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October 12, 2012

Dennis R. Coleman, Director of Buildings and Grounds
Penn Manor School District
2950 Charlestown Road
P.O. Box 1001
Millersville, PA 17551-0301

Subject: **Airborne Mold Testing at Manor Middle School**
Via Email to denny.coleman@pennmanor.net

Dear Mr. Coleman:

This letter is my report of findings as the result of your requested airborne mold testing in selected rooms in the Manor Middle School. This task was a follow-up to the surface sampling that was conducted on October 3, 2012. This requested scope of work for Fournier Robson & Associates, LLC (FRA) involved only the taking of total spore trap air samples in rooms 107,108, 112, 121 and the Library. An outdoor sample was also collected for comparison purposes.

The samples were submitted to EMLab P&K Laboratories which is accredited under the American Industrial Hygiene Association's (AIHA) Environmental Microbiology Laboratory Accreditation Program (EMLAP). The samples were analyzed for the presence of mold spores and "other particles" such as pollen, other plant particles, animal fragments, fungi (hyphal fragments), and non-biological particles. The types of particles detected are found in the laboratory report that was forwarded to you via separate email today.

The data obtained during my site visit on October 11, 2012 indicate that only room 121 and the Library had elevated levels of mold, specifically *Aspergillus/Penicillium*-type spores. Room 121 had 1,500 spores/m3 and the Library had 1,300 spores/m3. These results are elevated compared to the result of 160 spores/m3 of *Aspergillus/ Penicillium*-type spores in the outdoor sample. The data for the "other particles" were unremarkable.

With respect to the music room 121, you mentioned that approximately three weeks prior to this inspection mold was found on various instruments, instrument cases, etc. The origin and cause of the conditions contributing to the presence of mold was reportedly undetermined. You mentioned that the mold-affected items had been removed and cleaned outside on the loading dock. Also, the entire room had been damp wiped and cleaned and that your staff changed the filters and vacuumed the coil in that room's air handling unit. After discussing the results on the telephone today, you mentioned that this room and the air handling unit would be thoroughly cleaned again.

With respect to the Library, the air sampling is consistent with the presence of mold spores found in the surface tape lift samples obtained on October 3, 2012. You reported that condensate has been known to drip from the ceiling supply diffusers during times of elevated humidity, especially during late summer months before the cooling system is turned on for the beginning of the semester. The presence of moisture is one of the principal contributors to fungal growth. Dehumidification in the summer months in the absence of system cooling helps control moisture in a HVAC system. It may be that moisture has accumulated in the ductwork and serves as a reservoir for mold growth. Inspection of the ductwork is advisable with the goal of determining if duct cleaning is warranted to remove suspected mold reservoirs and related dirt and debris which can serve as a food source for mold.

As an industrial hygienist, it is not my area of expertise to determine if certain occupied areas can continue to be inhabited or if they need to be evacuated due to the presence of mold. Since mold spores are particles, they may aggravate some individuals who may be predisposed to respiratory irritants. Decisions about occupying or not occupying affected spaces should be made only after careful consideration of all aspects of an individuals' health status and the nature of the exposure.

Ronald D Schaible

Digitally Signed By: Ronald D. Schaible

Ronald D. Schaible, CIH