NYC 9/11 Public Portal Document

ATC ASSOCIATES INC.

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January 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 Dust
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 December 10, 2001 and January 4 and 9, 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

On each day, 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. Eleven (11) samples were collected indoors and one (1) was collected outdoors. The samples, plus one blank filter for each day, were sent to PSC Analytical Services, Inc., an American Industrial Hygiene Association accredited laboratory in Reading, PA. Analysis for silica was performed by x-ray diffraction according to NIOSH Method 7500. Copies of the analytical reports are attached.

The sampling locations were:

December 7: 1st floor hallway Main Entrance, 2nd floor hallway, 2nd floor hallway by Room C232, 3rd floor hallway, Pool, Auditorium, 3rd floor Gymnasium, Cafeteria, 5th floor Room 501 East, Room 402 South, Room 351 North, outdoors (North).

January 4: 1st floor lobby Main Entrance, 1st floor hallway by Custodian Office (West), 2nd floor lobby, Pool, Auditorium, 3rd floor Gymnasium, Dining Room 5th floor, Room 513 South, Room 638 North, Room 701 East, 10th floor hallway center, outdoors (entrance).

January 9: 1st floor lobby, Room 129 South, 2nd floor lobby, Pool, Auditorium, Room 260 East, 3rd floor Gymnasium, Dining Room 5th floor, 8th floor hallway by Room 815, 9th floor hallway by Room 911, Room 1006 North, outdoors (North).

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SUBJECT TO PROTECTIVE ORDER NO. 2, SEPT. 2008

NYC-WTC_000238317

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Air Sample Results

No silica was reported above the detection limits in any of the samples obtained on December 7, 2001 and January 4, 2002.

Two samples were reported to be above the detection limit on the sampling date of January 9, 2002. Sample number ATC-0109-STY-S6 (obtained from the 2nd floor lobby) was reported to be 0.0147 milligrams per cubic meter of air (mg/m^3) and sample number ATC-0109-STY-S7 (obtained from Room 260 East) was reported to be 0.0135 mg/m^3.

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

The amount of quartz in Sample #ATC-0109-STY-S6 was <24%, therefore the PEL for this dust would be:

$$\frac{10 mg/m^3}{24 + 2} = 0.385 \ mg/m^3$$

The silica concentration in this sample was 0.0147 mg/mg^3, which is 3.8% of the calculated PEL.

The amount of quartz in Sample #ATC-0109-STY-S7 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 0.0135 mg/mg^3, which is 3.2% of the calculated PEL.

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

NYC-WTC_000238318