



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: Air Quality Testing (fungus and bacteria)

Dear Mr. Waters,

Pursuant to your request, IAQ Management Services, Inc. performed environmental testing at the building located at 1735 S. Wagner Rd. in Ann Arbor, Michigan. Testing was performed on March 13, 2018. The objective of this service is to evaluate the prescribed sampled locations for the presence and type of fungus and bacteria at the time of testing. This document is intended for the client and does not confer any rights or remedies to any other 3rd party.

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 SCOPE

Air testing for bacteria occurred at Room A1 and Room A5. Outdoor and field blank control samples were also submitted.

Air testing for fungus occurred at Room A1 and Room A5. Outdoor and field blank control samples were also submitted.

2.0 METHOD

2.1 Air Testing – Bacteria (culturable)

Bacteria air testing (culturable) is performed indoors and outdoors at suspect and control locations with an Aerotech 6 Microbial Sampler – a unique sampling device designed for collection and incubation of environmental bacteria. Culturable microorganisms are those that are viable at the time of sampling and will grow on the selected media (TSA) and at the selected temperature. Bacteria that grow at 28 °C are typically referred to as environmental bacteria for their ability to grow at ambient temperature. Prior to sampling, the vacuum pump was calibrated to 28.3 liters per minute. All surfaces were wiped with isopropyl alcohol using a gauze pad. The lid from an agar collection plate was placed on the base plate so the dish rests on the sampler. The plate was immediately covered with the jet classification stage and the inlet cone. The device was secured with the three spring clamps, ensuring a good seal between each piece. Samples were run for 5 minutes. After sampling, the cover of the Petri dish was replaced and labeled with sample identification information. The plate was sealed in a zip-lock bag and placed in an ice chest with blue ice.

2.2 Air Testing – Fungus (culturable)

Sampling was performed indoors and outdoors at suspect and control locations with an Aerotech 6 Microbial Sampler – a unique sampling device designed for collection and incubation of fungal spores. Fungi that grow at 20-25 °C are typically referred to as environmental fungi for their ability to grow at ambient temperatures.

Prior to sampling, the vacuum pump was calibrated to 28.3 liters per minute. All surfaces were wiped with isopropyl alcohol using a gauze pad. The lid from an agar collection plate was placed on the base plate so the dish rests on the sampler. The plate was immediately covered with the jet classification stage and the inlet cone. The device was secured with the three spring clamps, ensuring a good seal between each piece. Samples were run for 5 minutes. After sampling, the cover of the Petri dish was replaced and labeled with sample identification information. The plate was sealed in a zip-lock bag and placed in an ice chest with blue ice.

3.0 EVALUATION CRITERIA

3.1 Air Testing – Bacteria (culturable)

Generally, total concentrations <500 CFU/m³ is desirable (dominated by gram-positive bacteria). Typically, indoor air samples should be dominated primarily by Gram positive cocci and to a lesser extent Gram positive non-sporulating bacilli. These organisms are recognized in indoor air as originating primarily from human sources such as shedding human skin and mucous membranes. Highly elevated numbers of these organisms typically indicate overcrowding of an occupied space or insufficient ventilation for the occupancy load. High levels of *Bacillus* species in the indoor air generally indicate the presence of past water damage and/or a lack of maintenance either in the HVAC system or in the building as a whole or both.

The hardy endospores of *Bacillus* species bacteria will survive harsh conditions quite readily, even though no moisture is present.

Elevated levels of Gram negative bacilli usually indicate an interior source that warrants further investigation. Because Gram negative bacilli are subject to relatively rapid desiccation outside a moisture source, their presence at high levels is of concern. If, during the initial inspection, no moisture sources were noted an additional inspection is required to try to identify potential moisture problems, particularly to avoid further moisture damage and more specifically accelerated microbiological growth on interior substrates. Actinomycete contamination of indoor environments is often accompanied by other microbial contaminants. The presence of actinomycetes, especially the thermophiles, in indoor environments is of concern because of their ability to produce hypersensitivity pneumonitis in exposed individuals, as well as their opportunistic pathogenicity potential. The presence of high levels of actinomycetes indoors requires immediate further investigation.

3.2 Air Testing – Fungus (viable and non viable)

Evaluation of indoor fungal exposure has been addressed with supplemental reference to the American Conference of Governmental Industrial Hygienists (ACGIH) guidelines. Bioaerosol concentrations within the affected areas of the building are evaluated per the following criteria:

- Similar indoor / outdoor total concentration ratios
- Similar indoor / outdoor organism compositions
- No significant presence of indicator organisms in the indoor environment

4.0 RESULTS SUMMARY

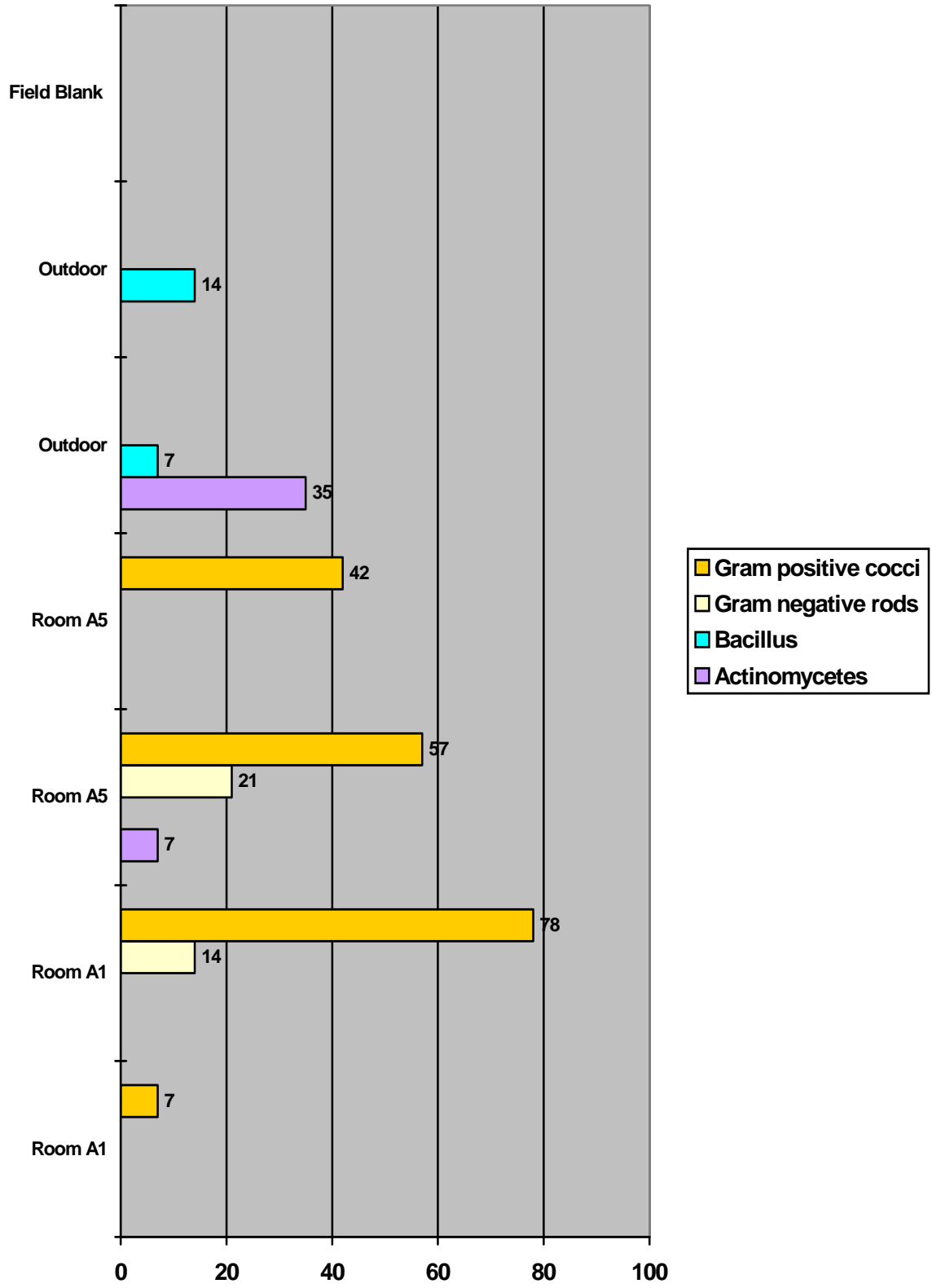
4.1 Air Testing – Bacteria (culturable)

Bacteria air test results identified no less than the following: (1) dissimilar indoor concentrations relative to bacteria found outdoors – none are considered notably elevated, (2) dissimilar indoor-outdoor species profile – none are considered notably elevated, and (3) all indoor samples with total concentrations <500 CFU m³ (actual <93 CFU m³).

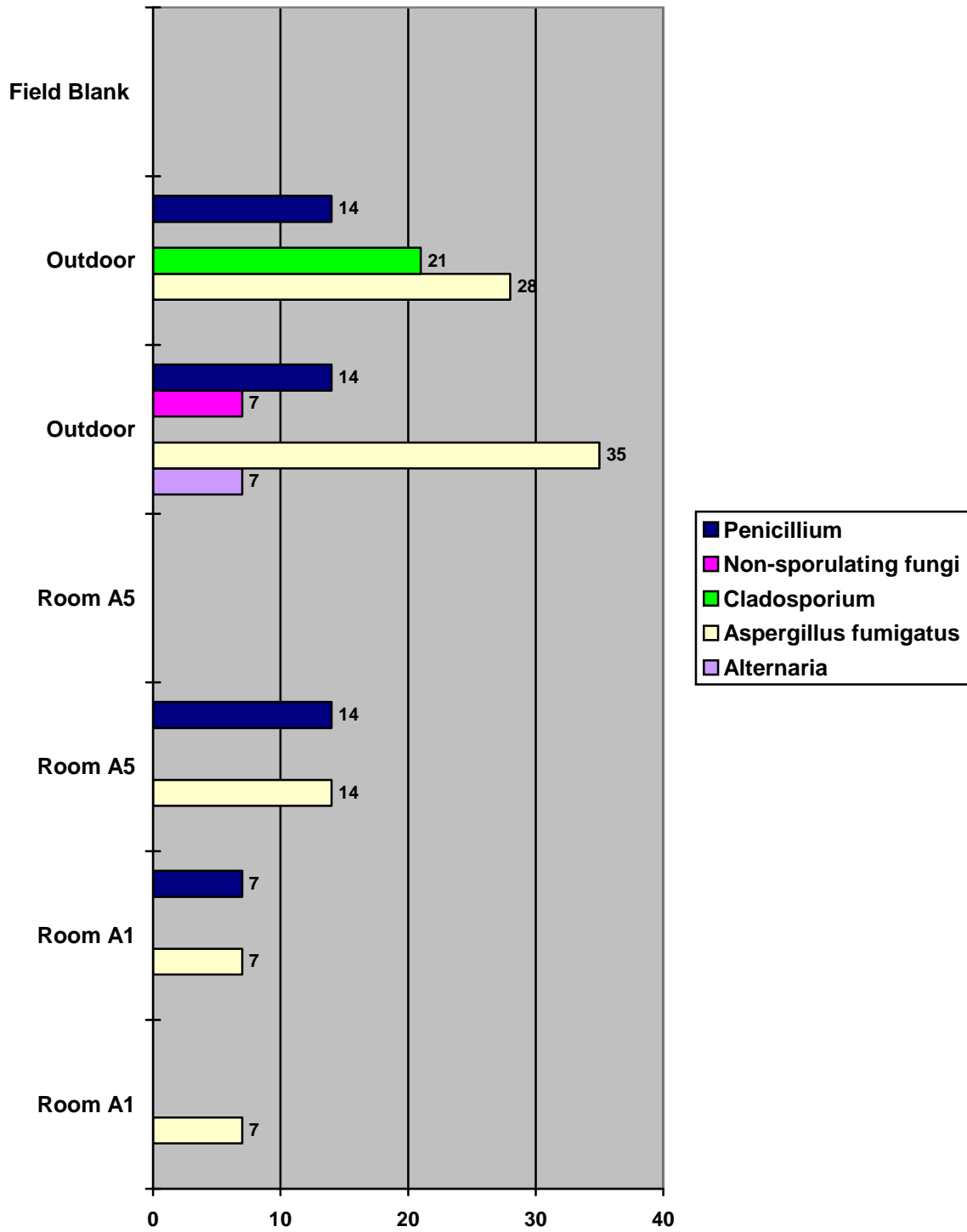
4.2 Air Testing – Fungus (viable and non viable)

Fungal air test results identified no less than the following: (1) dissimilar indoor concentrations relative to fungus found outdoors – none are considered notably elevated, (2) dissimilar indoor-outdoor genera profile – none are considered notably elevated, and (3) the presence of indicator organisms *Penicillium* and *Aspergillus fumigatus* in the indoor environment.

TOTAL BACTERIA SPECIES CHART (Colony Forming Units / m³)



TOTAL FUNGUS SPECIES CHART (Colony Forming Units / m³)



5.0 CONCLUSION

Bacteria air test (culturable) results are consistent with no less than **acceptable air quality** at the sampled locations at the time of testing.

Fungal air test (culturable) results are consistent with no less than **acceptable air quality** at the sampled locations at the time of testing.

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

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Jon Dattilo', with a stylized flourish at the end.

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