U.S ENVIRONMENTAL PROTECTION AGENCY, REGION II
NEW YORK CITY RESPONSE AND RECOVERY OPERATIONS
290 BROADWAY
New York, NY 10007

APR 18 2003

Mike Gilsenan
New York City Department of Environmental Protection
59-17 Junction Boulevard
11th Floor
Corona, New York 11368

Dear Mr. Gilsenan:

Please find a summary of our evaluation of the analytical data from 114 Liberty Street presented below. A review of the analytical data for asbestos, polycyclic aromatic hydrocarbons (PAHs), dioxin, and lead indicates that the primary clearance levels identified in the work plan have been met in the areas that were cleaned and tested. The secondary clearance level identified in the workplan for fibrous glass has also been met in the areas that were cleaned and tested. The secondary clearance level for crystalline silica was met in 64% of the areas tested; however the remaining areas were similar to background values observed from a USEPA background study. Since all of the primary clearance values have been met, the building can be released back to the owner.

As we discussed, I do suggest that one item needs to be identified in relation to releasing the building to the owner, which is the area that contains the pizza shop. Your staff has identified the area of the building that contains the pizza shop as having asbestos-containing material (ACM). The ACM was considered to be in poor condition, and the NYCDEP has indicated that an asbestos abatement will need to be undertaken in this area. Therefore, this space within the building is not considered to have met the primary clearance value for asbestos.

If you have any questions, please do not hesitate to contact me at 212-637-3116.

Sincerely,

Kathleen Callahan

Kathleen Callahan
Assistant Regional Administrator for the
New York Response and Recovery Operations

Enclosure

cc: Krish Radhakrishnan, NYCDEP

Summary of the Analytical Results for the Chemicals of Potential Concern

USEPA's review of the analytical data for samples collected from 114 Liberty Street indicate that the areas sampled meet the numeric criteria established in the workplan (Table 1). The values chosen were established in the draft "World Trade Center Indoor Air Assessment: Selecting Contaminants of Potential Concern and Setting Health-Based Benchmarks" report (i.e., COPC document). The COPC document was created by a committee with representation from federal, state, and city government and was designed to establish numeric criteria to be used in addressing potential contamination from dust and combustion by-products associated with the World Trade Center collapse and fire. This document is currently undergoing peer-review. The data which was evaluated consisted of air or wipe samples for six chemicals, asbestos, polycyclic aromatic hydrocarbons (PAHs), dioxin, lead, fibrous glass, and crystalline silica.

Table 1: Clearance Criteria used for 114 Liberty Street.

Parameter	*Clearance Level*	*Note*
Asbestos in air – PCMe	0.0009 s/cc	Primary clearance level
Lead in settled dust	<25 $\mu g/ft^2$	Primary clearance level
Dioxin in settled dust	<4 ng/m^2	Primary clearance level
PAHs in settled dust	<300 $\mu g/m^2$	Primary clearance level
Fibrous glass in air	<0.01 f/cc	Secondary clearance level
Crystalline silica in air	1$\mu g/m^3$	Secondary clearance level

Each area that was cleaned and sampled met the primary clearance levels identified in the work plan for asbestos, polycyclic aromatic hydrocarbons (PAHs), dioxin, and lead. The secondary clearance level for fibrous glass has also been met in the areas that were cleaned and tested. The secondary clearance level for crystalline silica was met in 64% of the areas tested. The remaining areas were similar to background values observed from a USEPA background study. This is discussed in detail below. Since all of the primary clearance values have been met, the building can be released back to the owner.

There is one item that needs to be identified in relation to releasing the building to the owner, the area that contains the pizza shop. NYCDEP staff has indicated that the area of the building which contains the pizza shop contains asbestos-containing material (ACM). The ACM was considered to be in poor condition and the NYCDEP has indicated that an asbestos abate will need to be undertaken in this area. Therefore, this space within the building is not considered to have met the primary clearance value for asbestos.

Below is a summary of the analytical results for each chemical.

Asbestos – Eighty-eight air samples were collected before and/or during cleaning events. Four samples exceeded 0.0009 s/cc and four samples could not be analyzed due to the filters being overloaded with particulate matter. The before/during cleaning samples were not used to evaluate if additional cleaning was needed.

Seventy-one air samples were collected after first-cleaning event. Ten samples exceeded 0.0009 s/cc and eight samples could not be analyzed due to the filters being overloaded with particulate matter. Based on these results, there were five areas that required additional cleaning and sampling for asbestos. These areas were the 5^{th}, 7^{th}, 8^{th}, 9^{th}, and 10^{th} floors.

Twenty-five air samples were collected from the 5^{th}, 7^{th}, 8^{th}, 9^{th}, and 10^{th} floors after the second-cleaning event. All samples were below the detection limit of 0.0004 s/cc and below the numeric criterion of

0.0009 s/cc. No additional cleaning is required for asbestos. **All of the areas met the primary clearance level for asbestos[1].**

Lead – Thirty pre-cleaning wipe samples were collected and analyzed for lead at a detection limit of 20 $\mu g/ft^2$. Thirteen samples were above 25 $\mu g/ft^2$ and represent apartments on the 10th floor (2 of 3 above 25 $\mu g/ft^2$), 9th floor (2 of 3 above 25 $\mu g/ft^2$), 7th floor (1 of 3 above 25 $\mu g/ft^2$), 5th floor (2 of 3 above 25 $\mu g/ft^2$), 4th floor (2 of 3 above 25 $\mu g/ft^2$), 3rd floor (1 of 3 above 25 $\mu g/ft^2$), and 11th floor (3 of 6 above 25 $\mu g/ft^2$).

Thirty post-first cleaning wipe samples were collected from each floor and analyzed for lead at a detection limit of 9 $\mu g/ft^2$. All of the sample results were below 25 $\mu g/ft^2$. Post-cleaning concentrations from areas that had pre-cleaning concentrations above 25 $\mu g/ft^2$ were all below the primary clearance value. No additional cleaning required for lead. **All of the areas met the primary clearance level for lead.**

Dioxin – Thirty pre-cleaning wipe samples collected and analyzed for dioxin. The maximum Toxicity Equivalents (TEQ) Estimated Maximum Potential Concentration (EMPC) with non-detects equal to ½ of the detection limit (ND=1/2) value was 0.951 ng/m^2. This sample and the remaining 29 samples were all below the primary clearance value of 4 ng/m^2. Based on the pre-cleaning samples, no additional cleaning required for dioxin.

Thirty post-cleaning wipe samples collected and analyzed for dioxin. The maximum TEQ EMPC (ND=1/2) value was 0.837 ng/m^2. This sample and the remaining 29 samples were all below the primary clearance value of 4 ng/m^2. Based on the post-cleaning samples, no additional cleaning required for dioxin. **All of the areas met the primary clearance level for dioxin.**

PAHs – Thirty pre-cleaning wipe samples collected and analyzed for PAHs at a detection limit of 1 μg. All or the results were below the detection limit and the calculated Toxicity Equivalent Factors (TEFs) for each sample was 116 $\mu g/m^2$, which is below the primary clearance level of 300 $\mu g/m^2$. Based on the pre-cleaning samples, no additional cleaning is required for PAHs.

Thirty post-cleaning wipe samples collected and analyzed for PAHs at a detection limit of 1 μg. All or the results were below the detection limit and the calculated TEFs for each sample was 116 $\mu g/m^2$, which is below the primary clearance level of 300 $\mu g/m^2$. Based on the pre-cleaning samples, no additional cleaning is required for PAHs. **All of the areas met the primary clearance level for PAHs.**

Fibrous glass – Sixty-five air samples were collected and analyzed for fibrous glass. All of the samples were below the secondary clearance level of 0.01 f/cc. In addition, all of the PCM analyses were below the 0.01 f/cc. PCM analysis results provide another data set that can be used to assess fibrous glass, with the assumption that all detected fibers are fibrous glass, and the PCM data set for 114 Liberty indicates that even if all the fibers from the PCM analysis were fibrous glass, all samples would be below the secondary clearance level of 0.01 f/cc. **All of the areas met the secondary clearance level for fibrous glass.**

Silica – Eleven air samples were collected and analyzed for crystalline silica at a detection limit of 11$\mu g/m^3$. Seven samples were below the detection limit and four samples were above the detection limit, with values of 17.2, 19.6, 22.1, and 22.1 $\mu g/m^3$. The numeric criterion that USEPA has proposed in the

[1] This conclusion does not include the area that contains the pizza shop. As discussed in the letter and the summary of the data, the pizza shop contains asbestos-containing material (ACM) that is in poor condition. The ACM will be addressed through an asbestos abatement project.

COPC document, which was adopted as a secondary clearance value for this project, is 1 $\mu g/m^3$. Although the value chosen for this project was 1 $\mu g/m^3$, the analytical detection limit available for analyzing crystalline silica in indoor air samples is higher than this value, therefore a result that is below the detection limit is considered to be protective of public health. Four out of eleven samples (36%) were above the detection limit of 11 $\mu g/m^3$, ranging from 17.2 to 22.1 $\mu g/m^3$. These values are also above the secondary clearance value.

Although these values are above the clearance value, they are similar to concentrations detected in a background study conducted by USEPA. In the USEPA background study, there was a frequency of detection of 25%, with a range of 4 to 259 $\mu g/m^3$. Further, the values from the background study without the maximum value of 259 $\mu g/m^3$, provide a range of 4 to 28 $\mu g/m^3$. This indicates that the range of values observed in 114 Liberty Street are similar to those observed in the background study. Based on this, it has been determined that the crystalline silica results are similar to background values and therefore additional cleaning is not necessary.