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January 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 Metals & Mercury
High School for Leadership & Public Service (M894)
90 Trinity Place
New York, New York
ATC Project No. 15-19125-0290**

Dear Mr. Orlan:

ATC Associates, Inc. (ATC) is pleased to provide this letter report of air sampling for metals and mercury vapor collected on December 29, 2001, at the referenced school. The New York City Board of Education (BOE) requested these samples to evaluate possible contamination in the school building..

ATC collected nine (9) samples for metals and nine (9) samples for mercury vapor. Samples were collected for a minimum of ten (10) hours. Seven (7) samples were collected inside the building and two (2) were collected outdoors for both analytes. One blank sample each was also submitted. The samples were sent to PSC Analytical Services, Inc., an American Industrial Hygiene Association-accredited laboratory in Reading, PA. Copies of the analytical reports are attached (Metals – Attachment 1; Mercury – Attachment 2).

Metal samples were collected using 37 mm mixed cellulose ester filters connected to battery-powered sampling pumps at a flow rate of 2 liters per minute. Pumps were calibrated before and after each sampling period. Analysis was performed by NIOSH Methods 7300M. Each sample was analyzed for a panel of eleven (11) metals. The metals were aluminum (Al), cadmium (Cd), chromium (Cr), cobalt (Co), copper (Cu), iron (Fe), magnesium (Mg), manganese (Mn), molybdenum (Mo), nickel (Ni) and zinc (Zn).

Samples for mercury vapor were collected using Carulite® (Hydrar) tubes connected to battery-powered sampling pumps calibrated to collect 0.2 liters of air per minute. Analysis was performed by means of a mercury analyzer according to NIOSH Method 6009.

The locations of the samples for both metals and mercury were: Roof by air intake, Outdoors by the Main Entrance; Library – 13th floor North; Room 1106 – 11th floor South, Room 903 – 9th floor North; Room 715- 7th floor South; Room 503 – 5th floor North; Hallway by Stair B-3rd floor South; Main Lobby – 1st floor.

The established regulatory values for metals and mercury are intended for industrial workplace exposures and are not generally applicable to office/school settings. *There are no standards for these materials in indoor air in non-industrial situations.*

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AIR SAMPLE RESULTS - METALS

The metals that were found above the limits of detection were chromium, copper, iron and zinc. The other seven metals were not detected. Table 1 lists the metals that were detected and their respective concentration ranges.

TABLE 1
DETECTED METAL CONCENTRATIONS (mg/m³ *)

Metal	Indoors	Outdoors
Chromium	0.000281 – 0.000425	**BDL – 0.000244
Copper	BDL – 0.00109	BDL – 0.000214
Iron	BDL – 0.00776	BDL – 0.0183
Zinc	BDL – 0.000424	BDL

* – milligrams per cubic meter of air

**BDL = Below Detection Limit

Chromium was detected in six of the seven indoor samples and in the outdoor sample from the roof. Copper was also in six of seven indoor samples. Copper and iron were in the outdoor sample from the main entrance but neither were of these metals were in the roof sample. Iron was in three indoor samples. Zinc was detected in only one sample, indoors in the Library, it was not detected outdoors.

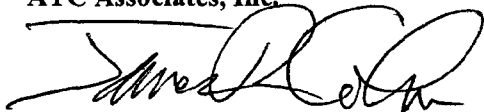
The Environmental Protection Agency (EPA) has set a screening level for hexavalent chromium in air of 0.6 ug/m³, this assumes a continuous exposure for one year. The samples here were analyzed for total chromium (trivalent and hexavalent). The concentrations are below the EPA level. The EPA has no published screening level or guideline for copper, iron or zinc.

MERCURY SAMPLE RESULTS

Air samples for mercury vapor were collected at the same locations as those for metals.
No sample contained mercury at a concentration greater than that detected in the blank.

ATC appreciates the opportunity to provide this indoor air quality 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