

"Even on the worst air days in Beijing, downwind from coal-fired power plants, or in the Kuwaiti oil fires, we did not see these levels of very fine particulates," Cahill said. The amounts of very fine particles, particularly very fine silicon, decreased sharply during the month of October.

Coarse particles

Similar to the high concentrations of very fine particles, virtually all the air samples from the trade center site carried high concentrations of coarse particles—those about 12 micrometers to 5 micrometers in diameter.

"These particles simply should not be there," Cahill said. "It had rained, sometimes heavily, on six days in the prior three weeks. That rain should have settled these coarse particles." The finding suggests that coarse particles were being continually generated from the hot debris pile. This observation is at least qualitatively supported, for while they are still being analyzed, the coarse particles appear to be coated with combustion products, including soot, Cahill said.

Metals

Many different metals were found in the samples of very fine particles, and some were found at the highest levels ever recorded in air in the United States.

However, there are few established safety guidelines for airborne metals. One metal for which there is a guideline, lead, was present at low levels in fine and very fine particles.

Some of the metals for which there are no guidelines that were present in very fine particles in relatively high concentrations were iron, titanium (some associated with powdered concrete), vanadium and nickel (often associated with fuel-oil combustion), copper and zinc. Mercury was seen occasionally in fine particles but at low concentrations. Many of those metals are widely used in building construction, wiring and plumbing. Some are common in computers.

The metal content of the coarse particles is still being analyzed.

Asbestos and glass

Although some asbestos was used in the buildings for fireproofing and in floor tiles, and the DELTA group checked for it carefully using the electron microscope, they found very few asbestos fibers, even in the very fine particles.

Some particles that appeared to be glass were seen, but they were not in the form of long shards, which can mimic asbestos fibers.

Clean-up recommendations

All evidence indicates that ambient air in New York City now is little influenced by the World Trade Center collapse, especially since the fires are out and the debris pile has cooled.

However, the presence of large amounts of very fine particles as late as October means that indoor clean up should be done carefully, Cahill said. Very fine particles will have penetrated crevices and fabrics in a way normal dust doesn't. And they are easily re-suspended, which re-exposes the room's occupants to them.

Cahill strongly supports the recommendations made by the New York Department of Health regarding washing with water, and said:

- Don't use vacuum cleaners or brooms because they re-suspend particles. Do use wet rags, mops and wet-vacuum-type cleaners.
- Wipe all surfaces, including window blinds, picture tops and door frames, with wet rags.
- Drapes and curtains should be washed or dry-cleaned. Furniture fabrics should be steam-cleaned. Carpets should be wet-cleaned.
- Use high efficiency electrostatic or HEPA air filters in furnaces and air conditioners.
- Keep humidity reasonably high indoors, to keep very fine particles from floating around.

UC Davis DELTA Group

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METRO WEDNESDAY, AUGUST 7, 2002

C-I-T-Y



Justin Lane for The New York Times

man Jr. handed out fliers yesterday at a
Parkway. His challenger, Sandra Roper,
Supreme Court building in Brooklyn.



U.S. to Test for Contaminants In 250 Downtown Apartments

By BARBARA STEWART

The federal Environmental Protection Agency announced plans yesterday to test for dioxins and toxic metals in a sampling of Lower Manhattan apartments whose interiors were coated with ash and dust from the World Trade Center's collapse.

The agency said the testing, along with the asbestos cleanup and testing program announced in May, will be the largest cleanup in its history.

"We've talked to scientists and experts and doctors and community groups and tenants' groups," an agency official said. "We feel — and scientists agree — that we need to act now and not spend months or years studying the situation."

The agency plans to test 250 apartments for dioxins and toxic metals like lead and mercury. Those apartments will be randomly chosen from the approximately 3,600 apartments whose residents have requested asbestos cleaning and testing. An additional 1,000 apartments will be tested for asbestos at the residents' request and cleaned only if their levels exceed federal standards.

The agency said that if tests indicated unacceptably high levels of dioxins and toxic metals, the apartments would be cleaned and an expansion of tests and cleanups would be considered. The cost of a laboratory analysis of dioxins is three times that of an asbestos analysis.

All testing and cleaning should be-

gin in September, the agency said. All residents south of Canal and Pike Streets in Lower Manhattan are eligible, as are landlords who want their buildings' common areas — lobbies, halls and corridors — cleaned and tested. The E.P.A. is accepting requests until Sept. 3.

The E.P.A.'s May announcement of an asbestos cleanup program was an abrupt reversal of the federal government's earlier stance that cleanups of private indoor spaces were the responsibility of residents and landlords. Tenants' groups and politicians had demanded that the E.P.A. and other federal agencies take on the job. But now that it has, only a relatively few residents in the approximately 20,000 eligible apartments have asked for the work.

The reasons for refusing run the "whole gamut," the agency official said. "Some say, 'It's very clean, I know it is,'" she said. "Others don't trust the government to be inside their homes."

The agency says ordinary home cleaning cannot remove asbestos, toxic metals or dioxins. Specialized cleaning agents and vacuums are required. Crevices or wider areas with thick coatings of dust will be isolated with plastic shields and samples taken for testing. Particularly dusty apartments will be cordoned off and the residents moved out until the cleaning is completed. Afterward, the air will be tested.