



104 East 25th St., 10th Floor
New York, New York 10010
www.atc-enviro.com
212.353.8280
Fax 212.353.8306

July 10, 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 report of air sampling for silica-containing dust conducted on April 3, 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.

Scope of Work

ATC collected twelve (12) samples 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. The samples, plus a blank, 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. A copy of the analytical report is attached.

Wagdi Abdelshahid Industrial Hygienists from ATC's New York City office, conducted the sampling. The results represent conditions on the day the samples were collected.

The sampling locations were: 1st Floor Main Lobby, Auditorium, Pool, 2nd Floor Main Stair, 3rd floor Gym, 3rd floor Hallway center, 5th floor cafeteria, 5th floor Hallway center, Room # 511 (South), Room # 701 (East), Room # 836 (North) and Outdoors East.

Results

Silica was found above the limit of detection in one of the samples. Sample # ATC-0403-STY-S4, collected in Auditorium, contained 0.0123 milligrams of silica per cubic meter of air (mg/m³). Silica was not detected above the analytical limit of detection in any of the remaining samples.

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.

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The formula for calculating the PEL is found in 29 CFR 1910.1000, Table Z-3. The formula is:

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

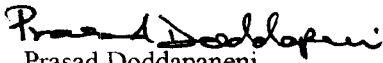
The amount of quartz in this sample was $\leq 20\%$, therefore the PEL for this dust would be:

$$\frac{10\text{mg/m}^3}{20 + 2} = 0.455 \text{ mg/m}^3$$

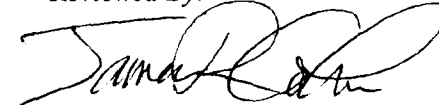
The silica concentration in this sample was 2.70% of the calculated PEL. The OSHA PEL is the only regulatory standard for silica exposure, however it is intended for occupational exposure in settings such as foundries, sandblasting, rock drilling, etc. The EPA does not have an ambient-air quality standard for silica.

ATC appreciates the opportunity to provide this indoor air quality consultative service to the BOE. Please call (212) 353-8280 extension 212 or 290 if you have any questions.

Sincerely,
ATC Associates, Inc.


Prasad Doddapaneni
Senior Project Manager

Reviewed By:


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

Attachment