



April 29, 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**  
**High School of Economics and Finance (833M)**  
**ATC Project No. 15-19125-0291**

Dear Mr. Orlan:

ATC Associates, Inc. (ATC) is pleased to provide this report of air sampling for metals conducted on March 9, 16 and 23, 2002, at the referenced school. The New York City Board of Education (BOE) requested this sampling to ensure that acceptable air quality is being maintained.

**Scope of Work**

On each day, ATC collected four (4) samples for metals from locations throughout the building and outdoors. Samples were collected for ten (10) hours 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. Three (3) samples were collected inside the building and one (1) was collected outdoors on the roof. One blank sample was also submitted per day. The samples were sent to PSC Analytical Services, Inc., an American Industrial Hygiene Association-accredited laboratory in Reading, PA. Analysis was performed by NIOSH Methods 7300M. The samples collected on March 9<sup>th</sup> were 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). The samples collected on March 16<sup>th</sup> and 23<sup>rd</sup> were also analyzed for lead (Pb). Copies of the analytical laboratory reports are attached.

The sampling locations were: the Main Lobby, the 5<sup>th</sup> floor Hallway, the 10<sup>th</sup> floor Hallway and the Roof.

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

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

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### Results

#### *March 9*

Chromium (Cr) was detected in all four samples and in the blank. Blank-correcting the Cr concentrations lowers them to below or just above the limit of detection.

The only other metal found was iron (Fe) which was detected at 0.00231 milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ) in the sample collected on the Roof (#M4).

#### *March 16*

The metals detected were Cr, Fe and lead (Pb). Cr was found in one sample and in the blank at approximately the same concentration. Fe was detected in the sample collected in the Main Lobby ((#M1) at  $0.000273 \text{ mg}/\text{m}^3$ , it was not present in the other samples or in the blank.

Pb was detected in all four samples and in the blank. The blank-corrected Pb concentrations are all below the limit of detection.

#### *March 23*

Cr was detected in all four samples and in the blank. The blank-corrected Cr concentration was greater than the limit of detection only in the sample collected in the 10<sup>th</sup> floor hallway (#M3). The Cr concentration in this sample was  $0.00026 \text{ mg}/\text{m}^3$ .

The only other metal detected was copper (Cu). Cu was detected in the roof sample at a concentration of  $0.000334 \text{ mg}/\text{m}^3$ . Cu was not detected in the other samples or in the blank.

The Environmental Protection Agency (EPA) has set a screening level for hexavalent chromium (the more toxic form) in air of  $0.6 \text{ ug}/\text{m}^3$ , this assumes a continuous exposure for one year. The samples here were analyzed for total chromium (trivalent and hexavalent).

The EPA's ambient air standard for Pb is  $1.5 \text{ ug}/\text{m}^3$  (three-month average). The EPA has no screening level or standard for Cu in ambient air.

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