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March 1, 2002

Mr. Bernard P. Orlan  
Director, Environmental Health & Safety  
New York City Board of Education  
28-11 Queens Plaza North  
Long Island City, NY 11101-4008

**Re: Wipe Samples for Dioxins  
Public School 234M  
ATC Project No. 15-19125-0279**

Dear Mr. Orlan:

ATC Associates Inc. (ATC) is pleased to provide this report of the results of the wipe samples for polychlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs) collected on February 5, 2002, at the referenced location. The New York City Board of Education (BOE) requested these samples to evaluate possible contamination in the school building per the recommendation of Environ Corp., consultant to the parents association..

#### **SCOPE OF WORK**

The samples were collected using gauze pads and hexane as a solvent. The pads and solvent were provided and samples were analyzed by Pace Analytical Services, Inc. (Pace) of Minneapolis, MN, a laboratory experienced in dioxin analysis. The analysis was performed by modified EPA Method 8290 using combined capillary column gas chromatography/high resolution mass spectrometry.

Wagdi Abdelshahid, Industrial Hygienist of ATC's New York City office, collected the samples.

The sampling was performed consistent with generally accepted industrial hygiene practices. There were inherent limitations created by constraints of time, operational and work practice variability, variations in contaminant concentrations, and sampling and analytical accuracy. The results of the sampling represent conditions found on the date the samples were collected.

#### **RESULTS**

ATC submitted two (2) wipe samples for PCDDs/PCDFs (plus one blank) to Pace for analysis. Copies of the draft analysis results are provided in the Attachment. Samples were taken from areas specified by the parents association consultant. The area of each sample one (1) square meter (1 m<sup>2</sup>).

The New York State Department of Health (NYSDOH) established guidelines for dioxin for the re-occupancy of the Binghamton State Office Building following a PCB fire. The NYSDOH guideline for dioxin on surfaces is 25 nanograms per square meter (25 ng/m<sup>2</sup>).

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The New York State Department of Environmental Conservation (NYSDEC) has set 0.0006 parts per million (ppm) as the allowable concentration of dioxin in soil. The EPA has established a residential clean-up goal of 1 part per billion (ppb).

Each sample was analyzed for sixteen (16) PCDD/PCDF isomers. The results for each isomer were then converted to 2, 3, 7, 8 -tetrachloro-dibenzo-p-dioxin (2, 3, 7, 8-TCDD) equivalents by multiplying by an established equivalency factor. This provides a single value (in nanograms) for the analytical results for each sample. The sample locations and the results are shown in the table:

**DIOXIN WIPE SAMPLE RESULTS  
(2, 3, 7, 8 TCDD EQUIVALENTS)**

| <b>LOCATION/SAMPLE NUMBER</b>                 | <b>DIOXIN CONCENTRATION<br/>(ng/m<sup>2</sup>)</b> |
|-----------------------------------------------|----------------------------------------------------|
| 1 <sup>st</sup> Floor Hallway -- east end/DX1 | 0.0010                                             |
| 1 <sup>st</sup> Floor Hallway -- west end/DX2 | 0.00043                                            |
| Blank/DX3                                     | 0.00                                               |

The concentrations on indoor surfaces were 0.0012 and 0.00043 ng/m<sup>2</sup>. These levels are well *below* the NYSDOH guideline.

It is not possible to determine when the 2, 3, 7, 8 - TCDD equivalents detected in these samples were deposited. Dioxin wipe samples were not collected from this school prior to December 6, 2001.

It is our pleasure to provide these indoor environmental services to the NYC Board of Education. If you have any questions about this report, please call (212) 353-8280, extension 212.

Sincerely,  
**ATC ASSOCIATES INC.**



James R. Cohn, CIH, CSP  
Regional Manager, Industrial Hygiene Division

Attachment