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February 28, 2002

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

**Re: Air Sampling for Silica
 Stuyvesant High School
 ATC Project No. 15-19125-0246**

Dear Mr. Orlan:

ATC Associates, Inc. (ATC) is pleased to provide this letter report of air sampling for silica-containing dust conducted on February 13, 2002 at the referenced school. The New York City Board of Education (BOE) requested this sampling at the recommendation of H. A. Bader, a consultant to the parents' association.

ATC collected twelve (12) samples on each day for respirable dust using pre-weighed 37mm PVC filters connected to size-selective cyclones to remove the larger (non-respirable) particles prior to deposition on the filters. One (1) outdoor sample and eleven (11) indoor samples were collected per day. The samples, plus blanks, were sent to PSC Analytical Services, Inc., an American Industrial Hygiene Association accredited laboratory in Reading, PA. Analysis was performed by x-ray diffraction according to OSHA Method 142. Copies of the analytical reports are attached.

Silica was found above the limits of detection in one sample. Sample S1, collected in the 1st floor lobby, contained 0.0135 milligrams of silica per cubic meter of air (mg/m³). The Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) for silica-containing dust is based on the percent of quartz (SiO₂) found in the dust, the higher the percentage of quartz, the lower the PEL. The formula for calculating the PEL is found in 29 CFR 1910.1000, Table Z-3. The formula is:

$$\frac{10\text{mg/m}^3}{\% \text{SiO}_2 + 2}$$

Sample S1, collected in the 1st floor lobby contained 0.0135 mg/m³ of silica. The amount of quartz in this sample was ≤22%, therefore the PEL for this dust would be:

$$\frac{10\text{mg/m}^3}{22 + 2} = 0.417 \text{ mg/m}^3$$

The silica concentration in this sample was 3.2% of the calculated PEL.

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The OSHA PEL is the only regulatory standard for silica exposure, however it is intended for occupational exposure in settings such as foundries, sandblasting, rock drilling, etc. The EPA does not have an ambient-air quality standard for silica.

ATC appreciates the opportunity to provide this indoor air quality consultative service to the BOE. Please call me at (212) 353-8280 extension 212 if you have any questions.

Sincerely,
ATC Associates, Inc.

A handwritten signature in black ink, appearing to read "James R. Cohn", with a stylized flourish at the end.

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

Attachment