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ENVIRON

January 17, 2002

Mr. George Olsen, Esq.
Parent-Teacher Association
Public School 234
292 Greenwich St
New York, NY 10007-1081

Re: Report to Public School 234 Parent-Teachers Association

Dear Mr. Olsen:

The purpose of this letter is to provide the P.S. 234 Parent-Teacher Association with the results of ENVIRON's evaluation of environmental data that was collected in and around the P.S. 234 facility. The data have been collected by the Board of Education's consultants, ATC Associates, as well as the School Construction Authority and its consultants. Aspects of the sampling were performed in response to recommendations made by ENVIRON on behalf of the P.S. 234 PTA. The sampling and analysis recommendations made by ENVIRON were based on several inspections of the school building and grounds, review of previously-collected data at the P.S 234 facility, and an initial review of publicly-available analytical data collected for ground zero and the areas around ground zero by the U.S. Environmental Protection Agency, the New York State Department of Environmental Conservation, the Occupational Safety and Health Administration, and other agencies.

Details of all the sampling conducted at P.S. 234 are provided on the attached summary. The sampling results were reviewed by specialists at ENVIRON with expertise in human health risk assessment. The results of our evaluation of the sampling are summarized below:

- Asbestos: Only trace levels (less than one percent) of asbestos were ever detected in any samples collected inside the school (and only in samples collected prior to the cleanup of the school) and the vast majority of samples in the school have shown no detectable asbestos fibers. Only one debris sample collected from around the school (debris from the roof), was found to contain asbestos above the regulatory threshold of 1 percent. Extensive cleaning of the school interior and exterior was conducted, followed by aggressive air monitoring. The results of several rounds of air testing following the completion of the cleaning operation, conducted using Transmission Electron Microscopy (TEM), have shown no asbestos fibers detected in any sample, either inside or outside of the school. Cleanup was also performed in the playground and on the roof to remove debris that contained trace levels of asbestos and follow-up sampling has not detected any asbestos. Further asbestos monitoring inside and outside the school is part of the on-going monitoring program, as discussed below.

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- **Interior Surfaces:** Following the cleaning of the school, extensive wipe testing of interior surfaces was performed for a wide variety of constituents, including lead and other metals, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and dioxins and related compounds. ENVIRON compared the results to regulatory standards for interior surfaces, where available (e.g., lead and PCBs), to other available screening levels, and to screening levels developed using a USEPA risk-based approach, with exposure assumptions based on a school setting, and very protective risk targets (10^{-6}). None of the analyzed constituents were detected in any sample at a concentration above a standard or screening level. A physical inspection of the school shows that the cleaning appears to have been very thorough, as confirmed by the sampling results. Additional surface sampling is part of the on-going monitoring program, as discussed below.

- **Air Quality**: Indoor and outdoor air quality sampling has been conducted in the school on a number of days since the completion of the cleaning of the school. Sampling has included a wide range of analytical parameters, including volatile organic compounds (VOCs) and hydrocarbons; metals, including mercury; PAHs; PCBs; dioxins and related compounds; particulates; and a number of other air quality constituents. Sampling showed that the levels of constituents both outside and inside the school were generally consistent with concentrations expected in an urban area. On a few sampling days, levels of certain VOCs in indoor air in the school were at slightly higher levels, but it was noted that extensive painting and cleaning was occurring inside the school during those periods. VOCs are common constituents of paints and some cleaning products. Particulate levels both inside and outside the school have shown some variability. Some individual instantaneous measurements of the concentration of respirable particulates (dust) have been above 65 ug/m^3, which is the outdoor air quality standard as a 24-hour average concentration, as well as the 40 ug/m^3 guideline for sensitive receptors. These initial particulate measurements were made with the school ventilation systems shut down while upgrades to the filtration systems were being completed. Based on these readings, further assessment is appropriate. ENVIRON has requested that the Board of Education further evaluate particulate levels at the school with the upgraded ventilation system operating, and those measurements have reportedly begun. Continued air sampling, including sampling for particulates and VOCs inside and outside the school, is included as part of the on-going monitoring program.

Based on ENVIRON's review of the available data collected at and in the vicinity of the school, and pending further evaluation of particulate levels as described above, ENVIRON's preliminary conclusion is that the results of the testing to date are generally representative of conditions to be expected for a school in an urban setting and that the existing environmental conditions inside the school do not appear to pose a significantly greater health risk for the general population, including children, than conditions that would be anticipated at a similar school in an urban setting. Outdoor air quality in the area of the school has generally improved over the past several weeks, since the initial air sampling was performed. ENVIRON understands that the Board of Education is currently working with a team of specialists to assess outdoor recess policies.

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