  - Personal sample 8-hour time-weighted average concentrations were below 0.05 fibers/cc as determined by PCM
  - 3 personal samples were analyzed by TEM; all were less than 0.004 fibers/cc
  - Area sample results were below 0.04 fibers/cc as determined by PCM

Total Dust

- 17 air samples were collected for total dust (7 personal and 10 area)
  - Personal sample 8-hour time-weighted average concentrations were below 1.0 mg/m^3
  - Area sample concentrations were below 1.7 mg/m^3

Metals

- 17 air samples were collected for metals (7 personal and 10 area)
  - Nothing of concern was found regarding metal analysis

Carbon Monoxide

- 5 real-time personal breathing zone samples were collected for carbon monoxide
  - All 8-hour time-weighted average concentrations were below 3 ppm
  - A single peak of 79 ppm was observed on a city transit worker

Volatile Organic Compounds (VOCs)

- 6 air samples were collected on thermal desorption tubes (used as a screening technique)
  - Compounds identified included benzene, toluene, and polynuclear aromatic hydrocarbons which have been attributed to products of combustion
  - Concentrations of VOCs on all samples were well below established limits
- 19 air samples were collected with charcoal adsorbent tubes
  - Concentrations of VOCs on all samples were below detectable limits