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December 10, 2001

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**

17
 13 + 13 + 12 = 38
 13
 40
 75

Dear Mr. Orlan:

ATC Associates, Inc. (ATC) is pleased to provide this letter report of air sampling for silica-containing dust conducted on November 15-16, 21 and 27, 2001, 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 a total of thirty-six (36) samples (12 per session) 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. Six (6) samples were collected on November 15th and six were collected on November 16th. Twelve samples were collected on November 20th and 27th. Four (4) outdoor samples and thirty-two (32) indoor samples were collected. The samples were sent to PSC Analytical Services, Inc., an American Industrial Hygiene Association accredited laboratory in Reading, PA. Four blank filters were also submitted. Analysis was performed by x-ray diffraction according to OSHA Method 142. A copy of the analytical report is attached.

Silica was found above the limits of detection in only one of the thirty-six samples. This was the sample (#ATC-1115-STY-S4) collected on November 15th in Room 635. This sample contained 0.023 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:

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

The amount of quartz in Sample #ATC-1115-STY-S4 was 18%, therefore the PEL for this dust would be:

$$\frac{10\text{mg/m}^3}{18 + 2} = 0.50 \text{ mg/m}^3$$

The silica concentration in this sample was 0.023 mg/mg³, which is 4.6% of the calculated PEL.

Mr. Bernard P. Orlan
Air Sampling for Silica
Stuyvesant High School

December 10, 2001

Page 2

ATC Project No. 15-19125-0246

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