IAQ MANAGEMENT SERVICES, INC.
Competence & Integrity

28592 Orchard Lake Rd., Ste. 350
Farmington Hills, Michigan 48334
Phone: (248) 932-8800
Fax: (248) 932-8810
www.IAQManagement.com

April 10, 2018

Honey Creek Community School
1735 S. Wagner Rd.
Ann Arbor, MI 48103
Attn: Al Waters

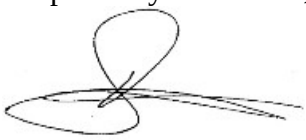
Re: Particulate Testing

Dear Mr. Waters,

Pursuant to your request, IAQ Management Services, Inc. performed environmental testing on a submitted furnace filter reportedly taken from the structure located at 1735 S. Wagner Rd. in Ann Arbor, Michigan. Jason Barylski performed the testing on March 27, 2018. The objective of this service is to perform testing to facilitate evaluation of the particulate profile at the sampled location.

Enclosed are the results of the testing. Please call this office with any questions. Thank you.

Respectfully Submitted,



IAQ MANAGEMENT SERVICES, INC.
Jon Dattilo – Principal Hygienist
Indoor Environmental Professional

1.0 SAMPLE PLAN

The sample plan is not intended to identify all forms of contamination in the structure, rather only identify general morphological characterization of particulate at sampled locations at the time of testing. Results and conclusions should not be construed as any form of implied or written guarantee. The evaluation criteria for inhabitability of the structure ultimately involve close consultation with a physician.

1.1 Agents under Study: No less than fugitive dust and other constituents foreign to the surface of deposition (including fibers, insect parts, gypsum, insulation, etc.).

1.2 Potential Sources: Contents, building materials, and outdoor air.

1.3 Potential Pathways

Potential contaminant pathways include no less than the following:

- Heating, Ventilation and Air Conditioning System(s)
- Air currents within the occupied space, doorways, and common structural breaches

1.4 Anticipated Concentration

Given no less than the reported case history and building materials present, gypsum and other particulate are likely to be identified.

2.0 SAMPLE LOCATIONS & SAMPLE METHOD

2.1 Sample Locations

- *Sample A: A1 – Furnace Filter*

- *Sample B: A1 – Furnace Filter*

2.2 Sample Method

Samples were extracted using clear adhesive-tape method-a method in which clear adhesive tape is gently touched to the test surface and removed with slow steady force – to provide information on the types of particles present. After the exposed strips are attached to the glass slides, the samples are analyzed with a light microscope. The adhesive-tape method works best for morphologically distinctive particles.

3.0 ANALYTICAL METHODS

Broad-spectrum morphological analysis is performed using Polarized Light Microscopy at 600x magnification.

4.0 ANALYTICAL RESULTS

Tape sample analysis revealed particle morphology consistent with constituents commonly observed in dust, such as fiberglass, char, cellulose, skin cells, and fungal spores / fragments (i.e., Cladosporium, Basidiospores, Epicoccum, hyphal fragments, Ascospores, Alternaria, rust rendiniospores).

It should be noted that potential indicator fungal genera (i.e., Fungi whose presence may indicate excessive moisture or a specific health hazard[1]) were not detected at either sampled location.

Sample A: A1 – Furnace Filter
Confirmed presence of *(Fiberglass; Cellulose; Char; Skin Cells; Cladosporium; Hyphal Fragments)*.

Sample B: A1 – Furnace Filter
Confirmed presence of *(Fiberglass; Char; Cellulose; Skin Cells; Cladosporium; Basidiospores; Epicoccum; Hyphal Fragments; Ascospores; Alternaria; Rust Urendiniospores)*.

5.0 CONCLUSION

5.1 General

There are many kinds of fibers and particles in dust samples collected from buildings. The most common components of dust samples are: skin flakes, cellulose fiber, synthetic fiber, fiberglass, human hair, and possibly animal hairs (e.g., dogs and cats). Skin flakes in a building are likely from humans unless animals are allowed in the building. Cellulose fibers are ubiquitous in any building. They are in paper products and in building materials (such as ceiling tiles, drywall, some carpets, and some insulation materials). Synthetic fibers are made into carpets, fabrics, clothing, and many fleecy materials.

Fiberglass has been incorporated into many building materials, such as ceiling tiles and insulation. Human hairs are common in any human occupied spaces. Animal hairs are also common in buildings and may be brought in by animal owners. Some animal hairs, such as wool, are made into sweaters and other clothing.

Other dust components found indoors may be from outdoors. Plant matter, such as trichomes (plant hairs) and decayed leaves, is likely to come from outdoor sources through such pathways as HVAC system, windows and doors, or carried in by humans. Pollen and pine pollen most likely come from outdoors unless there are flowering plants located indoors. Their pathways include the HVAC system, doors and windows. Wood chips are cellulose fibers in bundles. They are likely carried in by humans particularly in buildings where wood mulch is used in landscaping. Generally, the presence of these dust components found indoors is often associated with poor filtration in the HVAC system.

Quartz particles are common components of dust samples collected from carpets. They are often from outdoors. Insect parts, from flies and wasps, are commonly detected indoors. Carbonaceous particles are often the result of combustion processes. They are common in a building situated in a heavy traffic area or in a building with an underground garage.

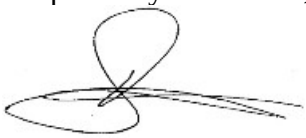
Foam particles, gypsum particles, and glue are two dust components associated with building materials. Foam particles are likely from furniture cushions or carpet padding that is made of polyurethane foam. Gypsum particles are associated with drywall and other building materials. Glue used in installing carpets or in other building uses can also be recognized under a microscope. Fungal matter, common in dust samples, includes spores and hyphae.

[1] ACGIH, Bioaerosols Assessment and Control, 1999

5.2 Project Specific
Sample analysis revealed particle morphology consistent with constituents commonly observed in dust. Test results are not consistent with the presence of unusual fugitive dust and other constituents foreign to the surface of deposition that renders requirement for onsite investigation of contaminant sources.

Thank you for allowing IAQ Management Services, Inc. to serve your environmental needs. Please do not hesitate to contact this office with any questions. Thank you.

Respectfully Submitted,



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