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February 11, 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: Respirable Particulate Monitoring  
 Various School Locations  
 ATC Project No. 15-19125-0314**

Dear Mr. Orlan:

ATC Associates Inc. (ATC) is pleased to provide this report of the results of real-time air monitoring of respirable particulates conducted on February 8, 2002, at numerous locations. The New York City Board of Education (BOE) requested this monitoring to obtain comparison data for lower Manhattan schools.

#### **SCOPE OF WORK**

John Scarcella, Environmental Technician from ATC's New York City office, conducted the monitoring. ATC's findings are based on real-time environmental measurements. Real-time readings of respirable particulates (PM<sub>2.5</sub>) were collected from outdoors and limited indoor locations.

ATC recorded concentrations of respirable particulates with a Dust Trak<sup>®</sup> Aerosol Monitor Model 8520, manufactured by TSI, Inc.

The assessment was performed consistent with generally accepted air quality assessment practices. As with all such assessments, there were inherent limitations created by constraints of time, operational and work practice variability, variations in air quality parameters, and sampling and analytical accuracy. The results of the sampling represent conditions found on the date of the survey and may not represent conditions found at other times.

#### **EVALUATION CRITERIA**

The target guidelines for the parameter that ATC evaluated during this investigation are shown in the following table.

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**TARGET GUIDELINES FOR AIR QUALITY PARAMETERS EVALUATED\***

| PARAMETER                                    | TARGET LEVEL                                                              | AGENCY OR ORGANIZATION                                  |
|----------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------|
| Respirable Particulates (PM <sub>2.5</sub> ) | 65 micrograms per cubic meter of air (µg/m <sup>3</sup> ) 24 hour average | USEPA NPAAQS                                            |
| Respirable Particulates (PM <sub>2.5</sub> ) | 40 µg/m <sup>3</sup> 24 hour average                                      | USEPA recommendation for children/sensitive individuals |

USEPA = United States Environmental Protection Agency  
NPAAQS = National Primary Ambient-Air Quality Standard

**REAL-TIME SAMPLING RESULTS**

A total of fifty-eight (58) outdoor respirable particulates measurements\* were collected from twenty-nine locations in Manhattan, ranging from W. 11<sup>th</sup> St. to E. 33<sup>rd</sup> St. The measurements were made from 7:30 A.M. to 4:35 P.M. The IAQ field report forms are provided as the Attachment.

The outdoor PM<sub>2.5</sub> concentrations ranged from 28 µg/m<sup>3</sup> to 85 µg/m<sup>3</sup>. The indoor concentrations ranged from 11 µg/m<sup>3</sup> to 44 µg/m<sup>3</sup>. Two (2) outdoor readings were above the NPAAQS of 65 µg/m<sup>3</sup>. One (1) of the indoor and sixteen (16) of the outdoor measurements were above the EPA recommended guideline for children and sensitive individuals of 40 µg/m<sup>3</sup>.

- These measurements were instantaneous readings, the NPAAQS and the recommendation for children are 24-hour averages.

**CONCLUSION**

Based on our measurements, none of the indoor and two (2) of the outdoor readings were above the NPAAQS of 65 µg/m<sup>3</sup>. One (1) of the indoor and sixteen (16) of the outdoor measurements were above the EPA recommended guideline for children and sensitive individuals of 40 µg/m<sup>3</sup>.

It is our pleasure to provide these air quality consultative services to the New York City Board of Education. If you have any questions about this report, please call (212) 353-8280, extension 212 or 261.

Sincerely,  
**ATC ASSOCIATES INC.**

  
Yiannis Efstathiou  
Project Manager

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