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November 21, 2001

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 Hydrocarbons
Stuyvesant High School
ATC Project No. 15-19125-0246**

Dear Mr. Orlan:

ATC Associates, Inc. (ATC) is pleased to provide this letter report of air sampling for hydrocarbon compounds conducted on November 8, 14 and 20, 2001, 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.

On each day, ATC collected three (3) samples for hydrocarbon compounds (HC) at specified locations. Samples were collected for a minimum of seven (7) hours using activated coconut shell charcoal tubes connected to battery-powered sampling pumps at a flow rate of 0.2 liters per minute. Pumps were calibrated before and after each sampling period. Two (2) samples were collected inside the building and one (1) was collected on the roof. One blank tube was also submitted on each day. The samples were sent to PSC Analytical Services, Inc., an American Industrial Hygiene Association-accredited laboratory in Reading, PA. Analysis was performed by capillary gas chromatography/flame ionization detection (NIOSH Methods 1003, 1005, 1022, 1300, 1500, 1501). Each sample was analyzed for a panel of sixteen (16) specific HC compounds. In addition, two non-identified peaks, A- hydrocarbons and B-hydrocarbons, were reported. The A-hydrocarbons are those, such as gasoline or light alcohols, with boiling points less than that of benzene (°F). The B-hydrocarbons are those, such as mineral spirits or petroleum naphtha, with boiling points greater than that of benzene. Copies of the analytical reports are attached.

The sampling locations were specified by the parents association consultant. They were as follows:

November 8 – 1st floor lobby, 2nd floor bridge entrance hallway, Roof (south)
November 14 – 1st floor lobby, 2nd floor bridge entrance lobby, Roof (east)
November 20 - 1st floor lobby, 2nd floor bridge entrance hallway, Roof (north)

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

Table 1 lists the HCs for which these samples were analyzed and their respective concentration ranges.

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TABLE 1
HC CONCENTRATION RANGES (ppm*) BY DATE

Hydrocarbon	Range Nov. 8	Range Nov. 14	Range Nov. 20
Pentane	<0.081-<0.082	<0.068-<0.073	<0.071-<0.072
Acetone	<0.10	<0.085-<0.091	<0.088-<0.090
Methylene chloride	<0.069	<0.058-<0.062	<0.060-<0.061
Hexane	<0.068- 0.125	<0.061- 0.184	<0.059-<0.060
Chloroform	<0.049	<0.041-<0.044	<0.044
Methyl chloroform	<0.044	<0.037-<0.039	<0.039
Other A Hydrocarbons	<0.068	<0.057-<0.061	<0.060
Benzene	<0.075	<0.063-<0.067	<0.065-<0.067
1,2-Dichloroethane	<0.060	<0.050-<0.060	<0.051-<0.053
Trichloroethylene	<0.045	<0.038-<0.040	<0.039-<0.040
Toluene	<0.064	<0.054-<0.057	<0.056
Tetrachloroethylene (perchloroethylene)	<0.036	<0.030-<0.032	<0.031
Chlorobenzene	<0.052	<0.044-<0.047	<0.046
Ethylbenzene	<0.055	<0.047-<0.050	<0.048-<0.049
Styrene	<0.057	<0.047-<0.050	<0.049-<0.050
Cumene (isopropylbenzene)	<0.049	<0.041-<0.044	<0.043
Xylenes (total)	<0.055	<0.047-<0.049	<0.048-<0.049
Other B Hydrocarbons	<0.064	<0.054-<0.057	<0.056

*- parts per million Concentrations above the limits of detection are shown in **bold face type**.

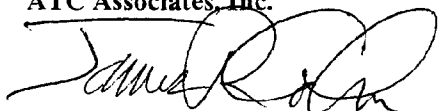
The only HC present at a concentration greater than the limits of detection was hexane, which was found in samples collected on November 8 (0.125 ppm) and 14 (0.184 ppm). It was not detected in the samples collected on November 20. Hexane is an aliphatic hydrocarbon with a mild gasoline-like odor. No odor was detected by ATC during this sampling period. No indoor air quality standard exists for hexane. The Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) for hexane is an eight-hour time-weighted average of 500 ppm. This is considerably above the levels that were detected or that would otherwise be expected in a school or office and it is not an applicable standard.

Airborne hydrocarbon compounds did not constitute a health concern for the occupants of the building on the days these samples were collected.

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

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