T. HARRIS
ENVIRONMENTAL MANAGEMENT
since 1979

93 Skyway Avenue, Suite 101
Toronto, Ontario M9W 6N6
Tel. (416) 679-8914
Fax. (416) 679-8915
1-888-ASK-THEM

NON-VIABLE MOULD AIR SAMPLING

Fleming College Residence
1 Auk Trail
Lindsay, Ontario
K9V 6G6

FINAL REPORT

Assessment Performed: October 7, 2022
Report issued: October 14, 2022
THEM Project #: T22-18170

Prepared by:

T. HARRIS ENVIRONMENTAL MANAGEMENT INC.

Erin Rowland
Environmental/OH&S Technician

Raj Singh, P.Eng., MBA, AMRT, CMI
Manager, Special Projects

Prepared for:
Rick Teasdale
Facility Manager, Frost Campus

Fleming College
1 Auk Trail, Room 175
Lindsay, Ontario, K9V 6G6

EXECUTIVE SUMMARY

T. Harris Environmental Management Inc. (THEM) performed non-viable mould air sampling within multiple residential suites at 1 Auk Trail located in Lindsay, Ontario. The assessment was conducted on October 7, 2022, at the request of Rick Teasdale at Fleming College. The objective of this assessment was to determine the conditions of air quality within the suites.

Based on the air sampling results and observations made on the survey date, the following conclusions and recommendations are made:

- It has been concluded that elevated levels of mould were found in **Units 113, 131, and 143** of the Scugog Residence and **Units 211, 212, 221, 232, 242, 243, and 244** of the Sturgeon Residence; *Aspergillus spp./Penicillium spp*. and *Cladosporium* type mould amplification is occurring in the assessed spaces. Further investigation may be required to identify the sources of increased concentrations of airborne mould spores.
- Cleaning and disinfection procedures of these units is recommended. Emphasis should be placed on preventing contamination through proper maintenance of the buildings and prompt repair of any water-damaged areas.
- Most units that were found to have mould amplification contained high amounts of food and beverage waste. Specific units that contained high amounts of waste could not be identified for privacy reasons.

General Considerations

This survey satisfies requirements of the Occupational Health and Safety Act with regards to the presence/absence of hazardous materials identified within this report. This executive summary is not to be used alone and the report should be reviewed in its entirety.

Should you have any questions or comments regarding this survey, please do not hesitate to contact our office.

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October 14, 2022

Fleming College
1 Auk Trail, Room 175
Lindsay, Ontario, K9V 6G6

Attn: **Rick Teasdale**
Facility Manager

Re: **Non-Viable Mould Air Sampling – Post Remediation - THEM #T22-18178**
1 Auk Trail, Lindsay, Ontario

1.0 BACKGROUND

T. Harris Environmental Management Inc. (THEM) performed non-viable mould air sampling within multiple student residential suites at the Frost Campus at 1 Auk Trail located in Lindsay, Ontario. The assessment was conducted on October 7, 2022, at the request of Rick Teasdale at Fleming College. The objective of this assessment was to determine the conditions of air quality inside both residential houses on campus.

2.0 INTRODUCTION

Fungi, also called mould or mildew, are microbiological organisms that can live and reproduce and potentially cause health problems in indoor environments. They are chlorophyll-lacking plant-like organisms that are unicellular (e.g., yeast) or grow in a multinucleate mass (e.g., bread mould), subsist on decomposed organic matter or nutrition from living hosts, and reproduce by production of spores 3 to 200 mm in size.

There are two types of fungal spores: dry spores such as those of Aspergillus spp. or Penicillium spp., which are easily disturbed and can become airborne; and slimy spores, such as those of Stachybotrys spp. and Fusarium spp., which are produced in a slimy mass that is seldom airborne. Mould spores of various types are usually present in indoor and outdoor air. Typically, fungal spore contamination occurs within building construction (e.g., insulation materials, gypsum board, framework, etc.).

Mould growth inside buildings is typically due to excess moisture caused by leakages, condensation or capillary movement of water into the building. Moulds such as Stachybotrys chartarum and some species of Aspergillus spp. are greenish-black, wet and slimy moulds that grow on soaking wet cellulose-based materials. They are often found near leaks or where drying is very slow and can form after flooding. They will generally not occur if materials are kept dry.

The presence of mould spores in indoor environments may not be significant in terms of the causation of fungal infestation since most microorganism contamination does not become a problem until it becomes disturbed and is distributed into the ventilation system or air within the building. In other words, there may be little hazard if microorganisms do not multiply or do not accumulate to harmful levels, if there is no means for microorganisms to become airborne, or if aerosolized microorganisms do not reach susceptible receptors.

Fungi or moulds which are typically found on building materials that have become damaged due to moisture problems, can cause or exacerbate allergic type symptoms in occupants who have a history of hypersensitivity diseases (e.g., asthma). Thus, people suffering from respiratory disorders or severe allergies may be at greater risk for developing health problems associated with exposures to fungi found in water damaged areas. Such people may need to be removed from the affected areas until remediation and clearance testing, if required, is completed. However, any decisions regarding medical removal must be based on recommendations made by an occupational medicine specialist trained in symptomatology related to this type of exposure.

2.1 Hazard Categories

In order to define risk for areas that are suspected or confirmed to be contaminated with mould, the extent of water damage and/or visible mould growth on building materials must be considered. THEM recommends the following criteria as per **Table I** for determining risk levels (hazard categories) and associated remediation protocols. This criterion is based on the *Institute of Inspection Cleaning and Restoration Certification (IICRC) S520 Standard and Reference for Professional Mould Remediation.*

TABLE I
Recommended Mould Risk Management Levels

Hazard Category	Mould Growth Present in Accessible Areas, Based on Visual Inspection[1]	Summary of Minimum Recommended Remediation Requirements
Level 0	No visible signs of mould growth, no evidence of water damage and no health complaints.	No remediation required.
Level 1	Small Areas of Mould (Source Containment)	• Work should be conducted by qualified environmental contractor or in-house maintenance personnel trained in mould remediation procedures. • Personnel conducting the work should be wearing the appropriate PPE. • No critical barriers required. • Mould contaminated building materials can be contained with polyethylene sheeting and duct tape and removed.
Level 2	Moderate Levels of Mould (Local Containment)	• Work should be conducted by a qualified environmental contractor. • Personnel conducting the work should be wearing the appropriate PPE. • A polyethylene enclosure should be erected to isolate mould-contaminated materials. • A decontamination chamber may be required • The following procedures should be followed during cleaning activities: HEPA vacuum, clean with a solution that contains a surfactant, HEPA vacuum, clean with a solution that contains a surfactant and a final HEPA vacuum. A disinfectant (that at minimum has a Health Canada DIN Number) should be applied to the remediation area following cleaning.
Level 3	Extensive Mould (Full Scale Containment)	• Work should be conducted by a qualified environmental contractor. • Personnel conducting the work should be wearing the appropriate PPE. • The mould contaminated room and/or building section should be isolated with critical barriers. • Building materials within the remediation area that cannot be cleaned effectively must be sealed off with polyethylene barriers. • A decontamination unit is required • The following procedures should be followed during cleaning activities: HEPA vacuum, clean with a solution that contains a surfactant, HEPA vacuum, clean with a solution that contains a surfactant and a final HEPA vacuum. A disinfectant (that at minimum has a Health Canada DIN Number) should be applied to the remediation area following cleaning.

Note 1: May or may not include destructive testing.

3.0 ASSESSMENT METHODOLOGY

3.1 Non-Viable Total Mould Air Sampling

In order to measure total airborne (non-viable) fungi/mould, air samples were collected on Air-O-Cell cassettes using the SKC QuickTake 15 constant flow diaphragm pump. The pump maintains a set flow rate throughout the sampling period in order to compensate for the inherent backpressure created by sampling media. Samples were collected at a flow rate of 15 litres per minute (lpm) over 5-minute duration for a total sample volume of 75 litres.

Analysis of spore trap samples was performed using direct microscopy techniques by EMC Scientific Inc. EMC participates and maintains proficient status in the American Industrial Hygiene Association (AIHA) Environmental Microbiology Proficiency Analytical Testing (EMPAT) program, for both direct examination and culture analysis. All samples at EMC are analyzed by PhD or Master's mycologists and microbiologist.

Sample analysis of individual mould spores is reported in spores per cubic meter of air (spores/m3).

No data is currently available that establish a clear dose-response relationship for saprophytic fungal spore exposure (i.e., those mould deriving nutrition from non-living materials in the environment). The interpretation of the air sampling results is carried out by comparing indoor and outdoor fungal spore biodiversity or composition. The same type of fungal spores should be present in indoor environments at concentrations reflective or lower as compared to the outside. Overall, the composition of the indoor air spora should reflect that of the outdoor, suggesting that the fungal spores found indoors originated from the outdoor air. For the purposes of comparison, one outside (exterior) sample was collected on the date of our assessment.

The following criteria were used to interpret total airborne mould sampling data:

1. Total airborne mould spore concentrations should be lower inside the building as compared to the outside of the building.

2. A similar composition of fungal spores should be present inside the building areas sampled as compared to the outside sample locations.

3. Airborne concentrations of any one type of mould genus/species, other than common environmental mould detected on the outside of the building, should not be dominant in any one location sampled. Dominant being defined as representing > 50 % of total spores

or species detected in any one sample, as determined by spore trap sampling or culturable air sampling results.

4. No known toxic (or pathogenic) mould spores or species should be present in the air samples at significant percentages. Significant percentage being defined as representing > 25 % of total mould spores or species detected in any one sample.

Please note that the above criteria are based on currently acceptable guidelines recommended for interpretation for mould air sampling results, as suggested by Health Canada, the American Industrial Hygiene Association (AIHA) and the American Conference of Governmental Industrial Hygienists (ACGIH).

4.0 RESULTS

4.1 Non-Viable Total Mould Air Sampling

THEM personnel were onsite October 7, 2022, to conduct air sampling. Some units were inaccessible. Results of the airborne mould sampling conducted by THEM personnel are summarized below in **Table II** and **III** below. Multiple indoor residence samples for both buildings, two (2) interior control samples, and two (2) exterior control samples were collected. The Laboratory Certificate of Analysis can be found in **Appendix II**.

Table II
Summary of Non-Viable Mould Air Sampling Results
Scugog House - 1 Auk Trail, Lindsay, Ontario
October 7, 2022

Sample / Location	Total Spores (spores /m³)	Fungal Material Type	Concentration (count/m³)	Percentage of Sample (%)	Percentage of Outdoors (%)
Outdoor reference Scugog	1933	*Alternaria* spp.	13	<1	-
		Ascospores	627	32	
		Aspergillus spp. / *Penicillium* spp.	40	2	
		Basidiospores	173	9	
		Cladosporium spp.	613	32	
		Colourless	467	24	
Interior Control Scugog	227	Ascospores	40	18	6
		Aspergillus spp. / *Penicillium* spp.	40	18	100
		Basidiospores	13	6	8
		Cladosporium spp.	107	47	17
		Colourless	27	12	6
Unit 111-1 Kitchen	267	Ascospores	27	10	4
		Aspergillus spp. / *Penicillium* spp.	27	10	68
		Basidiospores	40	15	23
		Cladosporium spp.	80	30	13
		Colourless	53	20	11
		Smuts, *Periconia* spp., Myxomycetes	40	15	N/A
Unit 111-2 Bedroom Area	187	Ascospores	27	14	4
		Aspergillus spp. / *Penicillium* spp.	13	7	33
		Basidiospores	13	7	8
		Cladosporium spp.	67	36	11
		Colourless	40	21	9
		Rusts	27	14	N/A
Unit 112-1 Common Area	387	Ascospores	27	7	4
		Aspergillus spp. / *Penicillium* spp.	53	14	133
		Basidiospores	40	10	23
		Chaetomium spp.	107	28	N/A
		Cladosporium spp.	67	17	11
		Colourless	200	52	43
		Polythrincium spp.	13	3	N/A
		Rusts	27	7	N/A
		Smuts, *Periconia* spp., Myxomycetes	53	14	N/A
Unit 112-2 Kitchen	227	Ascospores	27	12	4
		Aspergillus spp. / *Penicillium* spp.	27	12	68
		Basidiospores	27	12	16
		Cladosporium spp.	40	18	7

Sample / Location	Total Spores (spores /m³)	Fungal Material Type	Concentration (count/m³)	Percentage of Sample (%)	Percentage of Outdoors (%)
		Colourless	53	23	11
		Polythrincium spp.	27	12	N/A
		Rusts	13	6	N/A
		Smuts, *Periconia* spp., Myxomycetes	13	6	N/A
Unit 113-1 Kitchen	1253	Ascospores	27	2	4
		***Aspergillus* spp. / *Penicillium* spp.**	**1040**	**83**	**2600**
		Basidiospores	27	2	16
		Cladosporium spp.	40	3	7
		Colourless	67	5	14
		Drechslera/Bipolaris group	13	1	N/A
		Pithomyces spp.	27	2	N/A
		Polythrincium spp.	13	1	N/A
Unit 113-2 Common Area	480	*Alternaria* spp.	27	6	208
		Ascospores	40	8	6
		Aspergillus spp. / *Penicillium* spp.	227	47	568
		Basidiospores	13	3	8
		Cladosporium spp.	40	8	7
		Colourless	67	14	14
		Rusts	27	6	N/A
		Smuts, *Periconia* spp., Myxomycetes	40	8	N/A
Unit 114-1 Bedroom Area	253	*Alternaria* spp.	13	5	100
		Ascospores	13	5	2
		Aspergillus spp. / *Penicillium* spp.	107	42	268
		Cladosporium spp.	40	16	7
		Colourless	27	11	6
		Pithomyces spp.	13	5	N/A
		Smuts, *Periconia* spp., Myxomycetes	40	16	N/A
Unit 114-2 Kitchen	267	Ascospores	67	25	11
		Aspergillus spp. / *Penicillium* spp.	27	10	68
		Basidiospores	27	10	16
		Cladosporium spp.	93	35	15
		Colourless	27	10	6
		Rusts	13	5	N/A
		Smuts, *Periconia* spp., Myxomycetes	13	5	N/A
Unit 121-1 Kitchen	480	*Alternaria* spp.	13	3	100
		Aspergillus spp. / *Penicillium* spp.	53	11	133
		Basidiospores	40	8	23

Sample / Location	Total Spores (spores /m³)	Fungal Material Type	Concentration (count/m³)	Percentage of Sample (%)	Percentage of Outdoors (%)
		Cladosporium spp.	93	19	15
		Colourless	40	8	9
		Rusts	13	3	N/A
		Smuts, *Periconia* spp., Myxomycetes	227	47	N/A
Unit 121-2 Bedroom Hallway	347	*Alternaria* spp.	27	8	208
		Ascospores	13	4	2
		Aspergillus spp. / *Penicillium* spp.	40	12	100
		Basidiospores	27	8	16
		Cladosporium spp.	120	35	20
		Colourless	27	8	6
		Pithomyces spp.	27	8	N/A
		Polythrincium spp.	13	4	N/A
Unit 122-1 Kitchen	480	*Alternaria* spp.	13	3	100
		Aspergillus spp. / *Penicillium* spp.	53	11	133
		Basidiospores	40	8	23
		Cladosporium spp.	93	19	15
		Colourless	40	8	9
		Rusts	13	3	N/A
		Smuts, *Periconia* spp., Myxomycetes	227	47	N/A
Unit 122-2 Common Area	147	*Aspergillus* spp. / *Penicillium* spp.	40	27	100
		Chaetomium spp.	13	9	N/A
		Cladosporium spp.	53	36	9
		Colourless	40	27	9
Unit 123-1 Kitchen	573	*Alternaria* spp.	40	7	308
		Ascospores	67	12	11
		Aspergillus spp. / *Penicillium* spp.	27	5	68
		Basidiospores	13	2	8
		Cladosporium spp.	67	12	11
		Colourless	67	12	14
		Epicoccum spp.	13	2	N/A
		Rusts	27	5	N/A
		Smuts, *Periconia* spp., Myxomycetes	253	44	N/A
Unit 123-2 Common Area	640	*Alternaria* spp.	13	2	100
		Ascospores	13	2	2
		Aspergillus spp. / *Penicillium* spp.	27	4	68
		Basidiospores	53	8	31
		Cladosporium spp.	227	35	37
		Colourless	40	6	9
		Drechslera/Bipolaris group	13	2	N/A

Sample / Location	Total Spores (spores /m³)	Fungal Material Type	Concentration (count/m³)	Percentage of Sample (%)	Percentage of Outdoors (%)
		Rusts	13	2	N/A
		Smuts, *Periconia* spp., Myxomycetes	240	38	N/A
Unit 124-1 Bedroom Hallway	427	*Alternaria* spp.	13	3	100
		Ascospores	13	3	2
		Aspergillus spp. / *Penicillium* spp.	40	9	100
		Basidiospores	40	9	23
		Cladosporium spp.	93	22	15
		Colourless	27	6	6
		Epicoccum spp.	13	3	N/A
		Rusts	13	3	N/A
		Smuts, *Periconia* spp., Myxomycetes	173	41	N/A
Unit 124-2 Common Area	333	*Alternaria* spp.	27	8	208
		Aspergillus spp. / *Penicillium* spp.	40	12	100
		Basidiospores	27	8	16
		Cladosporium spp.	67	20	11
		Colourless	40	12	9
		Pithomyces spp.	13	4	N/A
		Rusts	40	12	N/A
		Smuts, *Periconia* spp., Myxomycetes	80	24	N/A
Unit 131-1 Kitchen	667	Ascospores	13	2	2
		***Aspergillus* spp. / *Penicillium* spp.**	**360**	**54**	**900**
		Basidiospores	13	2	8
		Cladosporium spp.	200	30	33
		Colourless	40	6	9
		Rusts	40	6	N/A
		Smuts, *Periconia* spp., Myxomycetes	13	3	N/A
Unit 131-2 Common Area	400	*Alternaria* spp.	13	3	100
		Ascospores	53	13	8
		Aspergillus spp. / *Penicillium* spp.	40	10	100
		Basidiospores	40	10	23
		Cladosporium spp.	187	47	31
		Colourless	53	13	11
		Smuts, *Periconia* spp., Myxomycetes	13	3	N/A
Unit 132-1 Kitchen	573	*Alternaria* spp.	13	2	100
		Aspergillus spp. / *Penicillium* spp.	187	33	468
		Basidiospores	13	2	8

Sample / Location	Total Spores (spores /m³)	Fungal Material Type	Concentration (count/m³)	Percentage of Sample (%)	Percentage of Outdoors (%)
		Cercospora spp.		<1	N/A
		Colourless	107	19	23
		Pithomyces spp.	13	2	N/A
		Smuts, *Periconia* spp., Myxomycetes	80	14	N/A
Unit 132-2 Common Area	680	Ascospores	40	6	6
		Aspergillus spp. / *Penicillium* spp.	253	37	633
		Basidiospores	27	4	16
		Cladosporium spp.	240	35	39
		Colourless	27	4	6
		Pithomyces spp.	13	2	N/A
		Smuts, *Periconia* spp., Myxomycetes	80	12	N/A
Unit 134-1 Kitchen	333	*Aspergillus* spp. / *Penicillium* spp.	93	28	233
		Cladosporium spp.	107	32	17
		Colourless	93	28	20
		Pithomyces spp.	13	4	N/A
		Smuts, *Periconia* spp., Myxomycetes	27	8	N/A
Unit 134-2 Bedroom Hallway	387	Ascospores	27	7	4
		Aspergillus spp. / *Penicillium* spp.	53	14	133
		Basidiospores	13	3	8
		Cladosporium spp.	160	41	26
		Colourless	40	10	9
		Pithomyces spp.	13	3	N/A
		Smuts, *Periconia* spp., Myxomycetes	80	21	N/A
Unit 141-1 Kitchen	293	Ascospores	13	4	2
		Aspergillus spp. / *Penicillium* spp.	40	14	100
		Basidiospores	13	4	8
		Cladosporium spp.	93	32	15
		Colourless	40	14	9
		Rusts	13	4	N/A
		Smuts, *Periconia* spp., Myxomycetes	80	27	N/A
Unit 141-2 Common Area	267	Ascospores	13	5	2
		Aspergillus spp. / *Penicillium* spp.	40	15	100
		Basidiospores	13	5	8
		Cladosporium spp.	40	15	7
		Colourless	53	20	11
		Rusts	13	5	N/A

Sample / Location	Total Spores (spores /m³)	Fungal Material Type	Concentration (count/m³)	Percentage of Sample (%)	Percentage of Outdoors (%)
		Smuts, *Periconia* spp., Myxomycetes	93	35	N/A
Unit 142-1 Kitchen	200	*Aspergillus* spp. / *Penicillium* spp.	27	14	68
		Basidiospores	13	7	8
		Cladosporium spp.	93	47	15
		Colourless	27	14	6
		Polythrincium spp.	27	14	N/A
		Smuts, *Periconia* spp., Myxomycetes	13	7	N/A
Unit 142-2 Common Area	267	Ascospores	27	10	4
		Aspergillus spp. / *Penicillium* spp.	40	15	100
		Cladosporium spp.	107	40	17
		Colourless	67	25	14
		Smuts, *Periconia* spp., Myxomycetes	27	10	N/A
Unit 143-1 Kitchen	213	Ascospores	27	13	4
		Aspergillus spp. / *Penicillium* spp.	53	25	133
		Basidiospores	40	19	23
		Cladosporium spp.	53	25	9
		Colourless	27	13	6
		Smuts, *Periconia* spp., Myxomycetes	13	6	N/A
Unit 143-2 Bedroom Area	533	Ascospores	13	2	2
		***Aspergillus* spp. / *Penicillium* spp.**	**333**	**62**	**833**
		Basidiospores	27	5	16
		Cladosporium spp.	80	15	13
		Colourless	67	13	14
		Smuts, *Periconia* spp., Myxomycetes	13	2	N/A
Su4-144-1 Kitchen	280	Ascospores	13	5	2
		Aspergillus spp. / *Penicillium* spp.	67	24	168
		Basidiospores	27	10	16
		Cladosporium spp.	120	43	20
		Colourless	27	10	6
		Smuts, *Periconia* spp., Myxomycetes	27	10	N/A
Unit 144-2 Common Area	533	Ascospores	13	2	2
		Aspergillus spp. / *Penicillium* spp.	120	23	300
		Basidiospores	13	2	8
		Cladosporium spp.	25	5	4
		Colourless	38	7	8

Sample / Location	Total Spores (spores /m³)	Fungal Material Type	Concentration (count/m³)	Percentage of Sample (%)	Percentage of Outdoors (%)
		Pithomyces spp.	13	2	N/A
		Smuts, *Periconia* spp., Myxomycetes	40	8	N/A

- As per **Table II**, the criteria outlined in section 3.1 has been met in **Units 113, 131, and 143** of the Scugog Residence; therefore, *Aspergillus spp./Penicillium spp*. type mould amplification is occurring in the assessed spaces.

Table III
Summary of Non-Viable Mould Air Sampling Results
Sturgeon House - 1 Auk Trail, Lindsay, Ontario
October 7, 2022

Sample / Location	Total Spores (spores /m³)	Fungal Material Type	Concentration (count/m³)	Percentage of Sample (%)	Percentage of Outdoors (%)
Outdoor Reference Sturgeon	1240	*Alternaria* spp.	13	1	-
		Ascospores	333	27	
		Aspergillus spp. / *Penicillium* spp.	40	3	
		Basidiospores	147	12	
		Cladosporium spp.	107	9	
		Colourless	27	2	
Interior Control Sturgeon	173	Ascospores	13	8	4
		Aspergillus spp. / *Penicillium* spp.	53	31	133
		Cladosporium spp.	80	46	75
		Colourless	27	16	100
Unit 211-1 Kitchen	227	Ascospores	27	12	8
		Aspergillus spp. / *Penicillium* spp.	27	12	68
		***Cladosporium* spp.**	**120**	**53**	**112**
		Colourless	53	23	196
Unit 211-2 Bedroom Hallway	200	Ascospores	40	20	12
		Aspergillus spp. / *Penicillium* spp.	27	14	68
		Basidiospores	13	7	9
		Cladosporium spp.	80	40	75
		Colourless	40	20	148
Unit 212-1 Common Room	733	Ascospores	80	11	24
		***Aspergillus* spp. / *Penicillium* spp.**	**400**	**55**	**1000**
		Basidiospores	13	2	9
		Cladosporium spp.	160	22	150
		Colourless	67	9	248

Sample / Location	Total Spores (spores /m³)	Fungal Material Type	Concentration (count/m³)	Percentage of Sample (%)	Percentage of Outdoors (%)
		Rusts	13	2	N/A
Unit 212-2 Kitchen	547	*Alternaria* spp.	13	2	100
		Ascospores	93	17	28
		Aspergillus spp. / *Penicillium* spp.	40	7	100
		Basidiospores	13	2	9
		***Cladosporium* spp.**	**307**	**56**	**287**
		Colourless	67	12	248
		Rusts	13	2	N/A
Unit 221-1 Kitchen	347	Ascospores	53	15	16
		Aspergillus spp. / *Penicillium* spp.	67	19	168
		***Cladosporium* spp.**	**200**	**56**	**187**
		Colourless	27	8	100
Unit 221-2 Common Area	600	*Alternaria* spp.	13	2	100
		Ascospores	120	20	36
		Aspergillus spp. / *Penicillium* spp.	53	9	133
		Basidiospores	53	9	36
		Cladosporium spp.	213	36	199
		Colourless	133	22	493
		Rusts	13	2	N/A
Unit 222-1 Kitchen	413	Ascospores	67	16	20
		Aspergillus spp. / *Penicillium* spp.	67	16	168
		Basidiospores	27	7	18
		Cladosporium spp.	160	39	150
		Colourless	80	19	296
		Smuts, *Periconia* spp., Myxomycetes	13	3	N/A
Unit 222-2 Common Area	400	*Alternaria* spp.	13	3	100
		Ascospores	107	27	32
		Aspergillus spp. / *Penicillium* spp.	27	7	68
		Basidiospores	27	7	18
		Cladosporium spp.	133	33	124
		Colourless	40	10	148
		Pithomyces spp.	13	3	N/A
		Smuts, *Periconia* spp., Myxomycetes	40	10	N/A
Unit 223-1 Kitchen	440	Ascospores	80	18	24
		Aspergillus spp. / *Penicillium* spp.	133	30	333
		Basidiospores	40	9	27
		Cladosporium spp.	147	33	137
		Colourless	27	6	100

Sample / Location	Total Spores (spores /m³)	Fungal Material Type	Concentration (count/m³)	Percentage of Sample (%)	Percentage of Outdoors (%)
		Smuts, *Periconia* spp., Myxomycetes	13	3	N/A
Unit 223-2 Common Area	413	Ascospores	53	13	16
		Aspergillus spp. / *Penicillium* spp.	67	16	168
		Basidiospores	27	7	18
		Cladosporium spp.	187	45	175
		Colourless	67	16	248
		Smuts, *Periconia* spp., Myxomycetes	13	3	N/A
Unit 224-1 Kitchen	293	*Alternaria* spp.	13	4	100
		Aspergillus spp. / *Penicillium* spp.	93	32	233
		Basidiospores	13	4	9
		Cercospora spp.	27	9	N/A
		Cladosporium spp.	93	32	87
		Colourless	27	9	100
		Smuts, *Periconia* spp., Myxomycetes	27	9	N/A
Unit 224-2 Common Area	440	Ascospores	80	18	24
		Aspergillus spp. / *Penicillium* spp.	27	6	68
		Basidiospores	40	9	27
		Cladosporium spp.	133	30	124
		Colourless	67	15	248
		Smuts, *Periconia* spp., Myxomycetes	93	21	N/A
Unit 123-1 Kitchen	573	*Alternaria* spp.	40	7	308
		Ascospores	67	12	11
		Aspergillus spp. / *Penicillium* spp.	27	5	68
		Basidiospores	13	2	8
		Cladosporium spp.	67	12	11
		Colourless	67	12	14
		Epicoccum spp.	13	2	N/A
		Rusts	27	5	N/A
		Smuts, *Periconia* spp., Myxomycetes	253	44	N/A
Unit 231-1 Kitchen	213	*Alternaria* spp.	13	6	100
		Ascospores	13	6	4
		Aspergillus spp. / *Penicillium* spp.	40	19	100
		Basidiospores	13	6	9
		Cladosporium spp.	40	19	37
		Colourless	40	19	148

Sample / Location	Total Spores (spores /m³)	Fungal Material Type	Concentration (count/m³)	Percentage of Sample (%)	Percentage of Outdoors (%)
		Rusts	13	6	N/A
		Smuts, *Periconia* spp., Myxomycetes	40	19	N/A
Unit 231-2 Common Area	400	*Alternaria* spp.	13	3	100
		Ascospores	80	20	24
		Aspergillus spp. / *Penicillium* spp.	93	23	233
		Basidiospores	27	7	18
		Cladosporium spp.	120	30	112
		Colourless	40	10	148
		Rusts	40	10	N/A
		Smuts, *Periconia* spp., Myxomycetes	13	3	N/A
Unit 232-1 Kitchen	587	*Alternaria* spp.	53	9	408
		Ascospores	133	23	40
		Aspergillus spp. / *Penicillium* spp.	27	5	68
		Basidiospores	27	5	18
		Cladosporium spp.	227	39	212
		Colourless	67	11	248
		Rusts	40	7	N/A
		Smuts, *Periconia* spp., Myxomycetes	13	2	N/A
Unit 232-2 Common Area	1307	*Alternaria* spp.	13	<1	100
		Ascospores	107	8	32
		***Aspergillus* spp. / *Penicillium* spp.**	**1040**	**80**	**2600**
		Basidiospores	13	<1	9
		Cladosporium spp.	53	4	50
		Colourless	27	2	100
		Rusts	13	<1	N/A
		Smuts, *Periconia* spp., Myxomycetes	40	3	N/A
Unit 233-1 Kitchen	400	Ascospores	40	10	12
		Aspergillus spp. / *Penicillium* spp.	120	30	300
		Basidiospores	13	3	9
		Cladosporium spp.	173	43	162
		Colourless	27	7	100
		Smuts, *Periconia* spp., Myxomycetes	27	7	N/A
Unit 233-2 Bedroom Area	547	Ascospores	53	10	16
		Aspergillus spp. / *Penicillium* spp.	267	49	668
		Basidiospores	27	5	18
		Cladosporium spp.	160	29	150

Sample / Location	Total Spores (spores /m³)	Fungal Material Type	Concentration (count/m³)	Percentage of Sample (%)	Percentage of Outdoors (%)
		Colourless	27	5	100
		Smuts, *Periconia* spp., Myxomycetes	13	2	N/A
Unit 234-1 Kitchen	360	*Alternaria* spp.	13	4	100
		Aspergillus spp. / *Penicillium* spp.	40	11	100
		Basidiospores	53	15	36
		Cercospora spp.	13	4	N/A
		Cladosporium spp.	160	44	150
		Colourless	40	11	148
		Rusts	13	4	N/A
		Smuts, *Periconia* spp., Myxomycetes	27	8	N/A
Unit 234-2 Bedroom Area	293	Ascospores	107	37	32
		Aspergillus spp. / *Penicillium* spp.	40	14	100
		Basidiospores	13	4	9
		Cladosporium spp.	93	32	87
		Colourless	27	9	100
		Smuts, *Periconia* spp., Myxomycetes	13	4	N/A
Unit 241-1 Kitchen	453	*Alternaria* spp.	13	3	100
		Ascospores	133	29	40
		Aspergillus spp. / *Penicillium* spp.	93	21	233
		Basidiospores	13	3	9
		Cladosporium spp.	107	24	100
		Colourless	67	15	248
		Rusts	27	6	N/A
Unit 241-2 Common Area	413	Ascospores	93	23	28
		Aspergillus spp. / *Penicillium* spp.	40	10	100
		Cladosporium spp.	213	52	199
		Colourless	40	10	148
		Rusts	13	3	N/A
		Smuts, *Periconia* spp., Myxomycetes	13	3	N/A
Unit 242-1 Kitchen	280	*Alternaria* spp.	27	10	208
		Ascospores	53	19	16
		Aspergillus spp. / *Penicillium* spp.	27	10	68
		Basidiospores	13	5	9
		Cladosporium spp.	80	29	75
		Colourless	40	14	148
		Pithomyces spp.	13	5	N/A
		Rusts	13	5	N/A

Sample / Location	Total Spores (spores /m³)	Fungal Material Type	Concentration (count/m³)	Percentage of Sample (%)	Percentage of Outdoors (%)
		Smuts, *Periconia* spp., Myxomycetes	13	5	N/A
Unit 242-2 Bedroom Area	387	*Alternaria* spp.	13	3	100
		Ascospores	13	3	4
		Aspergillus spp. / *Penicillium* spp.	27	7	68
		Basidiospores	27	7	18
		***Cladosporium* spp.**	**227**	**59**	**212**
		Colourless	27	7	100
		Epicoccum spp.	13	3	N/A
		Rusts	13	3	N/A
		Smuts, *Periconia* spp., Myxomycetes	27	7	N/A
Unit 243-1 Kitchen	360	Ascospores	27	8	8
		Aspergillus spp. / *Penicillium* spp.	53	15	133
		Basidiospores	13	4	9
		***Cladosporium* spp.**	**187**	**52**	**175**
		Colourless	40	11	148
		Rusts	13	4	N/A
		Smuts, *Periconia* spp., Myxomycetes	27	8	N/A
Unit 243-2 Common Area	413	*Alternaria* spp.	13	3	100
		Ascospores	40	10	12
		Aspergillus spp. / *Penicillium* spp.	53	13	133
		Basidiospores	13	3	9
		***Cladosporium* spp.**	**240**	**58**	**224**
		Colourless	27	7	100
		Pithomyces spp.	13	3	N/A
		Smuts, *Periconia* spp., Myxomycetes	13	3	N/A
Unit 244-1 Bedroom Area	453	Ascospores	27	6	8
		Aspergillus spp. / *Penicillium* spp.	227	50	568
		Basidiospores	27	6	18
		Cladosporium spp.	93	21	87
		Colourless	27	6	100
		Rusts	13	3	N/A
		Smuts, *Periconia* spp., Myxomycetes	40	9	N/A
Unit 244-2 Kitchen	400	Ascospores	27	7	8
		***Aspergillus* spp. / *Penicillium* spp.**	**293**	**73**	**733**
		Basidiospores	13	3	9
		Cladosporium spp.	27	7	25

Sample / Location	Total Spores (spores /m³)	Fungal Material Type	Concentration (count/m³)	Percentage of Sample (%)	Percentage of Outdoors (%)
		Colourless	27	7	100
		Smuts, *Periconia* spp., Myxomycetes	13	3	N/A

- As per **Table II**, the criteria outlined in section 3.1 has been met in **Units 211, 212, 221, 232, 242, 243, and 244** of the Sturgeon Residence; therefore, *Aspergillus spp./Penicillium spp*. and *Cladosporium* type mould amplification is occurring in the assessed spaces.

4.2 Summary of Possible Airborne Mould Identified

The following briefly describes the moulds identified:

- ***Alternaria spp.*** is a common mould ubiquitous in outdoor air; also, widespread indoors.

- **Ascospores** are sexual mould spores produced in an ascus. Ascospores can be produced by over 3000 various mould genera.

- ***Aspergillus spp***. are common in outdoor environments and commonly can grow on a various substrate and with a wide range of water requirements. Some genera of Aspergillus are known to known to produce mycotoxins.

- **Basidiospores** are sexual mould spores produced in a basidium. Basidiospores may be produced by approximately 1200 mould genera.

- ***Chaetomium spp.*** is a common mould ubiquitous in outdoor air. It is also widespread indoors, commonly found on damp sheetrock paper. *Chaetomium spp.* is typically associated with water damaged building materials.

- ***Cladosporium spp***. is a common mould ubiquitous in outdoor air; also, widespread indoors on many substrates, including textiles, wood, moist windowsills.

- ***Cercospora* spp.** growth is not typically found indoors, grows outdoors as a parasite on higher plants.

- **Colorless** spores are spores lacking distinguishable characteristics.

- ***Drechslera/Biopolaris spp.*** are common moulds ubiquitous in outdoor environments, also common indoors on a variety of substrates.

- ***Epicoccum spp.*** is a common mould ubiquitous in outdoor air; grows indoors on many substrates, including paper, textiles and insects.

- ***Fusarium* spp.** a common mould ubiquitous in outdoor air; occasionally found indoors on a variety of substrates, however, requires very wet conditions.

- **Myxomycetes** are common moulds (~ 45 genera) ubiquitous in outdoor air and occasionally found growing indoors. While a few are distinctive, many of the myxomycete spores are difficult to distinguish from the smuts. These spores are placed in the group "smuts, myxomycetes, Periconia," due to their similar "round, brown" morphology.

- ***Penicillium spp.*** is a common mould ubiquitous in outdoor environments, often found in soils and decaying plant debris. They are a common allergen and one species of *Penicillium* (P. marneffei) is known to produce mycotoxins.

- ***Periconia spp.*** are common mould ubiquitous in outdoor air, however rarely found growing indoors. Generally, it is difficult to distinguish *Periconia* spores from the smuts, myxomycetes and other round, brown spore types.

- ***Pithomyces spp.*** is a common mould ubiquitous in outdoor air, rarely found indoors, however, can grow on paper.

- **Rusts** are common moulds ubiquitous in outdoor environments. Rusts do not grow indoors unless their host plants are present. They are parasitic plant pathogens and need a living host for growth.

- **Smuts** are common moulds ubiquitous in outdoor air. Smuts do not normally grow indoors; they are parasitic plant pathogens that require a living host for the completion of their life cycle.

- ***Stachybotrys spp.*** is a genus of moulds that can grow on material with high cellulose content such as wallboard, jute, wicker, straw baskets, and other paper materials. Materials that are chronically moist or water damaged promote the growth of these organisms. This organism is known to produce mycotoxins.

- ***Ulocladium spp.*** is a common mould ubiquitous in outdoor air. It is widespread indoors, found on gypsum board, paper, paint, tapestries, jute, and other straw materials. *Ulocladium spp.* has a high-water requirement.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the air sampling results and observations made on the survey date, the following conclusions and recommendations are made:

- It has been concluded through laboratory analysis that elevated levels of mould were found in **Units 113, 131, and 143** of the Scugog Residence and **Units 211, 212, 221, 232, 242, 243, and 244** of the Sturgeon Residence; *Aspergillus spp./Penicillium spp*. and *Cladosporium* type mould amplification is occurring in the assessed spaces. Further investigation may be required to identify the sources of increased concentrations of airborne mould spores.
- Cleaning and disinfection procedures of these units is recommended. Emphasis should be placed on preventing contamination through proper maintenance of the buildings and prompt repair of any water-damaged areas.
- Most units that were found to have mould amplification contained high amounts of food and beverage waste. Specific units that contained high amounts of waste could not be identified for privacy reasons.

5.1 General Considerations

- This survey satisfies requirements of the Occupational Health and Safety Act with regards to the presence/absence of hazardous materials identified within this report. This executive summary is not to be used alone and the report should be reviewed in its entirety.

- Should you have any questions or comments regarding this survey, please do not hesitate to contact our office.

6.0 LIMITATIONS

In this statement of limitations, the “Client” refers to the persons or entities to whom this report (the “Report”) is addressed. “THEM” refers to T. Harris Environmental Management Inc. The “Contract” refers to any general or project-specific written agreement, including THEM’s Terms

and Conditions and project-specific scope of work documents, executed between THEM and the Client pertaining to the subject matter of this Report.

This Report is subject to the limitations set out below and any other limitations set out in the body of this Report and/or in the Contract between THEM and the Client.

The investigation and assessment described in this Report were conducted in accordance with the Contract agreed upon by the Client in a manner consistent with a reasonable level of care and skill normally exercised by members of the occupational hygiene consulting profession currently practising under similar conditions in the Province of Ontario and/or Quebec, as applicable, and observing the code of ethics of the Canadian Registration Board of Occupational Hygienists (CRBOH) and the American Board of Industrial Hygiene (ABIH).

In preparing this Report, THEM has relied on information provided by others, including without limitation, information concerning the history and operation of the site, and test results and analyses of other consultants, independent laboratories, or testing services. Except as expressly stated in this Report, THEM has not made any independent verification of such information. Findings cannot be extended to portions of the site, which were unavailable for direct observation.

The assessment in this Report has been made in the context of regulations which were in force and effect at the time of the assessment, and which are specified in this Report. The assessment did not consider any regulations, which were not in effect at the date of the assessments, or any guideline or standard not specified in this Report. Regulatory standards do not exist for all materials of a potentially hazardous nature.

The collection of any samples at the site (including the location of samples and the analytical parameters applied to the samples) was undertaken in accordance with the Contract agreed upon by the Client, based upon the information provided to THEM by the Client concerning existing site conditions. Conditions between sample locations (if any) may differ from those indicated in this Report.

This Report is intended solely for the use or uses specified in this Report and/or the Contract. Use of this Report for purposes other than those expressly set out in this Report and/or the Contract will be at the sole risk of the Client.

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In no event shall THEM be liable for any indirect, incidental, special, or consequential damages, or damages from loss of profits, revenue, or use, whether in an action in tort, contract or otherwise, even if THEM has been advised of the possibility of such damages. If new information concerning the subject matter of this report arises, the Client should contact THEM to re-evaluate the conclusions of this Report and to provide amendments as required.

APPENDIX I
REFERENCES

1. American Industrial Hygiene Association. Recognition, Evaluation, and Control of Indoor Mould. Edited by Bradely Prezant, Donald M. Weekens, J. David Miller, 2008
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7. Environmental Abatement Council of Canada (EACC) – Mould Abatement Guidelines Third Edition, 2015
8. Canadian Construction Association – Mould Guidelines for the Canadian Construction Industry, 2018
9. Environmental Microbiology Laboratory Inc. – Characteristics of Some Commonly Encountered Fungal Genera. Compiled By Janet Gallup and Miriam Valesco Dr. P.H., 2002-2003
10. Microorganisms In Home and Indoor Work Environments. Diversity, Health Impacts, Investigation and Control. Edited by Brian Flanningan, Robert A. Samson, J.David Miller., 2001
11. US EPA, Mold Remediation in Schools and Commercial Buildings, March 2001
12. American Conference of Governmental Industrial Hygienists, Bioaerosols Assessment and Control, 1999
13. Health Canada, Fungal Contamination in Public Buildings – Health Effects and Investigation Methods, 2004

APPENDIX II
LABORATORY CERTIFICATES

emcscientific INCORPORATED

Laboratory Analysis Report

To:

Erin Rowland / Raj Singh
T. Harris Environmental
93 Skyway Avenue, Suite 101
Toronto, Ontario
M9W 6N6

EMC LAB REPORT NUMBER: 87043
Job/Project Name: 1 Auk Trail, Lindsay, ON
Job/Project No: 18180 **No. of Samples:** 62
Sample Type: Air-O-Cell **Date Received:** Oct 7/22
Analysis Method(s): Fungal Spore Counting
Date Analyzed: Oct 12-13 **Date Reported:** Oct 13/22
Analysts: Lalita Sarlashkar, Ph.D., *Microbiologist*
Weizhong Liu, Ph.D., *Mycologist*
Approved By: Fajun Chen, Ph.D., *Principal Mycologist*

Client's Sample ID	**Outdoor SU**			**Outdoor ST**			**Indoor SU**			**Indoor ST**			**ST1-211-1**		
EMC Lab Sample No.	370319			370320			370321			370322			370323		
Sampling Date	Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22		
Description/Location	Outdoor reference			Outdoor reference			Indoor reference			Indoor reference			Kitchen		
Air Volume (m^3)	0.075			0.075			0.075			0.075			0.075		
Fungal Spores	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3
Alternaria	1	1	13												
Arthrinium															
Ascospores	47	32	627	25	27	333	3	18	40	1	8	13	2	12	27
Aspergillus/Penicillium type	3	2	40	3	3	40	3	18	40	4	31	53	2	12	27
Basidiospores	13	9	173	11	12	147	1	6	13						
Cercospora															
Chaetomium															
Cladosporium	46	32	613	32	34	427	8	47	107	6	46	80	9	53	120
Colorless	35	24	467	22	24	293	2	12	27	2	15	27	4	24	53
Drechslera/Bipolaris group															
Epicoccum															
Fusarium															
Oidium															
Pithomyces															
Polythrincium															
Rusts															
Smuts, *Periconia* , Myxomycetes															
Stachybotrys															
Ulocladium															
Unidentified spores															
Number of spores/sample	145			93			17			13			17		
Fungal fragments (0-3 +)	0+			0+			0+			0+			0+		
Non-fungal material (0-3 +)	2+			2+			2+			2+			2+		
TOTAL SPORES/M^3	**1,933**			**1,240**			**227**			**173**			**227**		

Note:
1. *Aspergillus/Penicillium* type spores may include those of *Acremonium, Paecilomyces, Trichoderma* and others.
2. A scale of 0 + to 3 + (indicating increasing amount) is used to rate abundance of fungal fragments and non-fungal material, with 3+ indicating the most abundance.
3. The presence of a large amount of dust debris may obscure some spores to be counted. Spore counts from samples with 3 + non-fungal material and/or 3 + fungal material may be treated as under-counts.
4. Unidentified spores are those lacking distinguishable characteristics for correct identification. Colorless are colorless spores lacking distinguishable characteristics.
5. These results are only related to the sample(s) analyzed.

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Laboratory Analysis Report

EMC LAB REPORT NUMBER: 87043
Client's Job/Project No.: 18180
Analysts: Lalita Sarlashkar, Ph.D., *Microbiologist* / Weizhong Liu, Ph.D., *Mycologist*

Client's Sample ID	**ST1-211-2**			**ST1-212-1**			**ST1-212-2**			**ST2-221-1**			**ST2-221-2**		
EMC Lab Sample No.	370324			370325			370326			370327			370328		
Sampling Date	Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22		
Description/Location	Bedroom hallway			Common room			Kitchen			Kitchen			Common area		
Air Volume (m^3)	0.075			0.075			0.075			0.075			0.075		
Fungal Spores	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3
Alternaria							1	2	13				1	2	13
Arthrinium															
Ascospores	3	20	40	6	11	80	7	17	93	4	15	53	9	20	120
Aspergillus/Penicillium type	2	13	27	30	55	400	3	7	40	5	19	67	4	9	53
Basidiospores	1	7	13	1	2	13	1	2	13				4	9	53
Cercospora															
Chaetomium															
Cladosporium	6	40	80	12	22	160	23	56	307	15	58	200	16	36	213
Colorless	3	20	40	5	9	67	5	12	67	2	8	27	10	22	133
Drechslera/Bipolaris group															
Epicoccum															
Fusarium															
Oidium															
Pithomyces															
Polythrincium															
Rusts				1	2	13	1	2	13				1	2	13
Smuts, *Periconia* , Myxomycetes															
Stachybotrys															
Ulocladium															
Unidentified spores															
Number of spores/sample	15			55			41			26			45		
Fungal fragments (0-3 +)	0+			0+			0+			0+			0+		
Non-fungal material (0-3 +)	2+			2+			2+			3+			2+		
TOTAL SPORES/M^3	**200**			**733**			**547**			**347**			**600**		

Note:
1. *Aspergillus/Penicillium* type spores may include those of *Acremonium, Paecilomyces, Trichoderma* and others.
2. A scale of 0 + to 3 + (indicating increasing amount) is used to rate abundance of fungal fragments and non-fungal material, with 3+ indicating the most abundance.
3. The presence of a large amount of dust debris may obscure some spores to be counted. Spore counts from samples with 3 + non-fungal material and/or 3 + fungal material may be treated as under-counts.
4. Unidentified spores are those lacking distinguishable characteristics for correct identification. Colorless are colorless spores lacking distinguishable characteristics.
5. These results are only related to the sample(s) analyzed.

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Laboratory Analysis Report

EMC LAB REPORT NUMBER: 87043
Client's Job/Project No.: 18180
Analysts: Lalita Sarlashkar, Ph.D., *Microbiologist* / Weizhong Liu, Ph.D., *Mycologist*

Client's Sample ID	**ST2-222-1**			**ST2-222-2**			**ST2-223-1**			**ST2-223-2**			**ST2-224-1**		
EMC Lab Sample No.	370329			370330			370331			370332			370333		
Sampling Date	Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22		
Description/Location	Kitchen			Common area			Kitchen			Common area			Kitchen		
Air Volume (m^3)	0.075			0.075			0.075			0.075			0.075		
Fungal Spores	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3
Alternaria				1	3	13							1	5	13
Arthrinium															
Ascospores	5	16	67	8	27	107	6	18	80	4	13	53	7	32	93
Aspergillus/Penicillium type	5	16	67	2	7	27	10	30	133	5	16	67	1	5	13
Basidiospores	2	6	27	2	7	27	3	9	40	2	6	27	2	9	27
Cercospora															
Chaetomium															
Cladosporium	12	39	160	10	33	133	11	33	147	14	45	187	7	32	93
Colorless	6	19	80	3	10	40	2	6	27	5	16	67	2	9	27
Drechslera/Bipolaris group															
Epicoccum															
Fusarium															
Oidium															
Pithomyces				1	3	13									
Polythrincium															
Rusts															
Smuts, *Periconia* , Myxomycetes	1	3	13	3	10	40	1	3	13	1	3	13	2	9	27
Stachybotrys															
Ulocladium															
Unidentified spores															
Number of spores/sample	31			30			33			31			22		
Fungal fragments (0-3 +)	0+			0+			0+			0+			0+		
Non-fungal material (0-3 +)	2+			2+			2+			2+			2+		
TOTAL SPORES/M^3	**413**			**400**			**440**			**413**			**293**		

Note:
1. *Aspergillus/Penicillium* type spores may include those of *Acremonium, Paecilomyces, Trichoderma* and others.
2. A scale of 0 + to 3 + (indicating increasing amount) is used to rate abundance of fungal fragments and non-fungal material, with 3+ indicating the most abundance.
3. The presence of a large amount of dust debris may obscure some spores to be counted. Spore counts from samples with 3 + non-fungal material and/or 3 + fungal material may be treated as under-counts.
4. Unidentified spores are those lacking distinguishable characteristics for correct identification. Colorless are colorless spores lacking distinguishable characteristics.
5. These results are only related to the sample(s) analyzed.

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Laboratory Analysis Report

EMC LAB REPORT NUMBER: 87043
Client's Job/Project No.: 18180
Analysts: Lalita Sarlashkar, Ph.D., *Microbiologist* / Weizhong Liu, Ph.D., *Mycologist*

Client's Sample ID	**ST2-224-2**			**ST3-231-1**			**ST3-231-2**			**ST3-232-1**			**ST3-232-2**		
EMC Lab Sample No.	370334			370335			370336			370337			370338		
Sampling Date	Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22		
Description/Location	Common area			Kitchen			Common area			Kitchen			Common area		
Air Volume (m^3)	0.075			0.075			0.075			0.075			0.075		
Fungal Spores	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3
Alternaria				1	6	13	1	3	13	4	9	53	1	1	13
Arthrinium															
Ascospores	6	18	80	1	6	13	6	20	80	10	23	133	8	8	107
Aspergillus/Penicillium type	2	6	27	3	19	40	7	23	93	2	5	27	78	80	1040
Basidiospores	3	9	40	1	6	13	2	7	27	2	5	27	1	1	13
Cercospora															
Chaetomium															
Cladosporium	10	30	133	3	19	40	9	30	120	17	39	227	4	4	53
Colorless	5	15	67	3	19	40	3	10	40	5	11	67	2	2	27
Drechslera/Bipolaris group															
Epicoccum															
Fusarium															
Oidium															
Pithomyces															
Polythrincium															
Rusts				1	6	13	1	3	13	3	7	40	1	1	13
Smuts, *Periconia* , Myxomycetes	7	21	93	3	19	40	1	3	13	1	2	13	3	3	40
Stachybotrys															
Ulocladium															
Unidentified spores															
Number of spores/sample	33			16			30			44			98		
Fungal fragments (0-3 +)	0+			0+			0+			0+			0+		
Non-fungal material (0-3 +)	2+			2+			2+			3+			2+		
TOTAL SPORES/M^3	**440**			**213**			**400**			**587**			**1,307**		

Note:
1. *Aspergillus/Penicillium* type spores may include those of *Acremonium, Paecilomyces, Trichoderma* and others.
2. A scale of 0 + to 3 + (indicating increasing amount) is used to rate abundance of fungal fragments and non-fungal material, with 3+ indicating the most abundance.
3. The presence of a large amount of dust debris may obscure some spores to be counted. Spore counts from samples with 3 + non-fungal material and/or 3 + fungal material may be treated as under-counts.
4. Unidentified spores are those lacking distinguishable characteristics for correct identification. Colorless are colorless spores lacking distinguishable characteristics.
5. These results are only related to the sample(s) analyzed.

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Laboratory Analysis Report

EMC LAB REPORT NUMBER: 87043
Client's Job/Project No.: 18180
Analysts: Lalita Sarlashkar, Ph.D., *Microbiologist* / Weizhong Liu, Ph.D., *Mycologist*

Client's Sample ID	**ST3-223-1**			**ST3-233-2**			**ST3-234-1**			**STE-234-2**			**ST4-241-1**		
EMC Lab Sample No.	370339			370340			370341			370342			370343		
Sampling Date	Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22		
Description/Location	Kitchen			Bedroom area			Kitchen			Bedroom area			Kitchen		
Air Volume (m^3)	0.075			0.075			0.075			0.075			0.075		
Fungal Spores	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3
Alternaria							1	4	13				1	3	13
Arthrinium															
Ascospores	3	10	40	4	10	53	3	11	40	8	36	107	10	29	133
Aspergillus/Penicillium type	9	30	120	20	49	267	4	15	53	3	14	40	7	21	93
Basidiospores	1	3	13	2	5	27	1	4	13	1	5	13	1	3	13
Cercospora															
Chaetomium															
Cladosporium	13	43	173	12	29	160	12	44	160	7	32	93	8	24	107
Colorless	2	7	27	2	5	27	3	11	40	2	9	27	5	15	67
Drechslera/Bipolaris group															
Epicoccum															
Fusarium															
Oidium															
Pithomyces															
Polythrincium															
Rusts							1	4	13				2	6	27
Smuts, *Periconia* , Myxomycetes	2	7	27	1	2	13	2	7	27	1	5	13			
Stachybotrys															
Ulocladium															
Unidentified spores															
Number of spores/sample	30			41			27			22			34		
Fungal fragments (0-3 +)	0+			0+			0+			0+			0+		
Non-fungal material (0-3 +)	3+			3+			2+			2+			2+		
TOTAL SPORES/M^3	**400**			**547**			**360**			**293**			**453**		

Note:
1. *Aspergillus/Penicillium* type spores may include those of *Acremonium, Paecilomyces, Trichoderma* and others.
2. A scale of 0 + to 3 + (indicating increasing amount) is used to rate abundance of fungal fragments and non-fungal material, with 3+ indicating the most abundance.
3. The presence of a large amount of dust debris may obscure some spores to be counted. Spore counts from samples with 3 + non-fungal material and/or 3 + fungal material may be treated as under-counts.
4. Unidentified spores are those lacking distinguishable characteristics for correct identification. Colorless are colorless spores lacking distinguishable characteristics.
5. These results are only related to the sample(s) analyzed.

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Laboratory Analysis Report

EMC LAB REPORT NUMBER: 87043
Client's Job/Project No.: 18180
Analysts: Lalita Sarlashkar, Ph.D., *Microbiologist* / Weizhong Liu, Ph.D., *Mycologist*

Client's Sample ID	**ST4-241-2**			**ST4-242-1**			**ST4-242-2**			**ST4-243-1**			**ST4-243-1**		
EMC Lab Sample No.	370344			370345			370346			370347			370348		
Sampling Date	Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22		
Description/Location	Common area			Kitchen			Bedroom area			Kitchen			Common area		
Air Volume (m^3)	0.075			0.075			0.075			0.075			0.075		
Fungal Spores	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3
Alternaria				2	10	27	1	3	13				1	3	13
Arthrinium															
Ascospores	7	23	93	4	19	53	1	3	13	2	7	27	3	10	40
Aspergillus/Penicillium type	3	10	40	2	10	27	2	7	27	4	15	53	4	13	53
Basidiospores				1	5	13	2	7	27	1	4	13	1	3	13
Cercospora															
Chaetomium															
Cladosporium	16	52	213	6	29	80	17	59	227	14	52	187	18	58	240
Colorless	3	10	40	3	14	40	2	7	27	3	11	40	2	6	27
Drechslera/Bipolaris group															
Epicoccum							1	3	13						
Fusarium															
Oidium															
Pithomyces				1	5	13							1	3	13
Polythrincium															
Rusts	1	3	13	1	5	13	1	3	13	1	4	13			
Smuts, *Periconia* , Myxomycetes	1	3	13	1	5	13	2	7	27	2	7	27	1	3	13
Stachybotrys															
Ulocladium															
Unidentified spores															
Number of spores/sample	31			21			29			27			31		
Fungal fragments (0-3 +)	0+			0+			0+			0+			0+		
Non-fungal material (0-3 +)	3+			2+			3+			3+			3+		
TOTAL SPORES/M^3	**413**			**280**			**387**			**360**			**413**		

Note:
1. *Aspergillus/Penicillium* type spores may include those of *Acremonium, Paecilomyces, Trichoderma* and others.
2. A scale of 0 + to 3 + (indicating increasing amount) is used to rate abundance of fungal fragments and non-fungal material, with 3+ indicating the most abundance.
3. The presence of a large amount of dust debris may obscure some spores to be counted. Spore counts from samples with 3 + non-fungal material and/or 3 + fungal material may be treated as under-counts.
4. Unidentified spores are those lacking distinguishable characteristics for correct identification. Colorless are colorless spores lacking distinguishable characteristics.
5. These results are only related to the sample(s) analyzed.

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Laboratory Analysis Report

EMC LAB REPORT NUMBER: 87043
Client's Job/Project No.: 18180
Analysts: Lalita Sarlashkar, Ph.D., *Microbiologist* / Weizhong Liu, Ph.D., *Mycologist*

Client's Sample ID	**ST4-244-1**			**ST4-244-2**			**SU4-141-1**			**SU4-141-2**			**SU4-142-1**		
EMC Lab Sample No.	370349			370350			370351			370352			370353		
Sampling Date	Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22		
Description/Location	Bedroom area			Kitchen			Kitchen			Common area			Kitchen		
Air Volume (m^3)	0.075			0.075			0.075			0.075			0.075		
Fungal Spores	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3
Alternaria															
Arthrinium															
Ascospores	2	6	27	2	7	27	2	7	27	1	5	13			
Aspergillus/Penicillium type	17	50	227	22	73	293	4	14	53	3	14	40	2	13	27
Basidiospores	2	6	27	1	3	13	1	3	13	1	5	13	1	7	13
Cercospora															
Chaetomium															
Cladosporium	7	21	93	2	7	27	12	41	160	7	32	93	7	47	93
Colorless	2	6	27	2	7	27	3	10	40	3	14	40	2	13	27
Drechslera/Bipolaris group															
Epicoccum															
Fusarium															
Oidium															
Pithomyces							1	3	13						
Polythrincium													2	13	27
Rusts	1	3	13							1	5	13			
Smuts, *Periconia* , Myxomycetes	3	9	40	1	3	13	6	21	80	6	27	80	1	7	13
Stachybotrys															
Ulocladium															
Unidentified spores															
Number of spores/sample	34			30			29			22			15		
Fungal fragments (0-3 +)	0+			0+			0+			0+			0+		
Non-fungal material (0-3 +)	3+			2+			3+			3+			2+		
TOTAL SPORES/M^3	**453**			**400**			**387**			**293**			**200**		

Note:
1. *Aspergillus/Penicillium* type spores may include those of *Acremonium, Paecilomyces, Trichoderma* and others.
2. A scale of 0 + to 3 + (indicating increasing amount) is used to rate abundance of fungal fragments and non-fungal material, with 3+ indicating the most abundance.
3. The presence of a large amount of dust debris may obscure some spores to be counted. Spore counts from samples with 3 + non-fungal material and/or 3 + fungal material may be treated as under-counts.
4. Unidentified spores are those lacking distinguishable characteristics for correct identification. Colorless are colorless spores lacking distinguishable characteristics.
5. These results are only related to the sample(s) analyzed.

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Laboratory Analysis Report

EMC LAB REPORT NUMBER: 87043
Client's Job/Project No.: 18180
Analysts: Lalita Sarlashkar, Ph.D., *Microbiologist* / Weizhong Liu, Ph.D., *Mycologist*

Client's Sample ID	**SU4-142-2**			**SU4-143-1**			**SU4-143-2**			**SU4-144-1**			**SU4-144-2**		
EMC Lab Sample No.	370354			370355			370356			370357			370358		
Sampling Date	Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22		
Description/Location	Common area			Kitchen			Bedroom area			Kitchen			Common area		
Air Volume (m^3)	0.075			0.075			0.075			0.075			0.075		
Fungal Spores	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3
Alternaria															
Arthrinium															
Ascospores	2	10	27	2	13	27	1	3	13	1	5	13	1	3	13
Aspergillus/Penicillium type	3	15	40	4	25	53	25	63	333	5	24	67	9	23	120
Basidiospores				3	19	40	2	5	27	2	10	27	1	3	13
Cercospora															
Chaetomium															
Cladosporium	8	40	107	4	25	53	6	15	80	9	43	120	10	25	133
Colorless	5	25	67	2	13	27	5	13	67	2	10	27	15	38	200
Drechslera/Bipolaris group															
Epicoccum															
Fusarium															
Oidium															
Pithomyces													1	3	13
Polythrincium															
Rusts															
Smuts, *Periconia* , Myxomycetes	2	10	27	1	6	13	1	3	13	2	10	27	3	8	40
Stachybotrys															
Ulocladium															
Unidentified spores															
Number of spores/sample	20			16			40			21			40		
Fungal fragments (0-3 +)	0+			0+			0+			0+			0+		
Non-fungal material (0-3 +)	2+			2+			2+			2+			2+		
TOTAL SPORES/M^3	**267**			**213**			**533**			**280**			**533**		

Note:
1. *Aspergillus/Penicillium* type spores may include those of *Acremonium, Paecilomyces, Trichoderma* and others.
2. A scale of 0 + to 3 + (indicating increasing amount) is used to rate abundance of fungal fragments and non-fungal material, with 3+ indicating the most abundance.
3. The presence of a large amount of dust debris may obscure some spores to be counted. Spore counts from samples with 3 + non-fungal material and/or 3 + fungal material may be treated as under-counts.
4. Unidentified spores are those lacking distinguishable characteristics for correct identification. Colorless are colorless spores lacking distinguishable characteristics.
5. These results are only related to the sample(s) analyzed.

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Laboratory Analysis Report

EMC LAB REPORT NUMBER: 87043
Client's Job/Project No.: 18180
Analysts: Lalita Sarlashkar, Ph.D., *Microbiologist* / Weizhong Liu, Ph.D., *Mycologist*

Client's Sample ID	**SU3-131-1**			**SU-131-2**			**SU3-132-1**			**SU3-132-2**			**SU3-134-1**		
EMC Lab Sample No.	370359			370360			370361			370362			370365		
Sampling Date	Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22		
Description/Location	Kitchen			Common area			Kitchen			Common area			Kitchen		
Air Volume (m^3)	0.075			0.075			0.075			0.075			0.075		
Fungal Spores	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3
Alternaria				1	3	13	1	2	13						
Arthrinium															
Ascospores	1	2	13	4	13	53				3	6	40			
Aspergillus/Penicillium type	27	54	360	3	10	40	14	33	187	19	37	253	7	28	93
Basidiospores	1	2	13	3	10	40	1	2	13	2	4	27			
Cercospora															
Chaetomium															
Cladosporium	15	30	200	14	47	187	12	28	160	18	35	240	8	32	107
Colorless	3	6	40	4	13	53	8	19	107	2	4	27	7	28	93
Drechslera/Bipolaris group															
Epicoccum															
Fusarium															
Oidium															
Pithomyces							1	2	13				1	4	13
Polythrincium															
Rusts										1	2	13			
Smuts, *Periconia* , Myxomycetes	3	6	40	1	3	13	6	14	80	6	12	80	2	8	27
Stachybotrys															
Ulocladium															
Unidentified spores															
Number of spores/sample	50			30			43			51			25		
Fungal fragments (0-3 +)	0+			0+			0+			0+			0+		
Non-fungal material (0-3 +)	3+			2+			3+			3+			3+		
TOTAL SPORES/M^3	**667**			**400**			**573**			**680**			**333**		

Note:
1. *Aspergillus/Penicillium* type spores may include those of *Acremonium, Paecilomyces, Trichoderma* and others.
2. A scale of 0 + to 3 + (indicating increasing amount) is used to rate abundance of fungal fragments and non-fungal material, with 3+ indicating the most abundance.
3. The presence of a large amount of dust debris may obscure some spores to be counted. Spore counts from samples with 3 + non-fungal material and/or 3 + fungal material may be treated as under-counts.
4. Unidentified spores are those lacking distinguishable characteristics for correct identification. Colorless are colorless spores lacking distinguishable characteristics.
5. These results are only related to the sample(s) analyzed.

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Laboratory Analysis Report

EMC LAB REPORT NUMBER: 87043
Client's Job/Project No.: 18180
Analysts: Lalita Sarlashkar, Ph.D., *Microbiologist* / Weizhong Liu, Ph.D., *Mycologist*

Client's Sample ID	**SU3-134-2**			**SU-121-1**			**SU2-121-2**			**SU2-122-1**			**SU2-122-2**		
EMC Lab Sample No.	370366			370367			370368			370369			370370		
Sampling Date	Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22		
Description/Location	Bedroom hallway			Kitchen			Bedroom hallway			Kitchen			Common area		
Air Volume (m^3)	0.075			0.075			0.075			0.075			0.075		
Fungal Spores	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3
Alternaria							2	8	27	1	3	13			
Arthrinium															
Ascospores	1	5	13	1	3	13	1	4	13				4	12	53
Aspergillus/Penicillium type	3	15	40	6	18	80	3	12	40	4	11	53	7	21	93
Basidiospores	1	5	13	1	3	13	2	8	27	3	8	40	2	6	27
Cercospora															
Chaetomium															
Cladosporium	3	15	40	13	38	173	9	35	120	7	19	93	11	33	147
Colorless	4	20	53	3	9	40	2	8	27	3	8	40	4	12	53
Drechslera/Bipolaris group															
Epicoccum															
Fusarium															
Oidium															
Pithomyces							2	8	27						
Polythrincium							1	4	13						
Rusts	1	5	13	3	9	40				1	3	13			
Smuts, *Periconia* , Myxomycetes	7	35	93	7	21	93	4	15	53	17	47	227	5	15	67
Stachybotrys															
Ulocladium															
Unidentified spores															
Number of spores/sample	20			34			26			36			33		
Fungal fragments (0-3 +)	0+			0+			0+			0+			0+		
Non-fungal material (0-3 +)	2+			3+			3+			3+			3+		
TOTAL SPORES/M^3	**267**			**453**			**347**			**480**			**440**		

Note:
1. *Aspergillus/Penicillium* type spores may include those of *Acremonium, Paecilomyces, Trichoderma* and others.
2. A scale of 0 + to 3 + (indicating increasing amount) is used to rate abundance of fungal fragments and non-fungal material, with 3+ indicating the most abundance.
3. The presence of a large amount of dust debris may obscure some spores to be counted. Spore counts from samples with 3 + non-fungal material and/or 3 + fungal material may be treated as under-counts.
4. Unidentified spores are those lacking distinguishable characteristics for correct identification. Colorless are colorless spores lacking distinguishable characteristics.
5. These results are only related to the sample(s) analyzed.

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Laboratory Analysis Report

EMC LAB REPORT NUMBER: 87043
Client's Job/Project No.: 18180
Analysts: Lalita Sarlashkar, Ph.D., *Microbiologist* / Weizhong Liu, Ph.D., *Mycologist*

Client's Sample ID	**SU2-123-1**			**SU2-123-2**			**SU-124-1**			**SU-124-2**			**SU1-111-1**		
EMC Lab Sample No.	370371			370372			370373			370374			370375		
Sampling Date	Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22		
Description/Location	Kitchen			Common area			Bedroom hallway			Common area			Kitchen		
Air Volume (m^3)	0.075			0.075			0.075			0.075			0.075		
Fungal Spores	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3
Alternaria	3	7	40	1	2	13	1	3	13	2	8	27			
Arthrinium															
Ascospores	5	12	67	1	2	13	1	3	13				2	10	27
Aspergillus/Penicillium type	2	5	27	2	4	27	3	9	40	3	12	40	2	10	27
Basidiospores	1	2	13	4	8	53	3	9	40	2	8	27	3	15	40
Cercospora															
Chaetomium															
Cladosporium	5	12	67	17	35	227	7	22	93	5	20	67	6	30	80
Colorless	5	12	67	3	6	40	2	6	27	3	12	40	4	20	53
Drechslera/Bipolaris group				1	2	13									
Epicoccum	1	2	13				1	3	13						
Fusarium															
Oidium															
Pithomyces										1	4	13			
Polythrincium															
Rusts	2	5	27	1	2	13	1	3	13	3	12	40			
Smuts, *Periconia* , Myxomycetes	19	44	253	18	38	240	13	41	173	6	24	80	3	15	40
Stachybotrys															
Ulocladium															
Unidentified spores															
Number of spores/sample	43			48			32			25			20		
Fungal fragments (0-3 +)	0+			0+			0+			0+			0+		
Non-fungal material (0-3 +)	2+			2+			2+			3+			2+		
TOTAL SPORES/M^3	**573**			**640**			**427**			**333**			**267**		

Note:
1. *Aspergillus/Penicillium* type spores may include those of *Acremonium, Paecilomyces, Trichoderma* and others.
2. A scale of 0 + to 3 + (indicating increasing amount) is used to rate abundance of fungal fragments and non-fungal material, with 3+ indicating the most abundance.
3. The presence of a large amount of dust debris may obscure some spores to be counted. Spore counts from samples with 3 + non-fungal material and/or 3 + fungal material may be treated as under-counts.
4. Unidentified spores are those lacking distinguishable characteristics for correct identification. Colorless are colorless spores lacking distinguishable characteristics.
5. These results are only related to the sample(s) analyzed.

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Laboratory Analysis Report

EMC LAB REPORT NUMBER: 87043
Client's Job/Project No.: 18180
Analysts: Lalita Sarlashkar, Ph.D., *Microbiologist* / Weizhong Liu, Ph.D., *Mycologist*

Client's Sample ID	**SU1-111-2**			**SU1-112-1**			**SU1-112-2**			**SU1-113-1**			**SU1-113-2**		
EMC Lab Sample No.	370376			370377			370378			370379			370380		
Sampling Date	Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22			Oct 7/22		
Description/Location	Bedroom area			Common area			Kitchen			Kitchen			Common area		
Air Volume (m^3)	0.075			0.075			0.075			0.075			0.075		
Fungal Spores	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3
Alternaria													2	6	27
Arthrinium															
Ascospores	2	14	27	2	7	27	2	12	27	2	2	27	3	8	40
Aspergillus/Penicillium type	1	7	13	4	14	53	2	12	27	78	83	1040	17	47	227
Basidiospores	1	7	13	3	10	40	2	12	27	2	2	27	1	3	13
Cercospora															
Chaetomium															
Cladosporium	5	36	67	8	28	107	3	18	40	3	3	40	5	14	67
Colorless	3	21	40	5	17	67	4	24	53	5	5	67	3	8	40
Drechslera/Bipolaris group															
Epicoccum										1	1	13			
Fusarium															
Oidium															
Pithomyces										2	2	27			
Polythrincium				1	3	13	2	12	27	1	1	13			
Rusts	2	14	27	2	7	27	1	6	13				2	6	27
Smuts, *Periconia* , Myxomycetes				4	14	53	1	6	13				3	8	40
Stachybotrys															
Ulocladium															
Unidentified spores															
Number of spores/sample	14			29			17			94			36		
Fungal fragments (0-3 +)	0+			0+			0+			0+			0+		
Non-fungal material (0-3 +)	2+			2+			2+			2+			2+		
TOTAL SPORES/M^3	**187**			**387**			**227**			**1,253**			**480**		

Note:
1. *Aspergillus/Penicillium* type spores may include those of *Acremonium, Paecilomyces, Trichoderma* and others.
2. A scale of 0 + to 3 + (indicating increasing amount) is used to rate abundance of fungal fragments and non-fungal material, with 3+ indicating the most abundance.
3. The presence of a large amount of dust debris may obscure some spores to be counted. Spore counts from samples with 3 + non-fungal material and/or 3 + fungal material may be treated as under-counts.
4. Unidentified spores are those lacking distinguishable characteristics for correct identification. Colorless are colorless spores lacking distinguishable characteristics.
5. These results are only related to the sample(s) analyzed.

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Laboratory Analysis Report

EMC LAB REPORT NUMBER: 87043
Client's Job/Project No.: 18180
Analysts: Lalita Sarlashkar, Ph.D., *Microbiologist* / Weizhong Liu, Ph.D., *Mycologist*

Client's Sample ID	**SU1-114-1**			**SU1-114-2**											
EMC Lab Sample No.	370381			370382											
Sampling Date	Oct 7/22			Oct 7/22											
Description/Location	Bedroom area			Kitchen											
Air Volume (m^3)	0.075			0.075											
Fungal Spores	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3	raw ct.	%	spores/m^3
Alternaria	1	5	13												
Arthrinium															
Ascospores	1	5	13	5	25	67									
Aspergillus/Penicillium type	8	42	107	2	10	27									
Basidiospores				2	10	27									
Cercospora															
Chaetomium															
Cladosporium	3	16	40	7	35	93									
Colorless	2	11	27	2	10	27									
Drechslera/Bipolaris group															
Epicoccum															
Fusarium															
Oidium															
Pithomyces	1	5	13												
Polythrincium															
Rusts				1	5	13									
Smuts, *Periconia* , Myxomycetes	3	16	40	1	5	13									
Stachybotrys															
Ulocladium															
Unidentified spores															
Number of spores/sample	19			20											
Fungal fragments (0-3 +)	0+			0+											
Non-fungal material (0-3 +)	3+			3+											
TOTAL SPORES/M^3	**253**			**267**											

Note:
1. *Aspergillus/Penicillium* type spores may include those of *Acremonium, Paecilomyces, Trichoderma* and others.
2. A scale of 0 + to 3 + (indicating increasing amount) is used to rate abundance of fungal fragments and non-fungal material, with 3+ indicating the most abundance.
3. The presence of a large amount of dust debris may obscure some spores to be counted. Spore counts from samples with 3 + non-fungal material and/or 3 + fungal material may be treated as under-counts.
4. Unidentified spores are those lacking distinguishable characteristics for correct identification. Colorless are colorless spores lacking distinguishable characteristics.
5. These results are only related to the sample(s) analyzed.