NYC 9/11 Public Portal Document

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April 25, 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
P. S. 89M
ATC Project No. 15-19125-0297

Dear Mr. Orlan:

ATC Associates, Inc. (ATC) is pleased to provide this letter report of air sampling for silica-containing dust conducted on March 28, 2002 at the referenced school. The New York City Board of Education (BOE) requested this sampling at the recommendation of Environ Corp., the consultant to the parents association.

Scope of Work

ATC collected ten (10) samples 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. All samples were collected indoors. The samples were sent to PSC Analytical Services, Inc., an American Industrial Hygiene Association accredited laboratory in Reading, PA. One blank filter was also submitted. Silica analysis was performed by x-ray diffraction according to OSHA Method 142. A copy of the analytical report is attached.

Tenzin Namgyal and Wagdi Abdelshahid, Industrial Hygienists from ATC's New York City office, conducted the sampling consistent with accepted industrial hygiene practices. The results represent the conditions on the day the samples were collected.

Results

Silica was found above the limits of detection in two samples. These were Sample #ATC-0328-89M-S7 collected in Room 232 and Sample #ATC-0328-89M-S8 collected in the Auditorium. The Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) for silica-containing dust is based on the percent of quartz (SiO_2) 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:

$$\frac{10 mg/m^3}{\%SiO_2 + 2}$$

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Both samples contained 0.0108 milligrams of silica per cubic meter of air (mg/m^3). The amount of quartz in these samples was 22%, therefore the PEL for this dust would be:

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

The silica concentration in this sample was 2.6% of the calculated PEL.

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.

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

Attachment

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