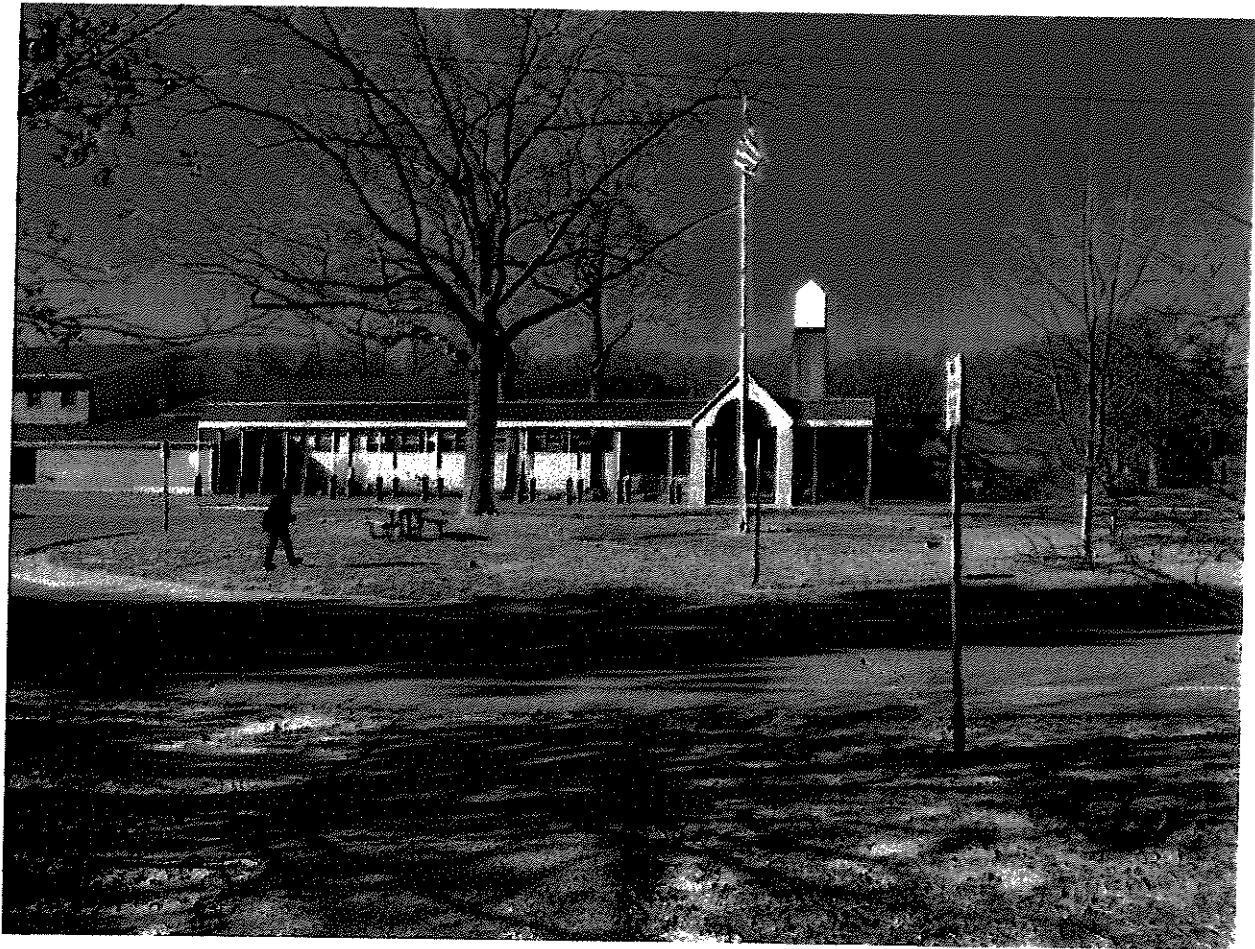


INDOOR AIR QUALITY REPORT

By: Michael Sireci, MS, CMA

Green Meadow Elementary School Maynard School District



REVISED

December 17, 2018

Introduction:

I conducted an environmental assessment of Green Meadow Elementary School, 5 Tiger Drive, Maynard, Massachusetts on 10/26/18 and 10/29/18 for the professionals and paraprofessionals in the Maynard Education Association using a variety of diagnostic tools. This evaluation takes both quantifiable scientific data from diagnostic tools and data gathered through building occupant questionnaires into consideration when making observations, conclusions and recommendations. Taken into consideration are reports issued in September 2018 by ASAP Environmental, Inc., Prism Analytical Technologies and EnviroScreening Lab in November 2018.

The original section of this single-story structure was constructed in 1956. Additions were constructed in 1974 and 1988. A number of upgrades have been made to the building including a conversion of the heating system from oil to natural gas. Uninvents in the original section of the building built in 1956 have been replaced. A new rubber membrane was installed on a section of the roof in August 2017. The school accommodates approximately 550 pre-kindergarten through grade three students and approximately 110 staff.

I distributed the Nordic Indoor Air Quality (IAQ) survey to building occupants that examines symptoms and environmental concerns. It also provides raw percentages. I took mold air samples and tape lift samples, volatile organic compound samples, moisture readings, relative humidity and temperature readings. I focused on the eastern section of the building, the library, kindergarten and pre-kindergarten areas. This is the area where occupants had complaints of leaks and experiencing respiratory symptoms.

The K wing is also an area of the building that had multiple water leaks through the roof. During the site visit, I also took photographs, which are attached to this report. I did a visual inspection of the condition of the roof and air handlers and air exhausts on the roof. Testing for mold took place right after the student day ended. This report takes the information from the data collected, makes observations and recommendations.

Symptoms and Environmental Concerns

Nordic Indoor Air Quality Survey:

The Nordic Indoor Air Quality (IAQ) survey was distributed to employees in the building in early November 2018. This two-page survey collects demographic information and occupants' symptoms experience, their environmental concerns, their personal health conditions and workplace psychosocial factors. To ensure validity, an 80% response rate is required. A separate IAQ survey report compares the responses of employees at Green Meadow Elementary School with those of occupants in a "clean" office building. The survey is also included as an attachment to this report. The survey data provides a percentage calculation of how many respondents answered "yes, often every week." The bolded items in the Survey Data chart have a statistically significant elevated odds ratio when compared to the reference population. For definitions see the IAQ survey report.

Mold:

There are currently no guidelines or standards promulgated by a government agency or widely recognized scientific organization for the interpretation of surface or airborne mold spore levels. Molds live in the soil, on plants, and on dead and decaying matter. Molds produce tiny spores to reproduce. When mold spores land on a damp spot, they may begin growing and digesting whatever carbon material they land on in order to survive. Exposure to molds has been linked to symptoms such as headaches, nasal irritation, dizziness, fatigue and nausea. Molds can trigger asthma attacks and allergic reactions. Research is ongoing. Because everyone's immune system is unique, individual exposure response to mold will vary. I took 19 air samples inside the building and two (2) outside on my two site visits.

I collected mold samples using two (2) different methods; air samples and tape lift samples. Mold air samples were collected using an air-sampling pump that is a direct read total particulate air-sampling device. A spore trap device uses an inertial impaction principal. It is designed for the collection and analysis of airborne particulate including bio-aerosols (e.g. mold spores, pollen, insect parts, skin cell fragments). It collects both viable and non-viable particulate and inorganic particles. The method involves drawing 15 liters/minute of air through a sterile sampling cassette. After sampling, the cassette is sealed and transferred to the microbiology laboratory under a chain of custody protocol for microscopic analysis. EnviroScreening Lab is a third party licensed laboratory, which analyzed samples and interpreted the results. Concentration levels are ranked as normal, slightly elevated or elevated. Mold tape-lift samples and a swab sample were collected and provide a direct examination of the surface. A direct exam determines the presence of fungal spores and defines which types of fungi are present. The presence of biological materials on a particular surface is not a direct indication of what may be in the air. EnviroScreening Lab analyzed samples and interpreted the results. These lab results were determined to be reasonable by the National Organization of Remediators and Mold Inspectors. I took seven (7) tape lift samples and one (1) swab sample. ASAP Environmental analyzed 17 rooms for airborne mold on September 17, 2018.

As I stated earlier, there are no state or federal statutes or regulations regarding molds and indoor air quality. Acceptable levels for individual mold species vary since species toxicity varies widely as do spore size, weight, and other features that affect risk to building occupants.

The publication, American Conference of Governmental Industrial Hygienists (Air Sampling Instruments for Evaluation of Atmospheric Contaminants 1995), recommended the following guidelines:

100 Colony Forming Units (cfu) or less per cubic meter of air indicates low risk.

100 cfu to 1,000 cfu per cubic meter of air indicates intermediate risk.

1,000 or more cfu per cubic meter of air indicates a high risk.

Volatile Organic Compounds:

Air monitoring for Total Volatile Organic Compounds (TVOCs) was conducted to determine whether TVOCs and Microbial Volatile Organic Compounds (MVOCs) were present in areas being investigated. The quality of indoor air concentrations can be greatly impacted by the use of products containing volatile organic compounds (VOCs). VOCs are carbon-containing substances that have the ability to evaporate at room temperature. Excessive TVOCs can result in eye and respiratory irritation if exposure occurs. For example, chemicals evaporating from a paint can stored at room temperature would most likely contain VOCs. Building sources contaminants measured at Prism Analytical Technologies include coatings, PVC cement, building materials that are toluene-based, gasoline, fuel oil, light hydrocarbons and light solvents. The Green Building Council and Prism Analytical Technologies have recommended 500 ng/L as an upper TVOC limit.

MVOCs are produced during the metabolic or digestive processes of mold and therefore can be used as an indicator of active growing mold. TVOCs indicate the presence of chemicals in the sampled location.

Prism Analytical Technologies analyzed the samples. An AIHA Laboratory LLC in the Industrial Hygiene Accreditation program accredits them for GC/MS Field testing.

The sampling methodology used is to draw volumes of 20 m/L through a sorbent tube for four (4) hour duration, ensuring compatibility with a concentration range. Total Volatile Organic Compounds (TVOC) and Mold Volatile Organic Compounds (MVOC) samples were taken in room 7D and the cafeteria.

Samples were sent to Prism Analytical Technologies under a chain of custody and they analyzed the results. Prism Analytical Technologies is an accredited AIHA Laboratory.

Carbon Dioxide:

CO₂ measurements help determine the amount of fresh air entering the environment. To maximize air exchange, the Massachusetts Department of Public Health (MDPH), Bureau of Environmental Health, recommends that both supply and exhaust ventilation operate continuously during periods of occupancy.

MDPH recommends that carbon dioxide levels be maintained at 800 parts per million (ppm) or below. A ventilation rate of 20 cubic feet per minute (cfm) per occupant of fresh air provides optimal air exchange, resulting in carbon dioxide levels below 800 ppm in the indoor environment in each area measured. In a study, most environmental and occupational health scientists involved with research on IAQ and health effects have documented significant increases in indoor air quality complaints and/or health effects when carbon dioxide levels rise above MDPH guidelines of 800 ppm for schools, office buildings and other occupied spaces (Sundell et al., 2011).

Carbon dioxide is not a problem in and of itself. It is used as an indicator of the adequacy of the fresh air ventilation system. As carbon dioxide levels increase, it indicates that the ventilation system is malfunctioning or the design occupancy of the room is being exceeded. Inadequate ventilation is a major cause of complaints such as respiratory, eye, nose and throat irritation, lethargy and headaches.

The Tel Aire 7001 Carbon Dioxide Meter was used to take CO₂, temperature and relative humidity readings. The instrument has a measurement range of zero (0) parts per million (ppm) to 9,999 ppm. Relative Humidity RH is determined as a percentage and temperature in degrees. The results of the measurements appear in the room diagrams. This meter is factory calibrated annually.

Temperature:

The MDPH recommends that indoor air temperatures be maintained in a range of 70° to 78° F in order to provide for comfort of building occupants. MGL S. 113, Ch. 149 requires schools (K-12) maintain a minimum of 66-68° F. In many cases concerning indoor air quality, fluctuations of temperature in occupied spaces are typically experienced, even in a building with adequate fresh air supply. It is also difficult to maintain comfort without operating the HVAC system as designed (i.e. blocking/obstructing or deactivating units via the thermostat on unit ventilators).

Relative Humidity:

Many private companies recommend maintaining relative humidity (RH) between 30 and 50%. Within that range prevents dust mite infestations, mold and mildew growth, and inhibits bacteria. Lower relative humidity also reduces the out-gassing of VOCs. In colder climates, wintertime humidity levels must be even lower—generally 30-40%—to prevent condensation on windows and other surfaces. The EPA recommends maintaining indoor relative humidity between 30 and 60% to reduce mold growth [EPA 2012]. DPH recommends a comfort range of 40 to 60%.

Moisture:

I measured moisture in the concrete slab (above the linoleum tile) and in the ceiling tiles. I used the Tramex CMEX II Moisture Meter which is designed for the instant and precise measurement of moisture. I incorporated a double pin type probe to measure moisture in the ceiling tiles. The pin probe measures a range from 7% to 40% moisture content. In porous materials such as ceiling tiles, 5 to 12% is considered acceptable. The instrument measures up to 6.9% Moisture Content in Concrete. A slab at 4% moisture level is too wet to apply flooring to. .

Ceiling and floor moisture readings appear in the attached room design charts.

Discussion:

Ninety-six percent of the professional and paraprofessional instructors in the Maynard Education Association working at Green Meadow Elementary School responded to the IAQ Questionnaire. With over an 80% response rate there is confidence that the results are representative of the whole group. The survey provides for three (3) direct responses to environmental concerns and symptoms. For instance, participants were asked during the last three (3) months if they had experienced “scaling/itching scalp or ears.” The options they could check off are: 1) Yes, often (every week), 2) Yes, Sometimes or 3) No, Never. The IAQ report only counts the first option “yes, often (every week),” as a yes or positive response. The other two options are counted as “No” responses. They are also asked if the symptom “scaling/itching scalp or ears” improved when they are away from work. They can only respond with a “yes” or “no.” In the enclosed report, Green Meadow occupants’ responses “Yes, often (every week),” appear as a red star on a star diagram and are compared to a “clean building” that appears as a black star on the chart. The total percent of “Yes, often (every week)” responses is also indicated on the star diagram. An odds ratio between the two rankings is determined. Statistically significant differences between the two building occupants’ responses are noted and in bold print. The numerical formulas for Odds Ratio are provided in the report. Green Meadow occupants’ response to “scaling/itching scalp or ears” had a statistically significant odd ratio of 11.14. That means that the Green Meadow occupants answered “yes, often (every week)” 11.14 times more than the reference population did. In this case about 22% of the respondents at Green Meadow answered “yes, often every week”

The responses for Green Meadow population had statistically significantly odds ratio (as compared to the reference population) with the following Environmental Concerns:

Dust and Dirt 4.08
Varying temperature 4.04
Temperature too high 3.47
Stuffy “bad” air 3.26
Dry air 2.04

Strikingly the response for the Green Meadow population had statistically significantly odds ratio as compared to the reference population with the following Symptom Experience:

Scaling/itching scalp or ears 11.14
Cough 7.35
Hoarse dry throat 5.43
Irritated, stuffy or runny nose 4.52 (almost 40% checked “yes, often every week”)
Dry flushed facial skin 4.48
Itch/burn or irritation of eyes 2.20
Hands dry, itching, red skin 2.17

The report also provides data on Personal Health Conditions. Of particular note are the employees who experience asthma and eczema conditions on a weekly basis. Asthma is a serious health condition that restricts airway passages and breathing. The statewide average asthma rate in 2015 was 10.2%. The asthma problem rate at Green Meadow is approximately 32%. Of the 85 teachers and paraprofessionals that responded, 27 experienced asthma-like problems.

Fourteen out of 39 paraprofessionals experienced asthmatic problems. Of the 14 paraprofessionals that experienced asthmatic problems, 13 work on the K-wing. Fourteen out of the 48 teacher respondents stated they experienced asthmatic problems. Six (6) were teachers from the pod wing, four (4) from the K wing, three (3) from the café wing and one (1) specials teacher. Forty-five percent of both professionals and paraprofessionals that experienced asthma-like conditions work on the K wing.

Special attention should be paid to the environmental conditions on the K wing. This is the area of the building where a new rubber membrane was applied to stop the roof leaks. Please review the photos in this report showing the many ceiling tiles that have been replaced and tiles that still remain stained.

Asthma would likely “sensitize” individuals to certain exposures. Asthma is a lung disease that causes inflammation of the airways. Sensitized employees with compromised immune system might have negative health effects to lower levels of toxins than individuals with healthier immune systems. In that case, they require a cleaner environment than normal individuals with healthy immune systems in order to feel okay. Asthma has several triggers that should be noted including mold and pest dander from mice.

The responses for Green Meadow population was statistically significantly elevated odds ratio as compared to the reference population with the following personal health conditions:

Asthma 3.38

Eczema 2.40

The report shows that Green Meadow educators find their work interesting, they get help when they ask for it, they don't think they get too much work and they don't think they have a lot of influence over their work.

The responses for Green Meadow population was statistically significantly elevated odds ratio as compared to the reference population with the following workplace psychosocial factors:

Interesting work 3.23

Help 2.15

The report closes by making statistical associations between symptoms and environmental conditions.

Assessments:

ASAP Environmental analyzed 17 rooms for airborne mold on September 17, 2018. The Maynard Public Schools provided this report to the Maynard Education Association. The Maynard Public Schools hired ASAP. In the “Summary of Sample Analysis” they provide an air sampling analysis score. They found that the MoldScore was in the HIGH range for the following areas: rooms 7F, 7K, Staff Development Room, and Room Front Entry Foyer. A high MoldScore indicates a HIGH likelihood of mold growth in the area tested at the time of inspection.

ASAP Environmental determined a MoldScore of MODERATE range for the following areas: rooms 7H, 7D, 7C, 7B, 7A, 7I, 7J, 7L, 7M and 4B. A moderate MoldScore indicates a moderate likelihood of indoor fungal growth.

In the Detailed Results section of the air sample analysis, they rank on a scale from high to low. A mold score rating of <150 is low and indicates a low probability of spores originating inside. A mold score rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A mold score between 150 and 250 indicates a moderate likelihood of indoor fungal growth.

The following rooms fell into the moderate MoldScore between 150 and 250:
Room 7H had a mold score of 189 (moderate likelihood of indoor fungal growth);
Room 7D had a mold score of 181 (moderate likelihood of indoor fungal growth);
Room 7C had a mold score of 174 (moderate likelihood of indoor fungal growth);
Room 7B had a mold score of 205 (moderate likelihood of indoor fungal growth);
Room 7A had a mold score of 184 (moderate likelihood of indoor fungal growth);
Room 7I had a mold score of 180 (moderate likelihood of indoor fungal growth);
Room 7J had a mold score of 189 (moderate likelihood of indoor fungal growth);
Room 7L had a mold score of 237 (moderate likelihood of indoor fungal growth);
Room 7M had a mold score of 209 (moderate likelihood of indoor fungal growth);
Room 4B had a mold score of 171 (moderate likelihood of indoor fungal growth).

The following rooms fell into the high rate >250:

Room 7F had a mold score of 299 (high probability that the spores originated from inside);
*Room 7K had a mold score of 260 (high probability that the spores originated from inside);
*Staff Development Room had a mold score of 300 (high probability that the spores originated from inside);
*Room Front Entry Foyer had a mold score of 290 (high probability that the spores originated from inside).

After ASAP submitted their survey report, it was reported that several of the rooms were deep cleaned and ceiling tiles were replaced. See the attached photos as evidence of past moisture intrusion from a leaking roof. The photos include: The Art Room, the Library, the Library Office, Rooms 2C, 7D, 7C, 7B, and 7E.

Water and moisture in ceiling tiles can come from a variety of sources including: roof leaks caused by poor drainage, damaged perimeter flashing, damaged roof membrane, roof pipes or drains that are inadequately sealed, or general roof damage due to age. The HVAC system above the ceiling tiles can cause staining if it has a backed up condensation line, a rusted out drip pan, or a unit that's not properly sealed. Moisture can also occur when warm, humid air touches the colder surface of HVAC ductwork that is inadequately insulated. Humid air in the space above the tiles may be a source of moisture. My understanding is that the building's roof has been a major source of moisture inside the building.

A large rubber membrane patch was applied to the roof in August 2017. It was reported that this work significantly dried out the roof although there have been some breaches. Recently a leak under the membrane was discovered and repaired.

Testing analyzed by EnviroScreening Lab two months after the ASAP test shows continued limited contamination yet much improved results. Room 7F air sample and the teachers' bathroom showed limited contamination levels, room 7C wipe sample showed potential growth and colonization of spores, 7F wipe sample showed potential growth and colonization of spores, the Library Office showed potential growth and colonization of spores and the Art Room showed probable colonization of spores.

The air testing and wipe testing demonstrate that the air has substantially improved yet there is still evidence of settled spores on some materials, walls and ceilings in some of several classrooms tested. Settled spores can enter the breathing atmosphere with the movement of air and occupants' movements.

I tested for volatile organic compounds (VOCs) in the cafeteria and room 7D. Severity levels begin at normal or minimal and progress through moderate, elevated, high and severe. Total VOCs in the cafeteria were in the moderate range. The normal range is <500 ng/L and the cafeteria was 830 ng/L. Potential sources include coatings, paints, and/or varnishes. Further investigation is warranted. The Mold Volatile Organic Compound (MVOCs) range for the cafeteria was in the minimal range or less than 8 ng/L. This indicates that although molds may be present, they are at or below levels found in most buildings.

Total VOCs in room 7D were in the moderate range. The normal range is <500 ng/L. Room 7D was 950 ng/L. Potential sources include cleaning products. Further investigation is warranted. The Mold Volatile Organic Compound (MVOCs) range for Room 7D was in the minimal range or less than 3 ng/L. This indicates that although molds may be present, they are at or below levels found in most buildings.

On the days of the inspections, the Carbon Dioxide levels were within the range recommended by the Department of Public Health of 800 parts per million (ppm) or below. This indicates that fresh air is being introduced into the space at an adequate level. The temperature and relative humidity were also generally within acceptable ranges.

I took moisture readings of the floor slab and the ceiling tiles. The moisture level on the slab is underestimated because the reading was taken over the vinyl tile. The ceiling tiles were generally within the acceptable range although several were on the high side and 7F showed elevated levels above 12% moisture on the surface of the tile. The pin probe measures moisture into the tile up to ½ inch. The charts attached to this report indicate where in the room the readings were taken. The locations and readings may be useful in further investigations. There were some stained tiles, but no tiles visibly wet with moisture at the time of the site visit.

Location	CO ₂	RH%	Temp F	Low level of ceiling tile moisture %	High level of ceiling tile moisture %
Art room	572	25	72	8.2	10
Library office	798	33	72	0	0
2C	701	35	70	0	9.1
7E	671	37	61	0	9.4
7K	590	36	71	0	9.7
7B	557	36	70	8.7	11.3
7C	584	36	68	0	10.6
7D	712	40	66	9.4	10.6
7F	634	41	66	2.8	12.8

I also conducted a walkthrough inspection of the roof. There were no obvious breaches in the rubber membrane on the roof. There were approximately 18 exhaust fans, five (5) were not operating. The problem with introducing fresh air but not exhausting is you can build up moisture in the occupied space and spores and particulates can enter the environment but are not exhausted.

Conclusions/Recommendations:

The roof of the building appears to have leaked over some time from the number of wet ceiling tiles and missing tiles. Acoustical ceiling tiles are made of porous materials, so they easily absorb moisture and dirt. Both the ASAP and EnviroScreening Lab reports indicate the presence of mold in the building. The ASAP report indicates the likelihood of indoor fungal growth in rooms 7A, 7B, 7C, 7D, 7H, 7I, 7J, 7L, 7M and 4B, and the high probability that the spores originated from inside in rooms 7F, 7K, the Room at the Front Entry Foyer and the Staff Development Room. Subsequent to the report, it's been reported that there was a deep cleaning and conditions may have improved. The new rubber membrane on the roof leaked and was recently repaired. At the time of this testing there were several rooms that had contamination including rooms 7F, 7C, the teachers' bathroom, the Library Office and the Art Room. I'd suggest that special deep cleaning be undertaken during the winter holiday, including the use of an enzyme cleaner. NORMI and IIRC provide specialized effective sanitization protocols.

Although a direct cause and effect cannot be determined in this report, the building has experienced extensive moisture intrusion and mold growth and educators are self-reporting elevated levels of upper respiratory conditions and skin conditions. Educators are self-reporting a cluster of asthma on the kindergarten wing where 50% of the employees self reported experiencing asthmatic conditions. The section of rubber membrane over the K wing has improved the moisture intrusion into the building; all exhaust fans on the roof not fully functioning should be repaired. Deep cleaning should take place in all suspect areas as soon as possible, potentially over the winter holiday. People that have conditions like asthma become sensitized to exposure to allergens including mold and pest dander. These individuals may have a reaction to an environment that a person with a normally healthy immune system doesn't. There are a number of relatively low cost air purifiers on the market that are very effective at

lifting mold spores off surfaces as well as out of the air. Exhaust the kindergarten area an extra hour before and an extra hour after the normal exhaust range, change the filters more often, balance the heat, and monitor the RH.

Repeated cleaning may be necessary to achieve a dust free environment. Generally, cleaning should take place from top to bottom. Thorough cleaning consists of combining HEPA vacuuming with damp wiping so that minimum moisture remains on the surfaces of materials in the classrooms or offices. Air dry or fan dry all surfaces. The ceilings as well as the walls, the floors and all materials in the room, including but not limited to desks cabinets, book shelves and the insides of drawers should be cleaned. Allow necessary time for dust spores to settle between cleaning rounds. To ensure that dust and dirt have been removed, a final inspection should be conducted. Surfaces can be verified as clean by wiping with a white or black cloth and visually inspecting.

Change air filters quarterly in any HVAC air handling unit and the classroom univents.

For educators who have asthma or upper respiratory symptoms and can provide a physician's letter consider providing an air purifier that is designed to sanitize surfaces and improve indoor air quality by dealing with pollutants in a proactive way. MCI, multi-cluster ionization technology, is used to clean the surfaces of mold, bacteria, VOCs and other indoor air quality contaminants. A product called the BLS12K Air Purifier is designed to cover up to 12,000 cubic feet and is a stand-alone unit. This size unit may be suitable for the typical sized classroom. The MCI PureSynAIRg is another air purifier that utilizes the same technology but is designed to cover 22,000 cubic feet. The BLS12K retails for \$398.00 and the MCI PureSynAIRg retails for \$599.00. They can be purchased through Best Living Systems. There may be comparable multi cluster ionization products on the market. In any instance, employees should always follow those recommendations provided by their physician. Provide this report along with included labs to your physician.

The testing that was done is limited in scope. There are several areas of the building beside the K wing where employees have environmental concerns and symptoms. That said, further investigation is warranted.

Disclaimer

This document was designed to follow current known industry guidelines for interpretation of microbial and chemical contaminant sampling and analysis. Since interpretation of mold analysis reports is a scientific work in progress, it may as such change over time. Michael Sireci and the Massachusetts Teachers Association make no express or implied warranties as to the health of persons or property from only the samples analyzed. The client and any and all others reviewing this document are hereby notified that due to the subjective nature of fungal analysis and the mold growth process, laboratory samples and interpretations thereof can and do change over time relative to the originally sampled materials. Michael Sireci and the Massachusetts Teachers Association reserve the right to properly dispose of all samples after the testing of such samples is sufficiently completed or after a seven (7) day period, whichever is greater.

INDOOR AIR QUALITY QUESTIONNAIRE

This questionnaire concerns your indoor climate and possible symptoms you may be experiencing.

Please mark the **Department, and location** which best describes where you work in the building:

- ☐ Basement
- ☐ First Floor
- ☐ Second Floor
- ☐ Third Floor
- ☐ Office
- ☐ Grounds
- ☐ Department
- ☐ Other

(please specify: _____)

Name (optional):

Average hours/week in building:

Hours/week on a computer:

Where do you most commonly work?

- ☐ Open area
- ☐ Classroom number (optional)
- ☐ Private office

BACKGROUND FACTORS

Age

- ☐ 16-24 yrs
- ☐ 25-39 yrs
- ☐ 40-55 yrs
- ☐ 55+ yrs

Sex

- ☐ Male
- ☐ Female

Do you smoke?

- ☐ Yes
- ☐ No

Occupation:

How long have you worked in this particular building?
years

WORK ENVIRONMENT

Have you been bothered during the last three months by any of the following factors at your work place?

Draft

Room temperature too high

Varying room temperature

Room temperature too low

Stuffy "bad" air

Dry air

Unpleasant odor

Static electricity, often causing shocks

Second-hand smoke

Noise

Light that is dim or causes glare and/or reflections

Dust and dirt

Yes, Often
(every week)

☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐
☐

Yes, Sometimes

☐
☐
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☐

No, Never

☐
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☐

WORK CONDITIONS

Do you regard your work as interesting and stimulating?

Do you have too much work to do?

Do you have any opportunity to influence your working conditions?

Do your fellow workers help you with problems you may have in your work?

Yes, often

☐
☐
☐
☐

Yes, sometimes

☐
☐
☐
☐

No, seldom

☐
☐
☐
☐

No, never

☐
☐
☐
☐

PAST/PRESENT DISEASES/SYMPTOMS

Have you ever had asthmatic problems?
 Have you ever suffered from hayfever?
 Have you ever suffered from eczema?
 Does anybody else in your family suffer from allergies?
 (eg. asthma, hayfever, eczema)

Yes
☐
☐
☐
☐
No
☐
☐
☐
☐
PRESENT SYMPTOMS

During the last 3 months have you
 had any of the following symptoms?

If YES:
Does the symptom
improve when you
are away from work?

	Yes, often (every week)	Yes, Sometimes	No, Never	Yes	No
Fatigue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling heavy-headed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Headache	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nausea/dizziness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Difficulties concentrating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Itching, burning or irritation of the eyes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irritated, stuffy or runny nose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hoarse, dry throat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cough	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dry or flushed facial skin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scaling/itching scalp or ears	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hands dry, itching, red skin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (describe)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

MOLD

The following are questions specifically about mold. Please provide details in the
 comments section below.

Have you observed visible mold in your work area?
 Does your work area smell dank or moldy?
 Have you observed evidence of moisture or leaks in your work area?
 Have you observed evidence of moisture or leaks elsewhere?

Yes
☐
☐
☐
☐
No
☐
☐
☐
☐

Additional Comments:



<http://www.mmquestionnaire.se/index.html>



Occupational Health
Clinics for Ontario
Workers Inc.

MTA Environmental Health and Safety Committee

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Indoor Air Quality Questionnaire Results for: Green Meadow School

Background:

Air quality in a workplace is ultimately evaluated by its acceptability on the part of the occupants. The ASHRAE standards (62.1-2010 & 55-2010) are all based on this premise. In order to collect occupant experiences in a systematic manner, the MM040 Indoor Environment Quality Questionnaire has been used (Andersson, K., Fagerlund, I., Bodin, L., and Ydreborg, B., "Questionnaire as an Instrument when Evaluating Indoor Climate", Healthy Buildings '88, Vol 3 p.139-145 (1988)).

For comparison purposes, data derived from occupants in buildings without air quality problems has been used (Hill, B., Craft, B., and Burkart, J., "Carbon Dioxide, Particulates and Subjective Human Responses in Office Buildings Without Histories of Indoor Air Quality Problems", Applied Occupational Environmental Hygiene Journal 7:101-111 (1992)). This data is derived from responses to the same MM040 questionnaire.

Response Rate and Sample Size:

number of respondents:	86	(must be entered)
number of usable responses:	83	
number available to fill out survey:	86	
usable response rate:	96.5%	

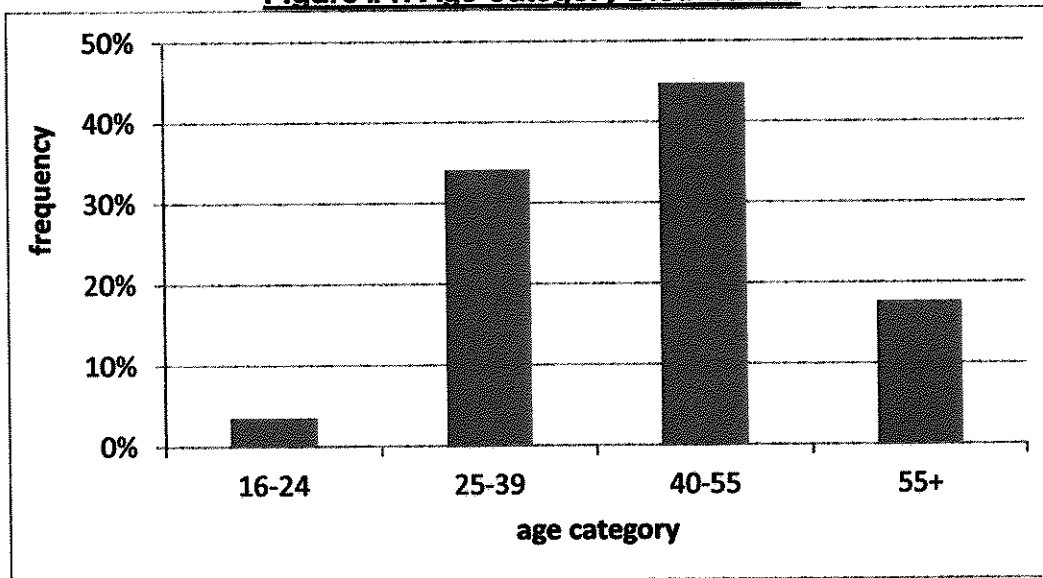
The response rate is calculated by dividing the number of responses received by the number of persons eligible to do the survey. The response rate is important to know because it indicates how confident you can be that the results are representative of the whole group.

If the response rate is 80% or more, you can be confident that the results in this report are representative of the whole group (the results wouldn't change significantly even if all the eligible people had responded).

With more than 50 responses, there is confidence that each association is statistically significant, although even in these circumstances one in 20 associations could be due to chance.

Results - Demographics & Work Characteristics:

Figure #1: Age Category Distribution



Sex:

female 91.9%
male 8.1%

Do you smoke?

yes 1.3%
no 98.8%

how long have you worked in this particular building?

average: 7.0 years
minumum: 1 years
maximum: 25 years

average hours per week in building:

average: 34.4 hrs/week
minumum: 6 hrs/week
maximum: 45 hrs/week

where do you commonly work?

open area: 16.5%
classroom: 31.8%
private office: 51.8%

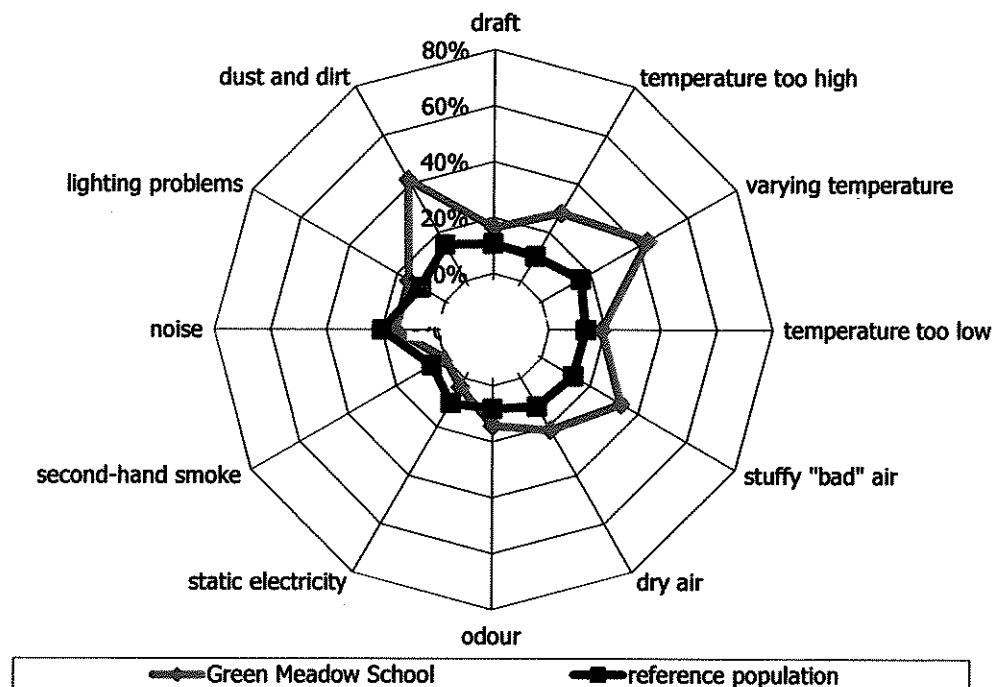
average hours per week on a computer:

average: 7.3 hrs/week
minumum: 1 hrs/week
maximum: 40 hrs/week

work location:

basement: 0.0%
first floor: 67.9%
second floor: 0.0%
third floor: 16.7%
office: 1.3%
grounds: 1.3%
department: 0.0%
other: 12.8%

Figure #2: Environmental Concerns:



comparison with reference population:

	odds ratio
dust and dirt	4.08
varying temperature	4.04
temperature too high	3.47
stuffy "bad" air	3.26
dry air	2.04
odour	1.83
draft	1.65
lighting problems	1.59
temperature too low	1.54
noise	0.73
static electricity	0.32
second-hand smoke	0.00

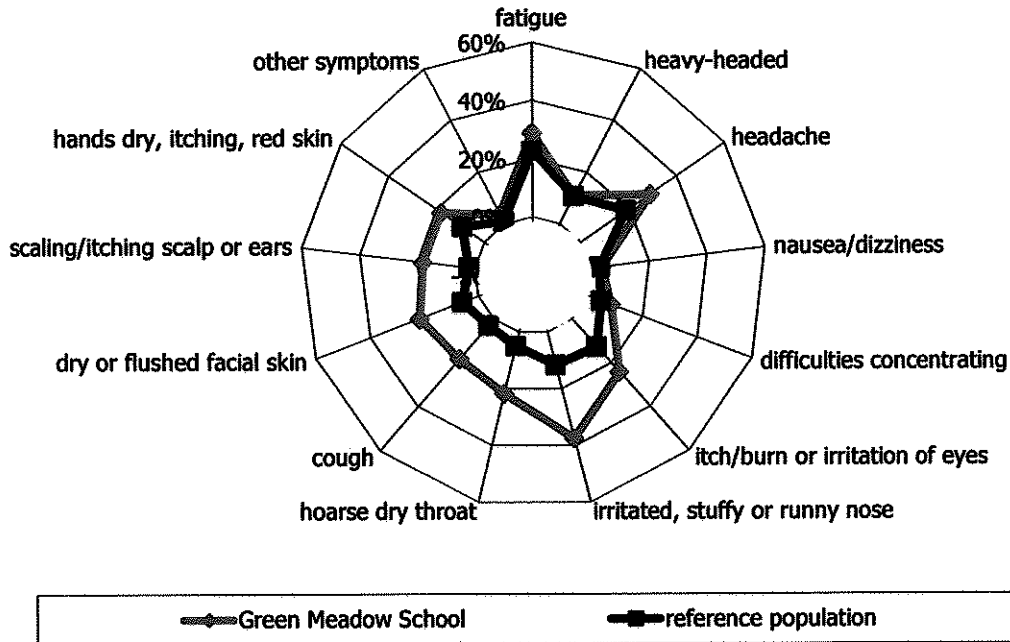
odds ratio			
... is the odds of having an exposure issue in your bldg, as compared to the reference respondents having the same concern			
	dry air +	dry air -	
Green Me	18	67	85
reference	24	182	206
	42	249	291
OR =	18 ÷ 67	24 ÷ 182	
OR =	2.04		

The bolded items in the list above have a statistically significantly ($p < 0.05$) elevated odds ratio as compared to the reference population (from Hill, B., Craft, B., and Burkart, J., "Carbon Dioxide, Particulates and Subjective Human Responses in Office Buildings Without Histories of Indoor Air Quality Problems", Applied Occupational Environmental Hygiene Journal 7:101-111 (1992)).

number of usable responses: **85**

With more than 50 responses, there is sufficient confidence to detect most statistically significant elevations in odds ratios of around 2.0 or greater.

Figure #3: Symptom Experience:



comparison with reference population:

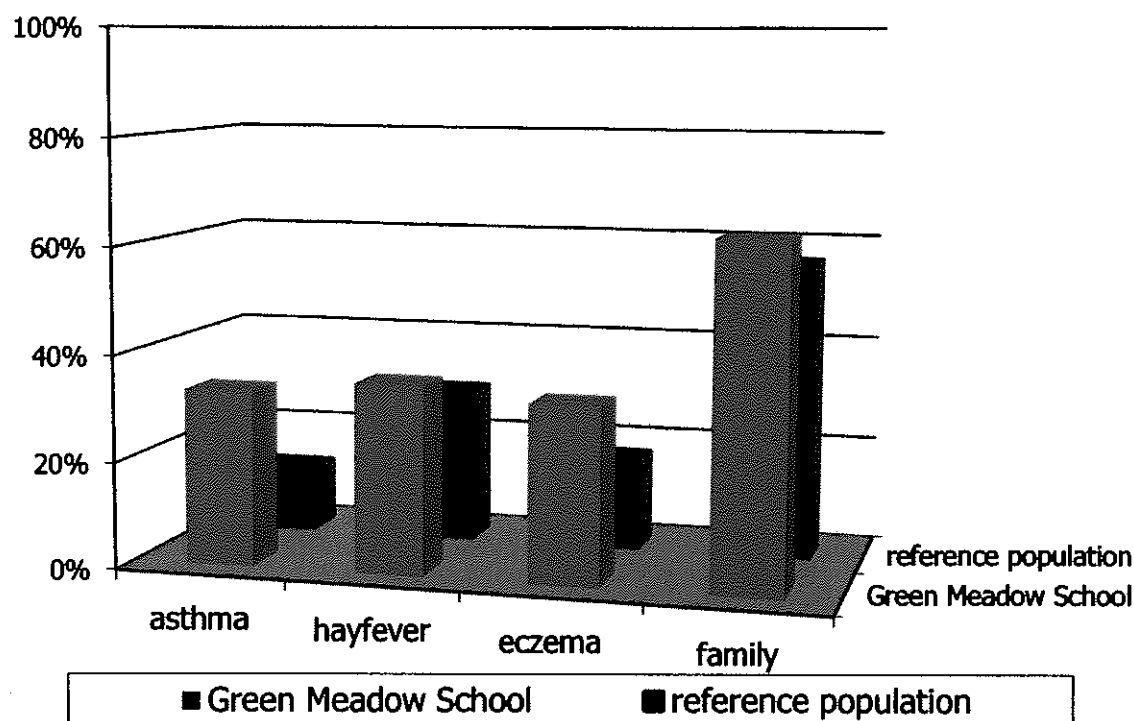
	odds ratio
scaling/itching scalp or ears	11.14
cough	7.35
hoarse dry throat	5.43
irritated, stuffy or runny nose	4.52
dry or flushed facial skin	4.48
other symptoms	3.83
itch/burn or irritation of eyes	2.20
hands dry, itching, red skin	2.17
difficulties concentrating	1.81
headache	1.74
fatigue	1.38
nausea/dizziness	1.25
heavy-headed	1.02

The bolded items in the list above have a statistically significantly ($p < 0.05$) elevated odds ratio as compared to the reference population (from Hill, B., Craft, B., and Burkart, J., "Carbon Dioxide, Particulates and Subjective Human Responses in Office Buildings Without Histories of Indoor Air Quality Problems", Applied Occupational Environmental Hygiene Journal 7:101-111 (1992)). Some odds ratios may not be significant even if a factor with a lower odds ratio is bolded because of the smaller prevalence of that factor.

number of usable responses: **63**

With more than 50 responses, there is sufficient confidence to detect most statistically significant elevations in odds ratios of around 2.0 or greater.

Personal Health Conditions



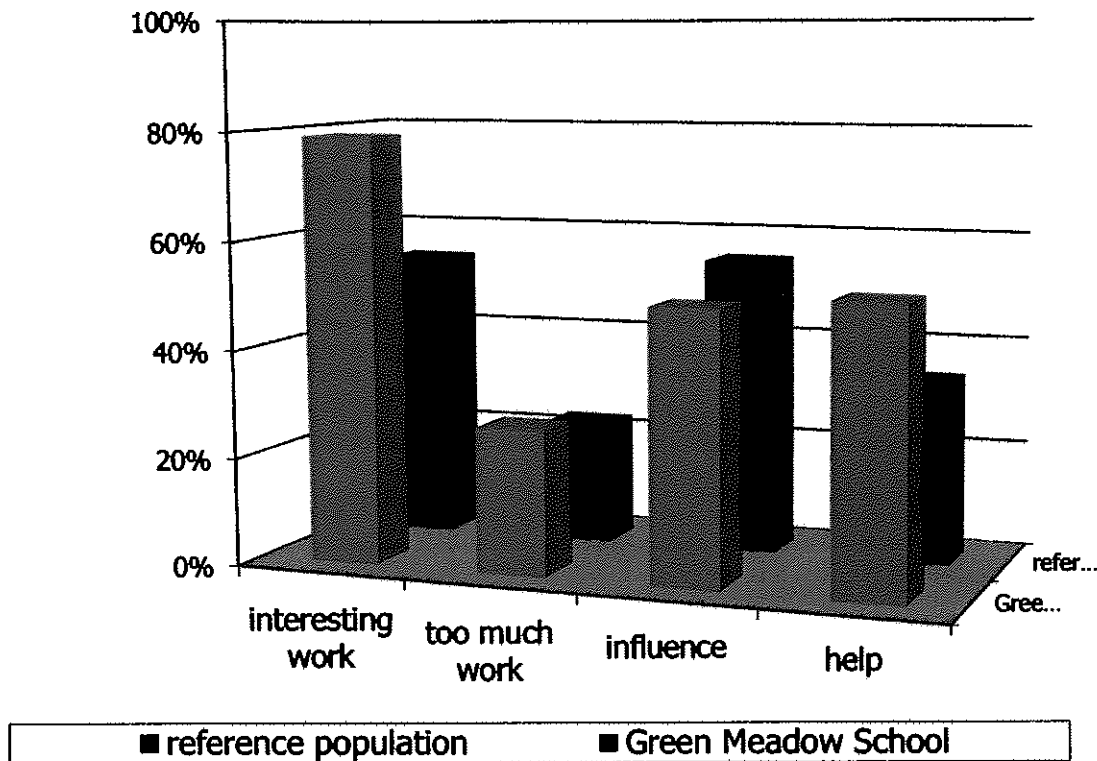
comparison with reference population:

	odds ratio
asthma	3.58
eczema	2.40
family allergies	1.37
hayfever	1.34

The bolded items in the list above have a statistically significantly ($p < 0.05$) elevated odds ratio as compared to the reference population (from accumulated OHCOW investigations).

Since this survey is a cross-sectional survey, it is not able to distinguish cause from effect (you need repeated surveys over time to establish evidence for a cause-effect relationship). Therefore, if a particular allergic condition is statistically significantly more prevalent in the building under investigation compared to the reference population, one cannot be sure that the explanation might be that the building caused/aggravated the allergic conditions among the occupants, OR, that, by chance, the employer may have hired a higher proportion of occupants with allergic conditions. Another way to establish the relationship of exposures in the building with the allergic condition is to clinically evaluate each case by reviewing the time when the symptoms first occurred and/or became aggravated in relation to the time spent in the building.

Workplace Psychosocial Factors



comparison with reference population:

	odds ratio
interesting work	3.23
help	2.15
too much work	1.25
influence	0.82

The bolded items in the list above have a statistically significantly ($p < 0.05$) elevated odds ratio as compared to the reference population (from accumulated OHCOW investigations).

The interpretation of workplace psychosocial factors is somewhat more complicated than the symptoms and environmental concerns. An **odds ratio greater than 1.00** means that the odds of having a particular psychosocial factor is higher in the building under investigation than the reference buildings. An **odds ratio less than 1.00** means that the odds of having a particular psychosocial factor is less than among the reference population. Some factors like (having interesting work, having influence over your work and having help from co-workers) are **positive**. On the other hand, having a higher odds of having too much work to do is generally thought of as a **negative** factor, however, never having "too much work" to do may also be a negative factor (not enough work to do to keep yourself busy).

Statistical Associations:

Just because a specific exposure factor is more prevalent among the respondents than among the reference population does not mean the exposure factor is necessarily associated with symptoms. For this reason we created the following correlation matrix.

The following table presents the results of correlation calculations. For each environmental concern (e.g. too dry, stuffy, too warm, dust & dirt, noise, etc.) the correlation with each of the symptoms (e.g. headache, fatigue, eye, nose, throat symptoms, etc.) was tested. If the correlation was judged to be statistically significant, then the corresponding cell in the table has been shaded (the darker colours indicating stronger associations).

	eyes	malaise symptoms	upper respiratory symptoms	skin symptoms	SBS symptoms
draft					
temp too high					
varying temp					
temp too low					
stuffy "bad" air					
dry air					
odour					
static electricity					
2 nd hand smoke					
noise					
lighting					
dust & dirt					
interesting work					
too much work					
influence					
co-worker help					
asthma					
hay fever					
eczema					
family allergy H _x					
age					
sex					
work area					
hrs/wk in bldg					
hrs/wk on computer					

Statistical Associations:

The table below presents the strongest correlation associations for the 5 symptom groups (the darker the shading the stronger the correlation). It should be noted that the correlations do not take into account interactions between variables (e.g. "dry air" and "static electricity" probably describe overlapping phenomena and thus may be interchangeable). An Excel spreadsheet without macros cannot do the complex math to evaluate such interactions.

Lastly, these associations are meant to help the investigator generate hypotheses as what environmental factors might explain the pattern of symptoms reported. As mentioned previously, this type of survey cannot establish cause-and-effect relationships. The findings from this survey should be used as a starting point for more focussed investigations (including the measurement of environmental parameters).

eyes	malaise symptoms	upper respiratory symptoms	skin symptoms	SBS symptoms
stuffy "bad" air	odour	odour	dry air	odour
odour	stuffy "bad" air	stuffy "bad" air	odour	dust & dirt
dry air	dry air	hay fever Hx	stuffy "bad" air	stuffy "bad" air
dust & dirt	varying temp	dust & dirt	static electricity	lighting
temp too low	static electricity	asthma Hx	eczema Hx	static electricity

Q61 Other comments, suggestions and additional information:

Answered: 51 Skipped: 35

#	RESPONSES	DATE
1	Water marks on ceiling. Under sink mold. Observed spots up above ceiling tiles. Smell in morning-musty. Interesting how dehumidifiers appear/disappear when parents are coming. Now not even plugged in. Heat way too hot in classrooms.	11/9/2018 11:17 AM
2	Present symptoms: Yes, it improves when away from work. I have been having these symptoms from last 2 months, get better when I am home. My insurance have not kicked in yet unfortunately.	11/9/2018 10:35 AM
3	Work Environment conditions improved this year. Water marks on ceiling. Falling tiles. Empty/missing tiles. ? area always wet even after cleaning. Drafty windows.	11/9/2018 10:29 AM
4	I'm allergic to mold and air quality is very important not just for me also for the kids. I'm also pregnant so better air we have is better for everybody. I hope you can do something about and improve the current situation. The carpets are very old and need maintenance to clean specially for all the virus can spread.	11/9/2018 10:24 AM
5	Seasonal allergies have caused many of my symptoms above.	11/9/2018 10:11 AM
6	Improves when I leave work.	11/9/2018 10:02 AM
7	ceiling tiles	11/9/2018 9:50 AM
8	Bathroom not clean	11/9/2018 9:42 AM
9	Many leaks in PreK rooms when it rains and when snow melts. Stained and smelly ceiling tiles.	11/9/2018 9:39 AM
10	visible mold on floor in front of sink.	11/9/2018 9:35 AM
11	Burning eyes-probably just dry contact lenses.	11/9/2018 9:32 AM
12	Air quality varies throughout the year. Often very stuffy in classrooms. VERY hot due to lack of air conditioning during warm months. Also, can be hot in classrooms when heat is on. Most classrooms need to open windows in the winter to get fresh air and cool down classroom. I get headaches when the air is stuffy. My symptoms are noticeably worse when it rains. Often I experience a musty odor in classrooms/K hallway when it rains. My allergies are better when not in school building.	11/9/2018 9:30 AM
13	Room temp too high: early fall Varying room temp: late spring-no control Present symptoms-hayfever sneezing	11/8/2018 4:51 PM
14	Present symptoms: cough, watery eyes, itchy throat My allergies are worse when in the building and at work. My asthma has been acting up, and even on medication my symptoms are not improving.	11/8/2018 3:01 PM
15	Last 12 months: multiple doctors appointments: Primary care, Ear/Nose and throat doctor and allergist. Procedures: physicals, MRI of sinuses, allergy testing (blood & skin), blood work Tests: Blood work for Lyme, Lupas, thyroid and allergies *Did Not test for mold Outcome: prescription nasal spray since 11/17	11/8/2018 2:48 PM
16	PK rooms dust in high window & ceiling. Water leaks & water damaged ceiling tiles.	11/8/2018 2:30 PM
17	I currently have shingles.	11/8/2018 2:17 PM
18	Other: frequent sinus infections yearly. I have been treated by an allergist (shots) for my allergies for years and "should" be desensitized by now. Very dusty room, leaking sinks, hole behind toilet covered in duct tape, dusty vent in bathroom, entire room covered in dust. Mouse poop in closet and under sinks, urine smell under sinks.	11/8/2018 2:08 PM
19	My office has brown spots on tiles, blue-ish black colored tile in corner of room, only a fan to ventilate and no windows.	11/8/2018 1:40 PM
20	dry cough	11/8/2018 12:44 PM

Green Meadow Elementary School Teachers with Mold Q/A

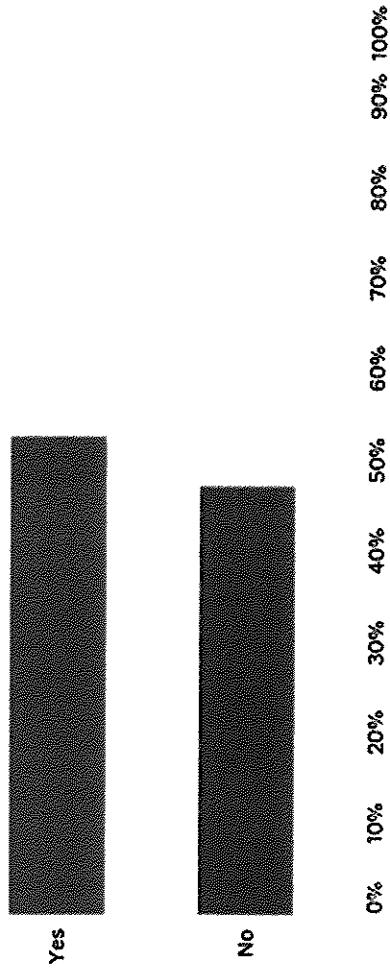
21	Our office has a major lead during heavy rain water drips down the ceiling support beam and onto our filing cabinets, desk, floor and wall. On hi-temp days, our office is extremely stuffy and there is no air flow, it get so hot and stuffy that it is nearly impossible to concentrate on computer work. Echo from bathroom nearby.	11/8/2018 12:43 PM
22	As a teacher, but also a parent of kids who attend/have attended GM, the condition of the school air is concerning. Lots of visible stains and leaks as well as black spots/worse than dirt.	11/8/2018 12:40 PM
23	Work area smell dank/moldy-sometimes My classroom leaks when heavy rain. Ceiling tiles showed mold and was painted over. Tiles wet and metal pieces have fallen down.	11/8/2018 12:28 PM
24	Rm 2D	11/8/2018 12:27 PM
25	Symptoms are ? environments-home & work	11/8/2018 12:26 PM
26	Draft comes from vent Varying room temp mostly very cold Noise from hallway Moisture build up on the windows of my office	11/8/2018 12:24 PM
27	Ongoing dripping faucets. Gaping hole behind toilet. Bathroom vent coated with grime.	11/8/2018 12:22 PM
28	Bathroom in our classroom is not ever scrubbed. Also there is a big hole in the wall behind the toilet. Our uninvent has been broken for about 6 weeks. AC did not work in hot weather for about 6 weeks.	11/7/2018 4:54 PM
29	I am now going to be tested for mold allergy. Oct 17 I have a chronic cough during school year I have been on antibiotics at least once a year. Since 2012 for Respiratory infections, Asthma, Bronchitis, bronchiolitis and 2017-Doxy & Prednisone 5/26 Bronchitis/prednisone rhinitis 2016 augentin 2/1 2015 Amoxicillin 12/15 unspecified asthma 2014 12/1 resp in feet. Levaquin two rounds 2013 4 Inflam bronchiolitis and rhinitis steroids, nasal spray inhaler Levaquin 2012 Levaquin 5-6/12 two rounds pneumonia-Amoxicillin 2011 no respiratory issues prior to 2011	11/7/2018 4:52 PM
30	I have several active, leaks through asbestos pipes and insulation. I have seen several specialists for my headaches and swollen lymph nodes in my throat since last Oct. The only thing they have found is elevated "e" (eosophine) in my blood. I am being treated for mold allergy. The medicine makes me nauseous and have G.I. issues. A week after starting all my medicine, I felt great! Headache gone, sore throat gone. Present symptoms: fatigue, chest tight, hoarse, sore throat, headache	11/7/2018 4:46 PM
31	My room had a significant roof leak from February 2018 to August 2018, six ceiling tiles collapsed due to the moisture and the mold odor in my room over the summer was very heavy. The leak was repaired but there are still water stain tiles up there.	11/7/2018 4:45 PM
32	Visible mold in your work area-possibly Medically diagnosed with mold illness Large quantity of MARCONS-being treated Failed VCS test in both eyes Currently being treated (since July) mixture of antibiotics and other meds for detoxing from mold. Symptoms improved late August. Symptoms came back after 1 week of being back in school. Moved classrooms left old wing of the school. Headaches improved, but still am symptomatic and being medically evaluated/treated.	11/7/2018 4:44 PM
33	cough. I have asthma, so it takes time for symptoms to improve.	11/7/2018 4:43 PM
34	Sports induced asthma Observed evidence of moisture or leaks throughout the building I am carrying twins, so my pregnancy is already considered high-risk. I have felt extremely unsafe and uncomfortable with the working conditions this entire year especially and have already voiced my concerns to the building principal (Mrs. Dankner). Also I have had contacts for over 20 years and two years ago I had to go to dailies instead of monthlies due to extreme dry eyes. Thank you! Sam	11/7/2018 4:42 PM
35	Present symptoms: cough, sore throat, congestion, bronchitis Open window when stuff "bad" air Dry air-will wait til winter to see	11/7/2018 4:40 PM
36	Roof leaks in the gym. Moldy/dank smells in the equipment room.	11/7/2018 4:37 PM
37	Increased asthma symptoms. Recently prescribed inhaled steroid.	11/7/2018 4:36 PM
38	Observed moisture/leaks at Fowler.	11/7/2018 4:32 PM
39	Colleagues help with problems you may have in your work, not admin. Present symptoms: No only when in a different classroom at GM. I have had 2 major leaks in my classroom above 2 of the windows. There is still spots that look wet & moldy. I have observed wet & moldy spots in the K wing.	11/7/2018 4:29 PM

Green Meadow Elementary School Teachers with Mold Q/A

40	Present symptoms: cold, cough Rust in work area sink area plumbing/water excess rust on ceiling chairs/desks not power washed causing excess of built-up food and liquids Rust on desk legs Rugs damp, moist, not replaced when needed. Multiple cases of pneumonia	11/7/2018 4:29 PM
41	Occasional leaks during thunderstorm. Observed evidence of moisture or leaks in hallways (esp. K wing)	11/7/2018 4:28 PM
42	Room "sometimes" smells dank/moldy.	11/7/2018 4:27 PM
43	Many more health problems when I was in 7G Room maybe smells like second-hand smoke	11/7/2018 4:25 PM
44	Room 7F has had a moldy smell since 2011 when I began work. It had a leak that became a stream. Room 3B the temperature is always high. Too high and students have difficulty working. High dust accumulations everywhere. Room 7F stream of water from roof. Viral infection in heart muscle-myocardial myocarditis	11/7/2018 4:24 PM
45	Moisture and stained ceiling tiles in bathroom in classroom. Classroom smells/has a particular odor in morning upon arrival.	11/7/2018 4:22 PM
46	Room temp too high in summer Room temp too low in winter	11/7/2018 4:20 PM
47	I have an AC unit. Maple syrup smell when air vent blows. Family suffers from allergies: Yes my children when they were here, but changed when they left GM	11/7/2018 4:19 PM
48	When area smells dank/moldy, I open doors/windows to air out-stuffy	11/7/2018 4:14 PM
49	I am in multiple classrooms throughout the course of the day. I have observed standing water in bathrooms and wet and/or falling ceiling tiles. There have been repeated odors in the building and the floors are sometimes wet and slippery with moisture.	11/7/2018 4:14 PM
50	fatigue relates to training for triathlons-not school related	11/7/2018 4:09 PM
51	The number of visibly damaged ceiling tiles is high throughout the school. Some of these tiles have been sprayed with a bleach solution to control the mold. This causes a strong smell that I find to be distracting and unpleasant—both the smell of the bleach and the wet tiles lingers.	11/7/2018 4:09 PM

Q57: Have you observed visible mold in your work area?

Answered: 76 Skipped: 10



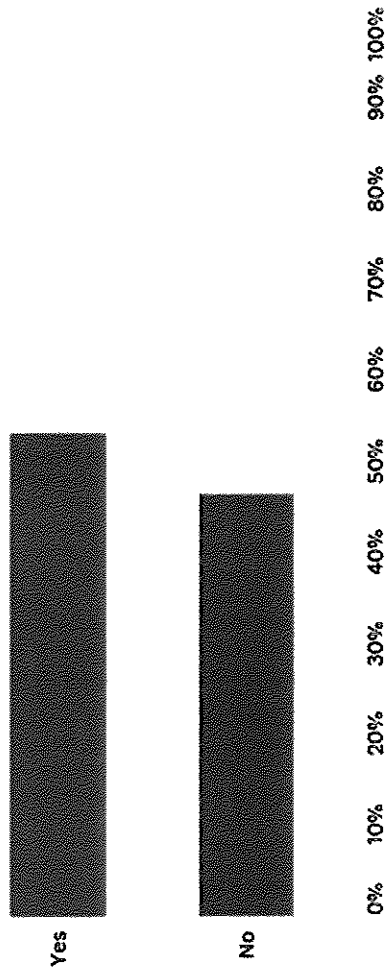
Q57: Have you observed visible mold in your work area?

Answered: 76 Skipped: 10

ANSWER CHOICES	RESPONSES
Yes	52.63% 40
No	47.37% 36
TOTAL	76

Q58: Does your work area smell dank or moldy?

Answered: 75 Skipped: 11



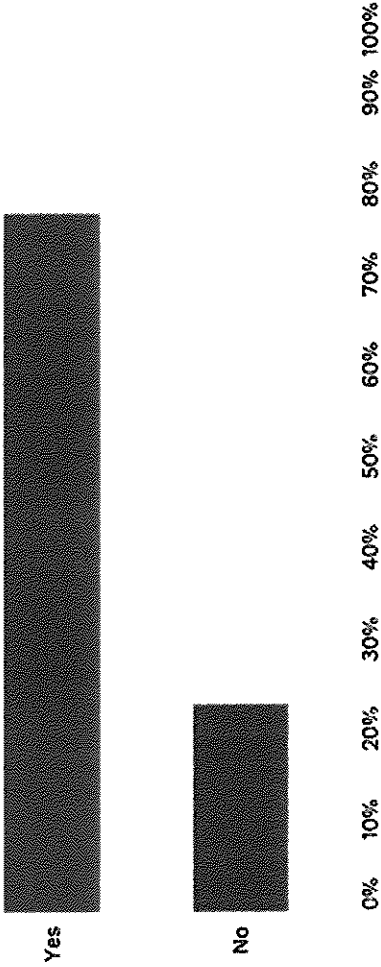
Q58: Does your work area smell dank or moldy?

Answered: 75 Skipped: 11

ANSWER CHOICES	RESPONSES
Yes	53.33% 40
No	46.67% 35
TOTAL	75

Q59: Have you observed evidence of moisture or leaks in your work area?

Answered: 78 Skipped: 8



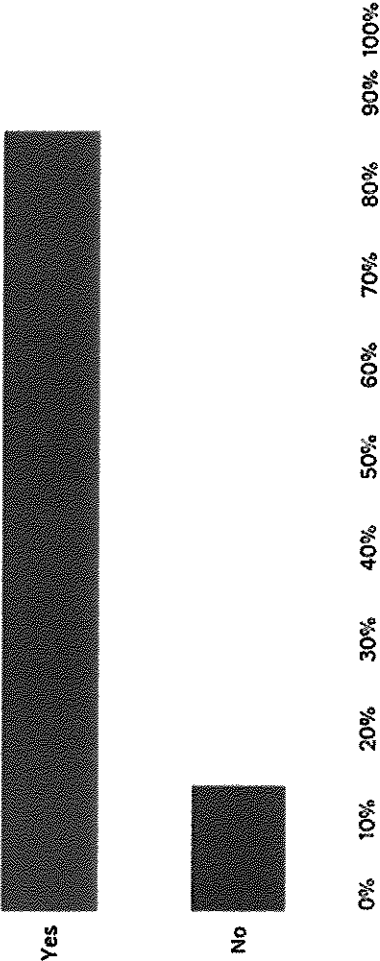
Q59: Have you observed evidence of moisture or leaks in your work area?

Answered: 78 Skipped: 8

ANSWER CHOICES	RESPONSES
Yes	76.92% 60
No	23.08% 18
TOTAL	78

Q60: Have you observed evidence of moisture or leaks elsewhere?

Answered: 79 Skipped: 7



Q60: Have you observed evidence of moisture or leaks elsewhere?

Answered: 79 Skipped: 7

ANSWER CHOICES		RESPONSES	
Yes		86.08%	68
No		13.92%	11
TOTAL			79

ASAP Environmental, Inc.
Mr. Christopher Maracic
1 Arcadia St.
Dorchester, MA 02122 USA
(617) 288-8870



EMLab P & K

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Info@MoldREPORT.com

Approved by:

A handwritten signature in cursive script that reads "Francina Thadigiri".

Technical Manager
Francina Thadigiri

Dates of Analysis:

MoldReport Spore trap: 09-18-2018 and 09-18-2018

Service SOPs: MoldReport Spore trap (EM-MY-S-1038)
AIHA-LAP, LLC accredited service, Lab ID #179623

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

The analytical sensitivity is the spores/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) multiplied by the sample volume (in liters) divided by 1000 liters.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: ASAP Environmental, Inc.

Contact: Mr. Christopher Maracic

Project: Green Meadows School; 5 Tiger Drive, Maynard, MA

Date of Sampling: 09-17-2018

Date of Receipt: 09-18-2018

Date of Report: 09-18-2018

MoldREPORT

EMLab P & K

3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030

(866) 871-1984 Fax (856) 334-1040

Laboratory Results**MoldREPORT: Spore Trap Analysis**

Location:	1: Room 7H		2: Room 7G		3: Room 7F	
Comments (see below)	None		None		None	
Lab ID-Version†:	9446798-1		9446799-1		9446800-1	
Analysis Date:	09/18/2018		09/18/2018		09/18/2018	
Spore types detected:	raw ct.	per m3	raw ct.	per m3	raw ct.	per m3
Aureobasidium	-	-	-	-	-	-
Basidiospores	90	4,800	92	4,900	81	4,300
Chaetomium	-	-	-	-	-	-
Cladosporium	18	960	34	1,800	14	750
Fusarium	-	-	-	-	-	-
Penicillium/Aspergillus types	3	160	4	210	57	3,000
Stachybotrys	-	-	-	-	-	-
Trichoderma	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-
Others	14	750	13	690	10	530
§ Total:		6,700		7,600		8,600
Additional Information:						
Hyphal fragments	320		210		270	
Skin cells	80 - 4,000		4,000 - 8,000		4,000 - 8,000	
Pollen	< 13		< 13		< 13	
Background debris (1-4)†	2		2		2	
Limit of detection	13		13		13	
Sample volume (liters)	75		75		75	

Comments:

Basidiospores (basidiomycetes): Basidiospores are extremely common outdoors and originate from fungi in gardens, forests, and woodlands. It is rare for the source of basidiospores to be indoors. However, basidiospores may be an indicator of wood decay.

Cladosporium: One of the most commonly found molds outdoors and frequently found growing indoors. Spores from Cladosporium are generally present in outdoor and indoor air, even in relatively clean, mold-growth-free, indoor environments. Levels vary based upon activity levels, weather conditions, dustiness, outside air exchange rates, and other factors.

Penicillium/Aspergillus types: Penicillium and Aspergillus are among the most common molds found growing both indoors and outdoors (even in relatively clean, mold-growth-free, indoor environments). Levels vary based upon activity levels, dustiness, weather conditions, outside air exchange rates, and other factors.

Stachybotrys and other marker types: Certain types of mold, such as Aureobasidium, Chaetomium, Fusarium, Trichoderma, and Ulocladium, are generally found in very low numbers outdoors. Consequently their presence indoors, even in relatively low numbers, is often an indication that these molds are originating from growth indoors. When present, these mold types are often the clearest indicator of a mold problem.

Others: Molds in the "Others" category are generally found outdoors in moderate numbers, and are therefore not considered markers of indoor growth.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

† Background debris is an indication of the amounts of non-biological particulate matter present on the slide (dust in the air) and is graded from 1 to 4 with 4 indicating the largest amounts.

The analytical sensitivity is the spores/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) multiplied by the sample volume (in liters) divided by 1000 liters.

§ Total has been rounded to two significant figures to reflect analytical precision.

Client: ASAP Environmental, Inc.
Contact: Mr. Christopher Maracic
Project: Green Meadows School; 5 Tiger Drive, Maynard, MA
Date of Sampling: 09-17-2018
Date of Receipt: 09-18-2018
Date of Report: 09-18-2018

MoldREPORT
EMLab P & K
3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
(866) 871-1984 Fax (856) 334-1040

Laboratory Results

MoldREPORT: Spore Trap Analysis

Location:	4: Room 7E		5: Room 7D		6: Room 7C	
Comments (see below)	None		None		None	
Lab ID-Version†:	9446801-1		9446802-1		9446803-1	
Analysis Date:	09/18/2018		09/18/2018		09/18/2018	
Spore types detected:	raw ct.	per m3	raw ct.	per m3	raw ct.	per m3
Aureobasidium	-	-	-	-	-	-
Basidiospores	68	3,600	91	4,900	64	3,400
Chaetomium	-	-	-	-	-	-
Cladosporium	18	960	14	750	6	320
Fusarium	-	-	-	-	-	-
Penicillium/Aspergillus types	8	430	13	690	11	590
Stachybotrys	-	-	-	-	-	-
Trichoderma	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-
Others	16	850	12	640	5	270
§ Total:		5,900		6,900		4,600
Additional Information:						
Hyphal fragments	320		270		160	
Skin cells	4,000 - 8,000		4,000 - 8,000		4,000 - 8,000	
Pollen	< 13		< 13		< 13	
Background debris (1-4)†	2		2		2	
Limit of detection	13		13		13	
Sample volume (liters)	75		75		75	

Comments:

Basidiospores (basidiomycetes): Basidiospores are extremely common outdoors and originate from fungi in gardens, forests, and woodlands. It is rare for the source of basidiospores to be indoors. However, basidiospores may be an indicator of wood decay.

Cladosporium: One of the most commonly found molds outdoors and frequently found growing indoors. Spores from Cladosporium are generally present in outdoor and indoor air, even in relatively clean, mold-growth-free, indoor environments. Levels vary based upon activity levels, weather conditions, dustiness, outside air exchange rates, and other factors.

Penicillium/Aspergillus types: Penicillium and Aspergillus are among the most common molds found growing both indoors and outdoors (even in relatively clean, mold-growth-free, indoor environments). Levels vary based upon activity levels, dustiness, weather conditions, outside air exchange rates, and other factors.

Stachybotrys and other marker types: Certain types of mold, such as Aureobasidium, Chaetomium, Fusarium, Trichoderma, and Ulocladium, are generally found in very low numbers outdoors. Consequently their presence indoors, even in relatively low numbers, is often an indication that these molds are originating from growth indoors. When present, these mold types are often the clearest indicator of a mold problem.

Others: Molds in the "Others" category are generally found outdoors in moderate numbers, and are therefore not considered markers of indoor growth.

† A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

† Background debris is an indication of the amounts of non-biological particulate matter present on the slide (dust in the air) and is graded from 1 to 4 with 4 indicating the largest amounts.

The analytical sensitivity is the spores/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) multiplied by the sample volume (in liters) divided by 1000 liters.

§ Total has been rounded to two significant figures to reflect analytical precision.

Client: ASAP Environmental, Inc.
 Contact: Mr. Christopher Maracic
 Project: Green Meadows School; 5 Tiger Drive, Maynard, MA
 Date of Sampling: 09-17-2018
 Date of Receipt: 09-18-2018
 Date of Report: 09-18-2018

MoldREPORT
 EMLab P & K
 3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
 (866) 871-1984 Fax (856) 334-1040

Laboratory Results

MoldREPORT: Spore Trap Analysis

Location:	7: Room 7B		8: Room 7A		9: Room 7I	
Comments (see below)	None		None		None	
Lab ID-Version†:	9446804-1		9446805-1		9446806-1	
Analysis Date:	09/18/2018		09/18/2018		09/18/2018	
Spore types detected:	raw ct.	per m3	raw ct.	per m3	raw ct.	per m3
Aureobasidium	-	-	-	-	-	-
Basidiospores	72	3,800	58	3,100	64	3,400
Chaetomium	-	-	-	-	-	-
Cladosporium	20	1,100	34	1,800	14	750
Fusarium	-	-	-	-	-	-
Penicillium/Aspergillus types	16	850	13	690	12	640
Stachybotrys	-	-	-	-	-	-
Trichoderma	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-
Others	2	110	6	320	6	320
§ Total:		5,900		5,900		5,100
Additional Information:						
Hyphal fragments	160		210		160	
Skin cells	4,000 - 8,000		4,000 - 8,000		4,000 - 8,000	
Pollen	< 13		< 13		< 13	
Background debris (1-4)†	2		2		2	
Limit of detection	13		13		13	
Sample volume (liters)	75		75		75	

Comments:

Basidiospores (basidiomycetes): Basidiospores are extremely common outdoors and originate from fungi in gardens, forests, and woodlands. It is rare for the source of basidiospores to be indoors. However, basidiospores may be an indicator of wood decay.

Cladosporium: One of the most commonly found molds outdoors and frequently found growing indoors. Spores from Cladosporium are generally present in outdoor and indoor air, even in relatively clean, mold-growth-free, indoor environments. Levels vary based upon activity levels, weather conditions, dustiness, outside air exchange rates, and other factors.

Penicillium/Aspergillus types: Penicillium and Aspergillus are among the most common molds found growing both indoors and outdoors (even in relatively clean, mold-growth-free, indoor environments). Levels vary based upon activity levels, dustiness, weather conditions, outside air exchange rates, and other factors.

Stachybotrys and other marker types: Certain types of mold, such as Aureobasidium, Chaetomium, Fusarium, Trichoderma, and Ulocladium, are generally found in very low numbers outdoors. Consequently their presence indoors, even in relatively low numbers, is often an indication that these molds are originating from growth indoors. When present, these mold types are often the clearest indicator of a mold problem.

Others: Molds in the "Others" category are generally found outdoors in moderate numbers, and are therefore not considered markers of indoor growth.

† A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

† Background debris is an indication of the amounts of non-biological particulate matter present on the slide (dust in the air) and is graded from 1 to 4 with 4 indicating the largest amounts.

The analytical sensitivity is the spores/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) multiplied by the sample volume (in liters) divided by 1000 liters.

§ Total has been rounded to two significant figures to reflect analytical precision.

Client: ASAP Environmental, Inc.

Contact: Mr. Christopher Maracic

Project: Green Meadows School; 5 Tiger Drive, Maynard, MA

Date of Sampling: 09-17-2018

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Date of Report: 09-18-2018

MoldREPORT

EMLab P & K

3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030

(866) 871-1984 Fax (856) 334-1040

Laboratory Results**MoldREPORT: Spore Trap Analysis**

Location:	10: Room 7J		11: Room 7K		12: Room 7L	
Comments (see below)	None		A		None	
Lab ID-Version†:	9446807-1		9446808-1		9446809-1	
Analysis Date:	09/18/2018		09/18/2018		09/18/2018	
Spore types detected:	raw ct.	per m ³	raw ct.	per m ³	raw ct.	per m ³
Aureobasidium	-	-	-	-	-	-
Basidiospores	103	5,500	165	8,800	114	6,100
Chaetomium	-	-	-	-	-	-
Cladosporium	23	1,200	42	2,200	10	530
Fusarium	-	-	-	-	-	-
Penicillium/Aspergillus types	7	370	90	1,600	8	430
Stachybotrys	-	-	-	-	-	-
Trichoderma	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-
Others	8	430	21	1,100	8	430
§ Total:		7,500		14,000		7,500
Additional Information:						
Hypthal fragments	160		640		210	
Skin cells	4,000 - 8,000		4,000 - 8,000		4,000 - 8,000	
Pollen	< 13		< 13		< 13	
Background debris (1-4)†	2		2		2	
Limit of detection	13		13		13	
Sample volume (liters)	75		75		75	

Comments: A) 80 of the raw count *Penicillium/Aspergillus* type spores were present as a single clump.

Basidiospores (basidiomycetes): Basidiospores are extremely common outdoors and originate from fungi in gardens, forests, and woodlands. It is rare for the source of basidiospores to be indoors. However, basidiospores may be an indicator of wood decay.

Cladosporium: One of the most commonly found molds outdoors and frequently found growing indoors. Spores from *Cladosporium* are generally present in outdoor and indoor air, even in relatively clean, mold-growth-free, indoor environments. Levels vary based upon activity levels, weather conditions, dustiness, outside air exchange rates, and other factors.

Penicillium/Aspergillus types: *Penicillium* and *Aspergillus* are among the most common molds found growing both indoors and outdoors (even in relatively clean, mold-growth-free, indoor environments). Levels vary based upon activity levels, dustiness, weather conditions, outside air exchange rates, and other factors.

Stachybotrys and other marker types: Certain types of mold, such as *Aureobasidium*, *Chaetomium*, *Fusarium*, *Trichoderma*, and *Ulocladium*, are generally found in very low numbers outdoors. Consequently their presence indoors, even in relatively low numbers, is often an indication that these molds are originating from growth indoors. When present, these mold types are often the clearest indicator of a mold problem.

Others: Molds in the "Others" category are generally found outdoors in moderate numbers, and are therefore not considered markers of indoor growth.

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The analytical sensitivity is the spores/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) multiplied by the sample volume (in liters) divided by 1000 liters.

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Laboratory Results**MoldREPORT: Spore Trap Analysis**

Location:	13: Room 7M		14: Room 4B		15: Room Staff Development Room	
Comments (see below)	None		None		None	
Lab ID-Version†:	9446810-1		9446811-1		9446812-1	
Analysis Date:	09/18/2018		09/18/2018		09/18/2018	
Spore types detected:	raw ct.	per m3	raw ct.	per m3	raw ct.	per m3
Aureobasidium	-	-	-	-	-	-
Basidiospores	85	4,500	77	4,100	300	16,000
Chaetomium	-	-	-	-	-	-
Cladosporium	5	270	14	750	46	2,500
Fusarium	-	-	-	-	-	-
Penicillium/Aspergillus types	5	270	10	530	5	270
Stachybotrys	-	-	-	-	-	-
Trichoderma	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-
Others	8	430	3	160	16	850
§ Total:		5,500		5,500		20,000
Additional Information:						
Hyphal fragments	110		160		370	
Skin cells	4,000 - 8,000		4,000 - 8,000		13 - 67	
Pollen	< 13		< 13		< 13	
Background debris (1-4)†	2		2		2	
Limit of detection	13		13		13	
Sample volume (liters)	75		75		75	

Comments:

Basidiospores (basidiomycetes): Basidiospores are extremely common outdoors and originate from fungi in gardens, forests, and woodlands. It is rare for the source of basidiospores to be indoors. However, basidiospores may be an indicator of wood decay.

Cladosporium: One of the most commonly found molds outdoors and frequently found growing indoors. Spores from Cladosporium are generally present in outdoor and indoor air, even in relatively clean, mold-growth-free, indoor environments. Levels vary based upon activity levels, weather conditions, dustiness, outside air exchange rates, and other factors.

Penicillium/Aspergillus types: Penicillium and Aspergillus are among the most common molds found growing both indoors and outdoors (even in relatively clean, mold-growth-free, indoor environments). Levels vary based upon activity levels, dustiness, weather conditions, outside air exchange rates, and other factors.

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Laboratory Results**MoldREPORT: Spore Trap Analysis**

Location:	16: Room Front Entry Foyer		17: Room Exterior	
Comments (see below)	None		None	
Lab ID-Version†:	9446813-1		9446814-1	
Analysis Date:	09/18/2018		09/18/2018	
Spore types detected:	raw ct.	per m ³	raw ct.	per m ³
Aureobasidium	-	-	-	-
Basidiospores	121	6,500	322	8,600
Chaetomium	-	-	-	-
Cladosporium	73	3,900	87	2,300
Fusarium	-	-	-	-
Penicillium/Aspergillus types	24	1,300	12	320
Stachybotrys	-	-	-	-
Trichoderma	-	-	-	-
Ulocladium	-	-	-	-
Others	57	3,000	99	2,600
§ Total:		15,000		14,000
Additional Information:				
Hyphal fragments	110		240	
Skin cells	4,000 - 8,000		7 - 33	
Pollen	< 13		< 7	
Background debris (1-4)†	2		2	
Limit of detection	13		7	
Sample volume (liters)	75		150	

Comments:

Basidiospores (basidiomycetes): Basidiospores are extremely common outdoors and originate from fungi in gardens, forests, and woodlands. It is rare for the source of basidiospores to be indoors. However, basidiospores may be an indicator of wood decay.

Cladosporium: One of the most commonly found molds outdoors and frequently found growing indoors. Spores from Cladosporium are generally present in outdoor and indoor air, even in relatively clean, mold-growth-free, indoor environments. Levels vary based upon activity levels, weather conditions, dustiness, outside air exchange rates, and other factors.

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§ Total has been rounded to two significant figures to reflect analytical precision.

ASAP Environmental, Inc.
Mr. Christopher Maracle
1 Arcadia St.
Dorchester, MA 02122 USA
(617) 288-8870



EMLab P & K

www.MoldREPORT.com

info@MoldREPORT.com

Approved by:

A handwritten signature in black ink, reading "Francina Thadigiri".

Technical Manager
Francina Thadigiri

Dates of Analysis:

MoldReport Spore trap: 09-18-2018 and 09-18-2018

Service SOPs:
MoldReport Spore trap (EM-MY-S-1038)†

†AIHA-LAP, LLC accredited service, Lab ID #179623

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: ASAP Environmental, Inc.

Contact: Mr. Christopher Maracic

Project: Green Meadows School; 5 Tiger Drive, Maynard, MA

Date of Sampling: 09-17-2018

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MoldREPORT

EMLab P & K

3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030

(866) 871-1984 Fax (856) 334-1040

Table of Contents

Thank you for choosing MoldREPORT™ from EMLab P&K. Our mission is to provide industry leadership for the assessment of mold in the home indoor environment.

Your MoldREPORT™ is designed and intended for use by professional inspectors in office and residential home inspections to help in the assessment of mold growth in the living areas sampled by professional inspectors. Our laboratory analysis is based on the samples submitted to EMLab P&K. Please read the entire report to fully understand the complete MoldREPORT™ process. The following is a summary of the report sections:

- 1. Detailed Results of Sample Analysis** - Laboratory results from the samples collected at the site.
- 2. Understanding Your Sample Analysis Results** - Detailed summary of how to understand the analytical results from the air samples and/or surface samples including interpretive guidelines.
- 3. Important Information, Terms and Conditions** - General information to help you understand and interpret your MoldREPORT™, including important terms, conditions and applicable legal provision relating to this report.
- 4. Scope and Limitations** - Important information regarding the scope of the MoldREPORT™ system, and limitations of mold inspection, air sampling, and surface sampling.
- 5. Glossary** - Definitions and descriptions of frequently used terms and commonly found mold.
- 6. References and Resources** - Literature, websites, and other materials that can provide more in-depth information about mold and indoor air quality.

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EMLab ID: 2003447, Page 2 of 31

Client: ASAP Environmental, Inc.
Contact: Mr. Christopher Maracic
Project: Green Meadows School; 5 Tiger Drive, Maynard, MA
Date of Sampling: 09-17-2018
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Summary of Sample Analysis Results

Do not take any action based on the results of this report until you have read the entire report.

Air Sample Summary:

The MoldSCORE™ was in the HIGH range for the following area(s): 3, 11, 15, 16. A high MoldSCORE™ indicates a high likelihood of mold growth in the area tested at the time of the inspection. If mold growth is in fact present, it should be cleaned or physically removed using appropriate controls and precautions by a trained professional and any associated water source that led to the problem should also be corrected.

The MoldSCORE™ was in the MODERATE range for the following area(s): 1, 5, 6, 7, 8, 9, 10, 12, 13, 14. A moderate MoldSCORE™ means that the results are inconclusive, and suggests that a more detailed inspection by a trained professional may make sense if there are any other reasons to believe that mold growth could be a problem in this room.

The MoldSCORE™ was in the LOW range for the following area(s): 2, 4. A low MoldSCORE™ indicates the air sample did not detect, relative to the outside air, the presence of indoor mold growth in this room at the time of sampling.

Please see the sections titled "Detailed Results of the Air Sample Analysis" and "Understanding Your Air Sample Analysis Results" for important additional information.

Location	MoldSCORE™			Exposure Level		
	Lower <110	Higher 300	Mold Score	Lower <200	Higher >70K	
1: Room 7H * see p. 5 for details			189			Location spores/m3 6,700
2: Room 7G * see p. 6 for details			135			Location spores/m3 7,600
3: Room 7F * see p. 7 for details			299			Location spores/m3 8,600
4: Room 7E * see p. 8 for details			147			Location spores/m3 5,900
5: Room 7D * see p. 9 for details			181			Location spores/m3 7,000
6: Room 7C * see p. 10 for details			174			Location spores/m3 4,600
7: Room 7B * see p. 11 for details			205			Location spores/m3 5,900
8: Room 7A * see p. 12 for details			184			Location spores/m3 5,900
9: Room 7I * see p. 13 for details			180			Location spores/m3 5,100
10: Room 7J * see p. 14 for details			189			Location spores/m3 7,500
						Outside spores/m3 14,000

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EMLab ID: 2003447, Page 3 of 31

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Summary of Sample Analysis Results

11: Room 7K * see p. 15 for details	<div> <div>Lower</div> <div><110</div> <div>200</div> <div>Higher</div> <div>300</div> <div>Mold Score</div> <div>260</div> </div>	<div> <div>Lower</div> <div><200</div> <div>1K</div> <div>10K</div> <div>Higher</div> <div>>70K</div> <div>Location</div> <div>spores/m3</div> <div>14,000</div> <div>Outside</div> <div>spores/m3</div> <div>14,000</div> </div>
12: Room 7L * see p. 16 for details	<div> <div>Lower</div> <div><110</div> <div>200</div> <div>Higher</div> <div>300</div> <div>Mold Score</div> <div>237</div> </div>	<div> <div>Lower</div> <div><200</div> <div>1K</div> <div>10K</div> <div>Higher</div> <div>>70K</div> <div>Location</div> <div>spores/m3</div> <div>7,500</div> <div>Outside</div> <div>spores/m3</div> <div>14,000</div> </div>
13: Room 7M * see p. 17 for details	<div> <div>Lower</div> <div><110</div> <div>200</div> <div>Higher</div> <div>300</div> <div>Mold Score</div> <div>209</div> </div>	<div> <div>Lower</div> <div><200</div> <div>1K</div> <div>10K</div> <div>Higher</div> <div>>70K</div> <div>Location</div> <div>spores/m3</div> <div>5,500</div> <div>Outside</div> <div>spores/m3</div> <div>14,000</div> </div>
14: Room 4B * see p. 18 for details	<div> <div>Lower</div> <div><110</div> <div>200</div> <div>Higher</div> <div>300</div> <div>Mold Score</div> <div>171</div> </div>	<div> <div>Lower</div> <div><200</div> <div>1K</div> <div>10K</div> <div>Higher</div> <div>>70K</div> <div>Location</div> <div>spores/m3</div> <div>5,500</div> <div>Outside</div> <div>spores/m3</div> <div>14,000</div> </div>
15: Room Staff Development Room * see p. 19 for details	<div> <div>Lower</div> <div><110</div> <div>200</div> <div>Higher</div> <div>300</div> <div>Mold Score</div> <div>300</div> </div>	<div> <div>Lower</div> <div><200</div> <div>1K</div> <div>10K</div> <div>Higher</div> <div>>70K</div> <div>Location</div> <div>spores/m3</div> <div>20,000</div> <div>Outside</div> <div>spores/m3</div> <div>14,000</div> </div>
16: Room Front Entry Foyer * see p. 20 for details	<div> <div>Lower</div> <div><110</div> <div>200</div> <div>Higher</div> <div>300</div> <div>Mold Score</div> <div>290</div> </div>	<div> <div>Lower</div> <div><200</div> <div>1K</div> <div>10K</div> <div>Higher</div> <div>>70K</div> <div>Location</div> <div>spores/m3</div> <div>15,000</div> <div>Outside</div> <div>spores/m3</div> <div>14,000</div> </div>

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 Date of Report: 09-18-2018

MoldREPORT
 EMLab P & K
 3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
 (866) 871-1984 Fax (856) 334-1040

Detailed Results of the Air Sample Analysis

Location Lab ID-version:† 9446798-1	Overall Mold Source Assessment* (Likelihood spores originated inside)			Overall Exposure Level (Shown on a log scale)				Outside †9446814-1	
	Lower <110	Higher 200	Mold Score 300	Lower <200	1K	Higher 10K	Location >70K spores/m ³	raw ct	spores/m ³
1: Room 7H			189				6,700	125	14,000

Indicators of Mold Growth Indoors

A) *Penicillium/Aspergillus* types**

Indicator Mold Source Assessment* (Likelihood spores originated inside)		
Lower <110	Higher 200	Mold Score 300
		101

B) *Cladosporium* species spores

		100
--	--	-----

C) Basidiospores

		172
--	--	-----

D) "Marker" spore types***

		100
--	--	-----

E) "Other" spore types***, ****

		189
--	--	-----

1) *Nigrospora* 2) *Smuts*, *Periconia*, *Myxomycetes* 3) *Pithomyces*

Indicator Exposure Level (Shown on a log scale)				Location		Outside	
Lower <200	1K	Higher 10K	>70K spores/m ³	raw ct		spores/m ³	raw ct
				160	3	320	12

				960	18	2,300	87
--	--	--	--	-----	----	-------	----

				4,800	90	8,600	322
--	--	--	--	-------	----	-------	-----

				<13	0	<7	0
--	--	--	--	-----	---	----	---

				430	8	1,641	62
--	--	--	--	-----	---	-------	----

Other Sample Information

Sample clarity & visibility

	Good	Moderate	Poor
Location		X	
Outside		X	

*"Good" = background debris is light enough to pose no difficulty in analyzing air samples.
 "Poor" = background debris so heavy that it poses a significant difficulty in analyzing the air sample accurately. Results are most likely lower limits.

Other "normal trapping" spores***

Exposure Level (Highly unlikely to be from indoors)				Location		Outside	
Lower <200	1K	Higher 10K	>70K spores/m ³	raw ct		spores/m ³	raw ct
				320	6	983	37

Location		Outside	
Sample volume (liters)		75	150

Comments

Location	None
Outside	None

* Rated on a scale from low to high. A MoldSCORE™ rating of <150 is low and indicates a low probability of spores originating inside. A MoldSCORE™ rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A MoldSCORE™ between 150 and 250 indicates a moderate likelihood of indoor fungal growth. EMLab P&K's MoldSCORE™ analysis is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the MoldSCORE™ analysis on other samples (like wall cavity samples) will lead to misleading results.

** The spores of *Penicillium* and *Aspergillus* (and others such as *Acremonium* and *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by spore trap sampling methods. Also some species with very small spores are easily missed, and may be undercounted. The *Penicillium/Aspergillus* indicator operates on the assumption that the majority of the spores in this category are, in fact, *Penicillium* or *Aspergillus*.

*** The spores reported in this category come from many different mold types. As a result, the mold types represented by the counts for the "Location" sample may be different than the mold types represented by the counts for the outside sample. The totals shown are the summation of the rounded values for the spores types in the category and may contain more than two significant figures.

**** The spores of smuts, *Periconia*, and myxomycetes look similar and cannot generally be distinguished by spore trap analysis. Smuts are plant pathogens and are not likely to be on indoor surfaces. *Periconia* is rarely found growing indoors. However, myxomycetes, the spores of which look similar, can occasionally grow indoors. Because there is a small probability of indoor sources, these spore types are indicated in the "other" spore types category. False positives may result if the spores are smuts, not myxomycetes.

†A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Total spores/m³ has been rounded to two significant figures to reflect analytical precision.

The analytical sensitivity is the spores/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) multiplied by the sample volume (in liters) divided by 1000 liters.

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EMLab ID: 2003447, Page 5 of 31

Client: ASAP Environmental, Inc.

Contact: Mr. Christopher Maracic

Project: Green Meadows School; 5 Tiger Drive, Maynard, MA

Date of Sampling: 09-17-2018

Date of Receipt: 09-18-2018

Date of Report: 09-18-2018

MoldREPORT

EMLab P & K

3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030

(866) 871-1984 Fax (856) 334-1040

Detailed Results of the Air Sample Analysis

Location	Overall Mold Source Assessment* (Likelihood spores originated inside)			Overall Exposure Level (Shown on a log scale)				Outside #9446814-1	
Lab ID-version:† 9446799-1	Lower <110	Higher 200	Mold 300 Score	Lower <200	1K	10K	Higher >70K spores/m ³	Location raw ct	Outside spores/m ³
2: Room 7G			135				7,600	143	14,000

Indicators of Mold Growth**Indoors**A) *Penicillium/Aspergillus* types**

Indicator Mold Source Assessment* (Likelihood spores originated inside)			Indicator Exposure Level (Shown on a log scale)				Outside	
Lower <110	Higher 200	Mold 300 Score	Lower <200	1K	10K	Higher >70K spores/m ³	Location raw ct	Outside spores/m ³
		106				210	4	320

B) *Cladosporium* species spores

		135				1,800	34	2,300
--	--	-----	--	--	--	-------	----	-------

C) Basidiospores

		123				4,900	92	8,600
--	--	-----	--	--	--	-------	----	-------

D) "Marker" spore types***

		100				< 13	0	< 7
--	--	-----	--	--	--	------	---	-----

E) "Other" spore types***, ****

		100				430	8	1,641
--	--	-----	--	--	--	-----	---	-------

1) Smuts, *Periconia*, *Myxomycetes***Other Sample Information****Sample clarity & visibility**

	Good	Moderate	Poor
Location		X	
Outside		X	

*Good = background debris is light enough to pose no difficulty in analyzing air samples.
 *Poor = background debris so heavy that it poses a significant difficulty in analyzing the air sample accurately. Results are most likely lower limits.

Comments

Location	None
Outside	None

* Rated on a scale from low to high. A MoldSCORE™ rating of <150 is low and indicates a low probability of spores originating inside. A MoldSCORE™ rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A MoldSCORE™ between 150 and 250 indicates a moderate likelihood of indoor fungal growth. EMLab P&K's MoldSCORE™ analysis is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the MoldSCORE™ analysis on other samples (like wall cavity samples) will lead to misleading results.

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EMLab ID: 2003447, Page 6 of 31

MoldREPORT
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(866) 871-1984 Fax (856) 334-1040

Client: ASAP Environmental, Inc.

Contact: Mr. Christopher Maracic

Project: Green Meadows School; 5 Tiger Drive, Maynard, MA

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MoldREPORT

EMLab P & K

3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030

(866) 871-1984 Fax (856) 334-1040

Detailed Results of the Air Sample Analysis

Location Lab ID-version:† 9446801-1	Overall Mold Source Assessment* (Likelihood spores originated inside)			Overall Exposure Level (Shown on a log scale)				Outside †9446814-1	
	Lower <110	Higher 200	Mold 300 Score	Lower <200	Higher 1K	10K	>70K spores/m ³	Location raw ct	Outside spores/m ³ raw ct
4: Room 7E			147				5,900	110	14,000 520

**Indicators of Mold Growth
Indoors**A) *Penicillium/Aspergillus* types**

Indicator Mold Source Assessment* (Likelihood spores originated inside)		
Lower <110	Higher 200	Mold 300 Score
		147

Indicator Exposure Level (Shown on a log scale)				Outside	
Lower <200	Higher 1K	10K	>70K spores/m ³	Location raw ct	Outside spores/m ³ raw ct
			430	8	320 12

B) *Cladosporium* species spores

		100
--	--	-----

		18	2,300	87
--	--	----	-------	----

C) Basidiospores

		100
--	--	-----

		68	8,600	322
--	--	----	-------	-----

D) "Marker" spore types***

		100
--	--	-----

		0	<7	0
--	--	---	----	---

E) "Other" spore types***, ****

		140
--	--	-----

		13	1,641	62
--	--	----	-------	----

1) Smuts, *Periconia*, *Myxomycetes*2) *Pithomyces***Other Sample Information****Sample clarity & visibility**

	Good	Moderate	Poor
Location		X	
Outside		X	

Good = background debris is light enough to pose no difficulty in analyzing air samples.

Poor = background debris so heavy that it poses a significant difficulty in analyzing the air sample accurately. Results are most likely lower limits.

Other "normal trapping" spores***

Exposure Level (Highly unlikely to be from indoors)				Outside	
Lower <200	Higher 1K	10K	>70K spores/m ³	Location raw ct	Outside spores/m ³ raw ct
			160	3	983 37

Sample volume (liters)	Location	Outside
	75	150

Comments

Location	None
Outside	None

* Rated on a scale from low to high. A MoldSCORE™ rating of <150 is low and indicates a low probability of spores originating inside. A MoldSCORE™ rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A MoldSCORE™ between 150 and 250 indicates a moderate likelihood of indoor fungal growth. EMLab P&K's MoldSCORE™ analysis is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the MoldSCORE™ analysis on other samples (like wall cavity samples) will lead to misleading results.

** The spores of *Penicillium* and *Aspergillus* (and others such as *Acremonium* and *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by spore trap sampling methods. Also some species with very small spores are easily missed, and may be undercounted. The *Penicillium/Aspergillus* indicator operates on the assumption that the majority of the spores in this category are, in fact, *Penicillium* or *Aspergillus*.

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EMLab ID: 2003447, Page 8 of 31

Client: ASAP Environmental, Inc.
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 Project: Green Meadows School; 5 Tiger Drive, Maynard, MA
 Date of Sampling: 09-17-2018
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MoldREPORT
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 (866) 871-1984 Fax (856) 334-1040

Detailed Results of the Air Sample Analysis

Location Lab ID-version:† 9446802-1	Overall Mold Source Assessment* (Likelihood spores originated inside)				Overall Exposure Level (Shown on a log scale)				Outside †9446814-1	
	Lower <110	Higher 200	Location 300	Mold Score	Lower <200	1K	Higher 10K	Location >70K spores/m3 raw ct	spores/m3	raw ct
5: Room 7D				181				7,000	130	14,000
									17	520

Indicators of Mold Growth Indoors

A) *Penicillium/Aspergillus* types**

Indicator Mold Source Assessment* (Likelihood spores originated inside)			
Lower <110	Higher 200	Location 300	Mold Score
			181

Indicator Exposure Level (Shown on a log scale)				Outside	
Lower <200	1K	Higher 10K	Location >70K spores/m3 raw ct	spores/m3	raw ct
			690	13	320
				12	

B) *Cladosporium* species spores

			100
--	--	--	-----

			750	14	2,300
					87

C) Basidiospores

			166
--	--	--	-----

			4,900	91	8,600
					322

D) "Marker" spore types***

			100
--	--	--	-----

			<13	0	<7
					0

E) "Other" spore types***, ****

			100
--	--	--	-----

			323	6	1,641
					62

1) Smuts, *Periconia*, Myxomycetes

2) *Alternaria*

Other Sample Information

Sample clarity & visibility

	Good	Moderate	Poor
Location		X	
Outside		X	

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Other "normal trapping" spores***

Exposure Level (Highly unlikely to be from indoors)				Outside	
Lower <200	1K	Higher 10K	Location >70K spores/m3 raw ct	spores/m3	raw ct
			323	6	983
					37

Sample volume (liters)		Location	Outside
		75	150

Comments

Location	None
Outside	None

* Rated on a scale from low to high. A MoldSCORE™ rating of <150 is low and indicates a low probability of spores originating inside. A MoldSCORE™ rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A MoldSCORE™ between 150 and 250 indicates a moderate likelihood of indoor fungal growth. EMLab P&K's MoldSCORE™ analysis is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the MoldSCORE™ analysis on other samples (like wall cavity samples) will lead to misleading results.

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EMLab ID: 2003447, Page 9 of 31

Client: ASAP Environmental, Inc.

Contact: Mr. Christopher Maracic

Project: Green Meadows School; 5 Tiger Drive, Maynard, MA

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MoldREPORT

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(866) 871-1984 Fax (856) 334-1040

Detailed Results of the Air Sample Analysis

Location Lab ID-version:† 9446803-1	Overall Mold Source Assessment* (Likelihood spores originated inside)	Overall Exposure Level (Shown on a log scale)				Outside †9446814-1		
6: Room 7C	Lower		Higher		Lower		Higher	
	<110	200	300	Mold Score	<200	1K	10K	>70K
				174	spores/m3	raw ct	spores/m3	raw ct
					4,600	86	14,000	520

Indicators of Mold Growth**Indoors**A) *Penicillium*/*Aspergillus* types**

Indicator Mold Source Assessment* (Likelihood spores originated inside)			
Lower		Higher	Mold
<110	200	300	Score
			174

Indicator Exposure Level (Shown on a log scale)					
Lower		Higher		Location	
<200	1K	10K	>70K	spores/m ³	raw ct
				590	11
				320	12

B) *Cladosporium* species spores

	100
--	-----

	320	6	2,300	87
--	-----	---	-------	----

C) Basidiospores

	160
--	-----

	3,400	64	8,600	322
--	-------	----	-------	-----

D) "Marker" spore types***

	100
--	-----

	<13	0	<7	0
--	-----	---	----	---

E) "Other" spore types***, ****

	100
--	-----

	<13	0	1,641	62
--	-----	---	-------	----

Other Sample Information**Sample clarity & visibility**

	Good	Moderate	Poor
Location		X	
Outside		X	

*Good = background debris is light enough to pose no difficulty in analyzing air samples.

*Poor = background debris so heavy that it poses a significant difficulty in analyzing the air sample accurately. Results are most likely lower limits.

Other "normal trapping" spores***

Exposure Level (Highly unlikely to be from indoors)					
Lower <200		Higher 1K 10K >70K		Location	
				spores/m3	raw ct
				270	5
				983	37

Location	Outside
Sample volume (liters)	75
	150

Comments

Location	None
Outside	None

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EMLab ID: 2003447, Page 10 of 31

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Detailed Results of the Air Sample Analysis

Location Lab ID-version:† 9446804-1	Overall Mold Source Assessment* (Likelihood spores originated inside)				Overall Exposure Level (Shown on a log scale)				Outside †9446814-1	
	Lower <110	200	Higher 300	Mold Score	Lower <200	1K	Higher 10K	>70K	Location spores/m ³ raw ct	Outside spores/m ³ raw ct
7: Room 7B				205					5,900 110	14,000 520

Indicators of Mold Growth Indoors

	Indicator Mold Source Assessment* (Likelihood spores originated inside)				Indicator Exposure Level (Shown on a log scale)				Outside	
	Lower <110	200	Higher 300	Mold Score	Lower <200	1K	Higher 10K	>70K	Location spores/m ³ raw ct	Outside spores/m ³ raw ct
A) Penicillium/Aspergillus types**				205					850 16	320 12
B) Cladosporium species spores				109					1,100 20	2,300 87
C) Basidiospores				121					3,800 72	8,600 322
D) "Marker" spore types***				100					< 13 0	< 7 0
E) "Other" spore types****, ****				100					110 2	1,641 62
I) Smuts, Periconia, Myxomycetes										

Other Sample Information

Sample clarity & visibility

	Good	Moderate	Poor
Location		X	
Outside		X	

*Good = background debris is light enough to pose no difficulty in analyzing air samples.
 *Poor = background debris so heavy that it poses a significant difficulty in analyzing the air sample accurately. Results are most likely lower limits.

Other "normal trapping" spores***

Exposure Level (Highly unlikely to be from indoors)				Location		Outside	
Lower <200	1K	Higher 10K	>70K	spores/m ³ raw ct		spores/m ³ raw ct	
				< 13 0		983 37	

Sample volume (liters)		Location	Outside
		75	150

Comments

Location	None
Outside	None

* Rated on a scale from low to high. A MoldSCORE™ rating of <150 is low and indicates a low probability of spores originating inside. A MoldSCORE™ rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A MoldSCORE™ between 150 and 250 indicates a moderate likelihood of indoor fungal growth. EMLab P&K's MoldSCORE™ analysis is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the MoldSCORE™ analysis on other samples (like wall cavity samples) will lead to misleading results.

** The spores of *Penicillium* and *Aspergillus* (and others such as *Acremonium* and *Poecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by spore trap sampling methods. Also some species with very small spores are easily misaid, and may be undercounted. The *Penicillium/Aspergillus* indicator operates on the assumption that the majority of the spores in this category are, in fact, *Penicillium* or *Aspergillus*.

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**** The spores of smuts, *Periconia*, and myxomycetes look similar and cannot generally be distinguished by spore trap analysis. Smuts are plant pathogens and are not likely to be on indoor surfaces. *Periconia* is rarely found growing indoors. However, myxomycetes, the spores of which look similar, can occasionally grow indoors. Because there is a small probability of indoor sources, these spore types are indicated in the "other" spore types category. False positives may result if the spores are smuts, not myxomycetes.

†A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Total spores/m³ has been rounded to two significant figures to reflect analytical precision.

The analytical sensitivity is the spores/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) multiplied by the sample volume (in liters) divided by 1000 liters.

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EMLab ID: 2003447, Page 11 of 31

Client: ASAP Environmental, Inc.
 Contact: Mr. Christopher Maracic
 Project: Green Meadows School; 5 Tiger Drive, Maynard, MA
 Date of Sampling: 09-17-2018
 Date of Receipt: 09-18-2018
 Date of Report: 09-18-2018

MoldREPORT
 EMLab P & K
 3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
 (866) 871-1984 Fax (856) 334-1040

Detailed Results of the Air Sample Analysis

Location	Overall Mold Source Assessment* (Likelihood spores originated inside)			Overall Exposure Level (Shown on a log scale)				Outside #9446814-1	
Lab ID-version:† 9446805-1	Lower <110	Higher 200	Mold Score 300	Lower <200	1K	10K	Higher >70K	Location spores/m ³ raw ct	Outside spores/m ³ raw ct
8: Room 7A			184					5,900 111	14,000 520

Indicators of Mold Growth Indoors

A) *Penicillium/Aspergillus* types**

Indicator Mold Source Assessment* (Likelihood spores originated inside)		
Lower <110	Higher 200	Mold Score 300
		184

Indicator Exposure Level (Shown on a log scale)				Location		Outside	
Lower <200	1K	10K	Higher >70K	spores/m ³	raw ct	spores/m ³	raw ct
				690	13	320	12

B) *Cladosporium* species spores

		152
--	--	-----

		1,800	34	2,300	87
--	--	-------	----	-------	----

C) Basidiospores

		100
--	--	-----

		3,100	58	8,600	322
--	--	-------	----	-------	-----

D) "Marker" spore types***

		100
--	--	-----

		<13	0	<7	0
--	--	-----	---	----	---

E) "Other" spore types***, ****

		100
--	--	-----

		110	2	1,641	62
--	--	-----	---	-------	----

1) Smuts, *Periconia*, *Myxomycetes*

Other Sample Information

Sample clarity & visibility

	Good	Moderate	Poor
Location		X	
Outside		X	

*Good = background debris is light enough to pose no difficulty in analyzing air samples.
 *Poor = background debris so heavy that it poses a significant difficulty in analyzing the air sample accurately. Results are most likely lower limits.

Other "normal trapping" spores***

Exposure Level (Highly unlikely to be from indoors)				Location		Outside	
Lower <200	1K	10K	Higher >70K	spores/m ³	raw ct	spores/m ³	raw ct
				210	4	983	37

Sample volume (liters)		Location	Outside
		75	150

Comments

Location	None
Outside	None

* Rated on a scale from low to high. A MoldSCORE™ rating of <150 is low and indicates a low probability of spores originating inside. A MoldSCORE™ rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A MoldSCORE™ between 150 and 250 indicates a moderate likelihood of indoor fungal growth. EMLab P&K's MoldSCORE™ analysis is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the MoldSCORE™ analysis on other samples (like wall cavity samples) will lead to misleading results.

** The spores of *Penicillium* and *Aspergillus* (and others such as *Acremonium* and *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by spore trap sampling methods. Also some species with very small spores are easily missed, and may be undercounted. The *Penicillium/Aspergillus* indicator operates on the assumption that the majority of the spores in this category are, in fact, *Penicillium* or *Aspergillus*.

*** The spores reported in this category come from many different mold types. As a result, the mold types represented by the counts for the "Location" sample may be different than the mold types represented by the counts for the outside sample. The totals shown are the summation of the rounded values for the spores types in the category and may contain more than two significant figures.

**** The spores of smuts, *Periconia*, and myxomycetes look similar and cannot generally be distinguished by spore trap analysis. Smuts are plant pathogens and are not likely to be on indoor surfaces. *Periconia* is rarely found growing indoors. However, myxomycetes, the spores of which look similar, can occasionally grow indoors. Because there is a small probability of indoor sources, these spore types are indicated in the "other" spore types category. False positives may result if the spores are smuts, not myxomycetes.

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EMLab ID: 2003447, Page 12 of 31

Client: ASAP Environmental, Inc.
 Contact: Mr. Christopher Maracic
 Project: Green Meadows School; 5 Tiger Drive, Maynard, MA
 Date of Sampling: 09-17-2018
 Date of Receipt: 09-18-2018
 Date of Report: 09-18-2018

MoldREPORT
 EMLab P & K
 3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
 (866) 871-1984 Fax (856) 334-1040

Detailed Results of the Air Sample Analysis

Location	Overall Mold Source Assessment* (Likelihood spores originated inside)				Overall Exposure Level (Shown on a log scale)				Outside #9446814-1	
Lab ID-version:† 9446806-1	Lower <110	Higher 200	Higher 300	Mold Score	Lower <200	1K	10K	Higher >70K	Location spores/m ³ raw ct	Outside spores/m ³ raw ct
9: Room 7I				180					5,100 96	14,000 520

Indicators of Mold Growth Indoors

A) *Penicillium/Aspergillus* types***

Indicator Mold Source Assessment* (Likelihood spores originated inside)				Indicator Exposure Level (Shown on a log scale)						
Lower <110		Higher 200	Mold Score	Lower <200	1K		Higher 10K	>70K	Location spores/m ³ raw ct	Outside spores/m ³ raw ct
			180						640 12	320 12

B) *Cladosporium* species spores

			100					750 14	2,300 87
--	--	--	-----	--	--	--	--	--------	----------

C) *Basidiospores*

			127					3,400 64	8,600 322
--	--	--	-----	--	--	--	--	----------	-----------

D) "Marker" spore types***

			100					< 13 0	< 7 0
--	--	--	-----	--	--	--	--	--------	-------

E) "Other" spore types***, ****

			100					110 2	1,641 62
--	--	--	-----	--	--	--	--	-------	----------

1) Smuts, *Periconia*, *Myxomycetes*

Other Sample Information

Sample clarity & visibility

	Good	Moderate	Poor
Location		X	
Outside		X	

Good = background debris is light enough to pose no difficulty in analyzing air samples.
 Poor = background debris so heavy that it poses a significant difficulty in analyzing the air sample accurately. Results are most likely lower limits.

Comments

Location	None
Outside	None

* Rated on a scale from low to high. A MoldSCORE™ rating of <150 is low and indicates a low probability of spores originating inside. A MoldSCORE™ rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A MoldSCORE™ between 150 and 250 indicates a moderate likelihood of indoor fungal growth. EMLab P&K's MoldSCORE™ analysis is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the MoldSCORE™ analysis on other samples (like wall cavity samples) will lead to misleading results.

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Other "normal trapping" spores***

Exposure Level (Highly unlikely to be from indoors)				Outside	
Lower <200	1K	10K	Higher >70K	Location spores/m ³ raw ct	Outside spores/m ³ raw ct
				210 4	983 37

Sample volume (liters)	Location	Outside
	75	150

†A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Total spores/m³ has been rounded to two significant figures to reflect analytical precision.

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EMLab ID: 2003447, Page 13 of 31

Client: ASAP Environmental, Inc.
Contact: Mr. Christopher Maracic
Project: Green Meadows School; 5 Tiger Drive, Maynard, MA
Date of Sampling: 09-17-2018
Date of Receipt: 09-18-2018
Date of Report: 09-18-2018

MoldREPORT
EMLab P & K
3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
(866) 871-1984 Fax (856) 334-1040

Detailed Results of the Air Sample Analysis

Location Lab ID-version:† 9446807-1	Overall Mold Source Assessment* (Likelihood spores originated inside)	Overall Exposure Level (Shown on a log scale)				Outside †9446814-1																	
10: Room 7J	<table><tr><td>Lower</td><td></td><td>Higher</td><td></td><td>Mold</td></tr><tr><td><110</td><td>200</td><td>300</td><td></td><td>Score</td></tr><tr><td colspan="4"></td><td>189</td></tr></table>	Lower		Higher		Mold	<110	200	300		Score					189	Lower	1K	10K	Higher	Location		
Lower		Higher		Mold																			
<110	200	300		Score																			
				189																			
		<200		>70K	spores/m3	raw ct	17																
						7,500	141	14,000	520														
						spores/m3 raw ct		spores/m3 raw ct															

Indicators of Mold Growth Indoors

A) *Penicillium/Aspergillus* types**

Indicator Mold Source Assessment* (Likelihood spores originated inside)			
Lower		Higher	Mold Score
<110	200	300	131

Indicator Exposure Level (Shown on a log scale)					
Lower		Higher	Location		Outside
<200	1K	10K	>70K	spores/m3 raw ct	spores/m3 raw ct
			370	7	320
					12

B) *Cladosporium* species spores

	100		1,200	23	2,300	87
--	-----	--	-------	----	-------	----

C) Basidiospores

	189		5,500	103	8,600	322
--	-----	--	-------	-----	-------	-----

D) "Marker" spore types***

	100		< 13	0	< 7	0
--	-----	--	------	---	-----	---

E) "Other" spore types***, ****

	129		216	4	1,641	62
--	-----	--	-----	---	-------	----

1) Smuts, *Periconia*, *Myxomycetes* 2) *Curvularia* 3) *Pithomyces*

Other Sample Information

Sample clarity & visibility

	Good	Moderate	Poor
Location		X	
Outside		X	

Good = background debris is light enough to pose no difficulty in analyzing air samples.
 Poor = background debris so heavy that it poses a significant difficulty in analyzing the air sample accurately. Results are most likely lower limits.

Other "normal trapping" spores***

Exposure Level (Highly unlikely to be from indoors)					
Lower		Higher		Location	
<200	1K	10K	>70K	spores/m3	raw ct
				220	4
				spores/m3	raw ct
				983	37

Location	Outside
Sample volume (liters)	75 150

Comments

Location	None
Outside	None

* Rated on a scale from low to high. A MoldSCORE™ rating of <150 is low and indicates a low probability of spores originating inside. A MoldSCORE™ rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A MoldSCORE™ between 150 and 250 indicates a moderate likelihood of indoor fungal growth. EMLab P&K's MoldSCORE™ analysis is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the MoldSCORE™ analysis on other samples (like wall cavity samples) will lead to misleading results.

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EMLab ID: 2003447, Page 14 of 31

Client: ASAP Environmental, Inc.
Contact: Mr. Christopher Maracic
Project: Green Meadows School; 5 Tiger Drive, Maynard, MA
Date of Sampling: 09-17-2018
Date of Receipt: 09-18-2018
Date of Report: 09-18-2018

MoldREPORT
EMLab P & K
3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
(866) 871-1984 Fax (856) 334-1040

Detailed Results of the Air Sample Analysis

Location Lab ID-version:† 9446808-1	Overall Mold Source Assessment* (Likelihood spores originated inside)			Overall Exposure Level (Shown on a log scale)				Outside 19446814-1	
	Lower <110	Higher 200	Mold 300 Score	Lower <200	1K	Higher 10K	Location >70K spores/m ³ raw ct	spores/m ³	raw ct
11: Room 7K			260				14,000	318	14,000
								17	520

Indicators of Mold Growth Indoors

A) *Penicillium/Aspergillus* types**

Indicator Mold Source Assessment* (Likelihood spores originated inside)				Indicator Exposure Level (Shown on a log scale)						
Lower <110		Higher 300	Mold Score	Lower <200	1K	Higher 10K	>70K spores/m ³	Location raw ct	Outside spores/m ³	raw ct
			260				1,600	90	320	12

B) *Cladosporium* species spores

		100				2,200	42	2,300	87
--	--	-----	--	--	--	-------	----	-------	----

C) Basidiospores

		137				8,800	165	8,600	322
--	--	-----	--	--	--	-------	-----	-------	-----

D) "Marker" spore types***

		100				<13	0	<7	0
--	--	-----	--	--	--	-----	---	----	---

E) "Other" spore types***, ****

		120				906	17	1,641	62
--	--	-----	--	--	--	-----	----	-------	----

1) Smuts, *Periconia*, *Myxomycetes*

2) *Curvularia* 3) *Pithomyces*

Other Sample Information

Sample clarity & visibility

	Good	Moderate	Poor
Location		X	
Outside		X	

*Good = background debris is light enough to pose no difficulty in analyzing air samples.
 "Poor" = background debris so heavy that it poses a significant difficulty in analyzing the air sample accurately. Results are most likely lower limits.

Other "normal trapping" spores***

Exposure Level (Highly unlikely to be from indoors)				Outside	
Lower <200	1K	Higher 10K	Location >70K spores/m ³ raw ct	spores/m ³	raw ct
			210	4	983
					37

Location	Outside
Sample volume (liters)	75 150

Comments

Location	80 of the raw count <i>Penicillium/Aspergillus</i> type spores were present as a single clump.
Outside	None

* Rated on a scale from low to high. A MoldSCORE™ rating of <150 is low and indicates a low probability of spores originating inside. A MoldSCORE™ rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A MoldSCORE™ between 150 and 250 indicates a moderate likelihood of indoor fungal growth. EMLab P&K's MoldSCORE™ analysis is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the MoldSCORE™ analysis on other samples (like wall cavity samples) will lead to misleading results.

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Total spores/m³ has been rounded to two significant figures to reflect analytical precision.

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EMLab ID: 2003447, Page 15 of 31

Client: ASAP Environmental, Inc.

Contact: Mr. Christopher Maracic

Project: Green Meadows School; 5 Tiger Drive, Maynard, MA

Date of Sampling: 09-17-2018

Date of Receipt: 09-18-2018

Date of Report: 09-18-2018

MoldREPORT

EMLab P & K

3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030

(866) 871-1984 Fax (856) 334-1040

Detailed Results of the Air Sample Analysis

Location	Overall Mold Source Assessment* (Likelihood spores originated inside)			Overall Exposure Level (Shown on a log scale)				Outside 19446814-1	
Lab ID-version:† 9446809-1	Lower <110	Higher 200	Mold 300 Score	Lower <200	1K	10K	Higher >70K	Location spores/m ³ raw ct	Outside spores/m ³ raw ct
12: Room 7L			237					7,500 140	14,000 520

Indicators of Mold Growth**Indoors**A) *Penicillium/Aspergillus* types**

Indicator Mold Source Assessment* (Likelihood spores originated inside)			Indicator Exposure Level (Shown on a log scale)				Outside	
Lower <110	Higher 200	Mold 300 Score	Lower <200	1K	10K	Higher >70K	Location spores/m ³ raw ct	Outside spores/m ³ raw ct
		141					430 8	320 12

B) *Cladosporium* species spores

		100					530 10	2,300 87
--	--	-----	--	--	--	--	--------	----------

C) Basidiospores

		237					6,100 114	8,600 322
--	--	-----	--	--	--	--	-----------	-----------

D) "Marker" spore types***

		100					<13 0	<7 0
--	--	-----	--	--	--	--	-------	------

E) "Other" spore types***, ****

		100					210 4	1,641 62
--	--	-----	--	--	--	--	-------	----------

1) Smuts, *Periconia*, Myxomycetes**Other Sample Information****Sample clarity & visibility**

	Good	Moderate	Poor
Location		X	
Outside		X	

*Good = background debris is light enough to pose no difficulty in analyzing air samples.

*Poor = background debris so heavy that it poses a significant difficulty in analyzing the air sample accurately. Results are most likely lower limits.

Other "normal trapping" spores***

Exposure Level (Highly unlikely to be from indoors)				Location		Outside	
Lower <200	1K	10K	Higher >70K	spores/m ³	raw ct	spores/m ³	raw ct
				210	4	983	37

Sample volume (liters)	Location	Outside
	75	150

Comments

Location	None
Outside	None

* Rated on a scale from low to high. A MoldSCORE™ rating of <150 is low and indicates a low probability of spores originating inside. A MoldSCORE™ rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A MoldSCORE™ between 150 and 250 indicates a moderate likelihood of indoor fungal growth. EMLab P&K's MoldSCORE™ analysis is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the MoldSCORE™ analysis on other samples (like wall cavity samples) will lead to misleading results.

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EMLab ID: 2003447, Page 16 of 31

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 (866) 871-1984 Fax (856) 334-1040

Detailed Results of the Air Sample Analysis

Location Lab ID-version:† 9446810-1	Overall Mold Source Assessment* (Likelihood spores originated inside)			Overall Exposure Level (Shown on a log scale)				Outside †9446814-1	
	Lower <110	Higher 200	Mold Score 300	Lower <200	1K	Higher 10K	Location >70K spores/m ³ raw ct	spores/m ³ raw ct	spores/m ³ raw ct
13: Room 7M			209				5,500 103	14,000	520

Indicators of Mold Growth Indoors

A) Penicillium/Aspergillus types**

Indicator Mold Source Assessment* (Likelihood spores originated inside)	Indicator Exposure Level (Shown on a log scale)				Outside	
	Lower <110	Higher 200	Mold Score 300	Location >70K spores/m ³ raw ct	spores/m ³ raw ct	spores/m ³ raw ct
			123	270 5	320	12

B) Cladosporium species spores

			100	270 5	2,300	87
--	--	--	-----	-------	-------	----

C) Basidiospores

			209	4,500 85	8,600	322
--	--	--	-----	----------	-------	-----

D) "Marker" spore types***

			100	<13 0	<7	0
--	--	--	-----	-------	----	---

E) "Other" spore types****, ****

			139	270 5	1,641	62
--	--	--	-----	-------	-------	----

1) Smuts, Periconia, Myxomycetes

2) Pithomyces

Other Sample Information

Sample clarity & visibility

	Good	Moderate	Poor
Location		X	
Outside		X	

*Good = background debris is light enough to pose no difficulty in analyzing air samples.
 *Poor = background debris so heavy that it poses a significant difficulty in analyzing the air sample accurately. Results are most likely lower limits.

Other "normal trapping" spores***

Exposure Level (Highly unlikely to be from indoors)				Outside	
Lower <200	1K	Higher 10K	Location >70K spores/m ³ raw ct	spores/m ³ raw ct	spores/m ³ raw ct
			160 3	983	37

Location		Outside	
Sample volume (liters)		75	150

Comments

Location	None
Outside	None

* Rated on a scale from low to high. A MoldSCORE™ rating of <150 is low and indicates a low probability of spores originating inside. A MoldSCORE™ rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A MoldSCORE™ between 150 and 250 indicates a moderate likelihood of indoor fungal growth. EMLab P&K's MoldSCORE™ analysis is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the MoldSCORE™ analysis on other samples (like wall cavity samples) will lead to misleading results.

** The spores of *Penicillium* and *Aspergillus* (and others such as *Acremonium* and *Poecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by spore trap sampling methods. Also some species with very small spores are easily missed, and may be undercounted. The *Penicillium/Aspergillus* indicator operates on the assumption that the majority of the spores in this category are, in fact, *Penicillium* or *Aspergillus*.

*** The spores reported in this category come from many different mold types. As a result, the mold types represented by the counts for the "Location" sample may be different than the mold types represented by the counts for the outside sample. The totals shown are the summation of the rounded values for the spore types in the category and may contain more than two significant figures.

**** The spores of smuts, *Periconia*, and myxomycetes look similar and cannot generally be distinguished by spore trap analysis. Smuts are plant pathogens and are not likely to be on indoor surfaces. *Periconia* is rarely found growing indoors. However, myxomycetes, the spores of which look similar, can occasionally grow indoors. Because there is a small probability of indoor sources, these spore types are indicated in the "other" spore types category. False positives may result if the spores are smuts, not myxomycetes.

†A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Total spores/m³ has been rounded to two significant figures to reflect analytical precision.

The analytical sensitivity is the spores/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) multiplied by the sample volume (in liters) divided by 1000 liters.

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EMLab ID: 2003447, Page 17 of 31

Client: ASAP Environmental, Inc.
 Contact: Mr. Christopher Maracic
 Project: Green Meadows School; 5 Tiger Drive, Maynard, MA
 Date of Sampling: 09-17-2018
 Date of Receipt: 09-18-2018
 Date of Report: 09-18-2018

MoldREPORT
 EMLab P & K
 3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
 (866) 871-1984 Fax (856) 334-1040

Detailed Results of the Air Sample Analysis

Location Lab ID-version:† 9446811-1	Overall Mold Source Assessment* (Likelihood spores originated inside)	Overall Exposure Level (Shown on a log scale)	Outside †9446814-1
14: Room 4B	Lower <110 200 Higher 300 Mold Score 171	Lower <200 1K Higher 10K >70K Location spores/m3 raw ct 5,500 104	17 spores/m3 raw ct 14,000 520

Indicators of Mold Growth Indoors

A) *Penicillium*/*Aspergillus* types**

Indicator Mold Source Assessment* (Likelihood spores originated inside)	Indicator Exposure Level (Shown on a log scale)
Lower <110 200 Higher 300 Mold Score 163	Lower <200 1K Higher 10K >70K Location spores/m3 raw ct 530 10

B) *Cladosporium* species spores

100	750 14
-----	--------

C) Basidiospores

171	4,100 77
-----	----------

D) "Marker" spore types***

100	<13 0
-----	-------

E) "Other" spore types***,****

100	<13 0
-----	-------

Other Sample Information

Sample clarity & visibility

	Good	Moderate	Poor
Location		X	
Outside		X	

*Good = background debris is light enough to pose no difficulty in analyzing air samples.
 *Poor = background debris so heavy that it poses a significant difficulty in analyzing the air sample accurately. Results are most likely lower limits.

Comments

Location	None
Outside	None

* Rated on a scale from low to high. A MoldSCORE™ rating of <150 is low and indicates a low probability of spores originating inside. A MoldSCORE™ rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A MoldSCORE™ between 150 and 250 indicates a moderate likelihood of indoor fungal growth. EMLab P&K's MoldSCORE™ analysis is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the MoldSCORE™ analysis on other samples (like wall cavity samples) will lead to misleading results.

** The spores of *Penicillium* and *Aspergillus* (and others such as *Acremonium* and *Paecillomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by spore trap sampling methods. Also some species with very small spores are easily missed, and may be undercounted. The *Penicillium*/*Aspergillus* indicator operates on the assumption that the majority of the spores in this category are, in fact, *Penicillium* or *Aspergillus*.

*** The spores reported in this category come from many different mold types. As a result, the mold types represented by the counts for the "Location" sample may be different than the mold types represented by the counts for the outside sample. The totals shown are the summation of the rounded values for the spores types in the category and may contain more than two significant figures.

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Other "normal trapping" spores***

Exposure Level (Highly unlikely to be from indoors)
Lower <200 1K Higher 10K >70K Location spores/m3 raw ct 160 3

Location	Outside
Sample volume (liters)	75 150

†A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Total spores/m3 has been rounded to two significant figures to reflect analytical precision.

The analytical sensitivity is the spores/m3 divided by the raw count, expressed in spores/m3. The limit of detection is the analytical sensitivity (in spores/m3) multiplied by the sample volume (in liters) divided by 1000 liters.

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Client: ASAP Environmental, Inc.
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Date of Report: 09-18-2018

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EMLab P & K
3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
(866) 871-1984 Fax (856) 334-1040

Detailed Results of the Air Sample Analysis

Location	Overall Mold Source Assessment* (Likelihood spores originated inside)			Overall Exposure Level (Shown on a log scale)				Outside 19446814-1	
Lab ID-version:† 9446812-1	Lower <110	Higher 200	Mold Score 300	Lower <200	1K	Higher 10K	Location >70K spores/m ³	raw ct	spores/m ³
15: Room Staff Development Room			300				20,000	367	14,000
									520

Indicators of Mold Growth Indoors

A) *Penicillium/Aspergillus* types**

Indicator Mold Source Assessment* (Likelihood spores originated inside)	Indicator Exposure Level (Shown on a log scale)				Outside	
Lower <110	Higher 200	Mold Score 300	Lower <200	1K	Higher 10K	Location >70K spores/m ³
		100				270
						5

B) *Cladosporium* species spores

		113				2,500	46	2,300	87
--	--	-----	--	--	--	-------	----	-------	----

C) Basidiospores

		300				16,000	300	8,600	322
--	--	-----	--	--	--	--------	-----	-------	-----

D) "Marker" spore types***

		100				<13	0	<7	0
--	--	-----	--	--	--	-----	---	----	---

E) "Other" spore types***, ****

		150				803	15	1,641	62
--	--	-----	--	--	--	-----	----	-------	----

1) Smuts, *Periconia*, *Myxomycetes*

2) *Alternaria* 3) *Pithomyces*

4) *Nigrospora*

Other Sample Information

Sample clarity & visibility

	Good	Moderate	Poor
Location		X	
Outside		X	

*Good = background debris is light enough to pose no difficulty in analyzing air samples.
 **Poor = background debris so heavy that it poses a significant difficulty in analyzing the air sample accurately. Results are most likely lower limits.

Other "normal trapping" spores***

Exposure Level (Highly unlikely to be from indoors)				Outside	
Lower <200	1K	Higher 10K	Location >70K spores/m ³	raw ct	spores/m ³
				53	1
					983

Location	Outside
Sample volume (liters)	75
	150

Comments

Location	None
Outside	None

* Rated on a scale from low to high. A MoldSCORE™ rating of <150 is low and indicates a low probability of spores originating inside. A MoldSCORE™ rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A MoldSCORE™ between 150 and 250 indicates a moderate likelihood of indoor fungal growth. EMLab P&K's MoldSCORE™ analysis is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the MoldSCORE™ analysis on other samples (like wall cavity samples) will lead to misleading results.

** The spores of *Penicillium* and *Aspergillus* (and others such as *Acremonium* and *Poecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by spore trap sampling methods. Also some species with very small spores are easily missed, and may be undercounted. The *Penicillium/Aspergillus* indicator operates on the assumption that the majority of the spores in this category are, in fact, *Penicillium* or *Aspergillus*.

*** The spores reported in this category come from many different mold types. As a result, the mold types represented by the counts for the "Location" sample may be different than the mold types represented by the counts for the outside sample. The totals shown are the summation of the rounded values for the spores types in the category and may contain more than two significant figures.

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Client: ASAP Environmental, Inc.

Contact: Mr. Christopher Maracic

Project: Green Meadows School; 5 Tiger Drive, Maynard, MA

Date of Sampling: 09-17-2018

Date of Receipt: 09-18-2018

Date of Report: 09-18-2018

MoldREPORT

EMLab P & K

3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030

(866) 871-1984 Fax (856) 334-1040

Detailed Results of the Air Sample Analysis

Location Lab ID-version:† 9446813-1	Overall Mold Source Assessment* (Likelihood spores originated inside)			Overall Exposure Level (Shown on a log scale)				Outside †9446814-1	
	Lower <110	Higher 200	Mold 300 Score	Lower <200	1K	10K	Higher >70K spores/m ³	Location raw ct	Outside spores/m ³
16: Room Front Entry Foyer			290					15,000	275
								14,000	520

Indicators of Mold Growth**Indoors**A) *Penicillium*/*Aspergillus* types**

Indicator Mold Source Assessment* (Likelihood spores originated inside)		
Lower <110	Higher 200	Mold 300 Score
		235

Indicator Exposure Level (Shown on a log scale)				Location		Outside	
Lower <200	1K	10K	Higher >70K spores/m ³	raw ct		spores/m ³	raw ct
				1,300	24	320	12

B) *Cladosporium* species spores

		196
--	--	-----

		3,900	73	2,300	87
--	--	-------	----	-------	----

C) Basidiospores

		100
--	--	-----

		6,500	121	8,600	322
--	--	-------	-----	-------	-----

D) "Marker" spore types***

		100
--	--	-----

		<13	0	<7	0
--	--	-----	---	----	---

E) "Other" spore types***, ****

		290
--	--	-----

		2,453	46	1,641	62
--	--	-------	----	-------	----

1) Smuts, *Periconia*, *Myxomycetes*2) *Pithomyces*3) *Curvularia*4) *Torula***Other Sample Information**

Sample clarity & visibility

	Good	Moderate	Poor
Location		X	
Outside		X	

"Good" = background debris is light enough to pose no difficulty in analyzing air samples.

"Poor" = background debris so heavy that it poses a significant difficulty in analyzing the air sample accurately. Results are most likely lower limits.

Other "normal trapping" spores***

Exposure Level (Highly unlikely to be from indoors)				Location		Outside	
Lower <200	1K	10K	Higher >70K spores/m ³	raw ct		spores/m ³	raw ct
				590	11	983	37

Sample volume (liters)		Location	Outside
		75	150

Comments

Location	None
Outside	None

* Rated on a scale from low to high. A MoldSCORE™ rating of <150 is low and indicates a low probability of spores originating inside. A MoldSCORE™ rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A MoldSCORE™ between 150 and 250 indicates a moderate likelihood of indoor fungal growth. EMLab P&K's MoldSCORE™ analysis is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the MoldSCORE™ analysis on other samples (like wall cavity samples) will lead to misleading results.

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*** The spores reported in this category come from many different mold types. As a result, the mold types represented by the counts for the "Location" sample may be different than the mold types represented by the counts for the outside sample. The totals shown are the summation of the rounded values for the spores types in the category and may contain more than two significant figures.

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†A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Total spores/m³ has been rounded to two significant figures to reflect analytical precision.

The analytical sensitivity is the spores/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) multiplied by the sample volume (in liters) divided by 1000 liters.

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Client: ASAP Environmental, Inc.
Contact: Mr. Christopher Maracic
Project: Green Meadows School; 5 Tiger Drive, Maynard, MA
Date of Sampling: 09-17-2018
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MoldREPORT
EMLab P & K
3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
(866) 871-1984 Fax (856) 334-1040

Understanding Your Air Sample Analysis Results

Description of the Air MoldREPORT™ Analysis

Mold spores are present in virtually all environments, both indoors and outdoors, with a few notable exceptions such as industrial clean rooms and hospital organ transplant rooms. Generally, in "normal" or "clean" indoor environments, indoor spore levels are lower, on average, than outdoor levels. However, even the most simple rules (such as "inside/outside" ratios) are not always appropriate for determining whether there is a source of mold growth indoors, and may provide false or misleading results. One reason these simple methods do not always work is because both outdoor and indoor spores levels vary widely due to factors such as weather conditions and activity levels within the room. For example, even in a "normal" home, spore levels can be higher than outdoors at certain times, such as after vacuuming (when airborne indoor levels could be unusually high) or after a heavy snow (when outdoor levels could be unusually low).

MoldREPORT™ is designed and intended to provide an easily understood report for residential home inspections to help in the assessment of mold growth in the living areas sampled. MoldREPORT™ relies on non-invasive and non-destructive tests, so it cannot guarantee that hidden mold problems will be detected and reported. MoldREPORT™ results apply only to the rooms or areas tested, at the time of sampling. Factors taken into consideration include, but are not limited to, the distribution of spore types, absolute levels inside and outside, relative levels inside and outside, the range and variation of spore levels that normally occur outside, and the types of spores present.

Providing you with a helpful, understandable and top quality interpretation requires special expertise. EMLab P&K recognizes this and has taken the following steps to provide the best possible interpretation of your air sampling results.

1. Your samples were analyzed by EMLab P&K,
2. We utilize the proprietary MoldREPORT™ analysis system, which was developed by a team including leading professionals in the indoor air quality (IAQ) industry.

MoldSCORE™

The MoldSCORE™ indicates the likelihood, based upon the air sample laboratory data, that there is unusual or excessive mold growth in the properly sampled indoor area(s). It is calculated using EMLab P&K's proprietary MoldREPORT™ system, based upon the indicator scores described in the following paragraphs. When the on-site inspection and sampling are done properly, MoldREPORT™ is less likely to give false results than other, simpler methods of interpretation often employed for routine home inspections, such as ratio analysis. It is important to bear in mind that any analytical method, findings, and interpretation should be used with a degree of caution and common sense. Any decisions related to health should be made in consultation with a medical doctor, and nothing in this report is intended to provide medical advice or indicate whether a medical or safety problem exists.

Descriptions of the indicators:

Quantity and concentration of *Penicillium*/*Aspergillus* spore types

This score indicates the likelihood that spores of *Penicillium* or *Aspergillus* present in the indoor sample originated from indoor sources. A high score suggests that there is a high probability that *Penicillium* or *Aspergillus* is originating indoors, such as from active mold growth. A low score indicates that the spores present are more likely to have originated from outdoor sources and come inside through doors and windows, carried in on people's clothing, or similar methods. *Penicillium* and *Aspergillus* are among the most common molds found growing indoors and are one of the more commonly found molds outside as well. Their spores are frequently present in both outdoor and indoor air, even in relatively clean, mold-growth-free, indoor environments. Additionally, their levels vary significantly based upon activity levels, dustiness, weather conditions, outside air exchange rates, and other factors.

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EMLab ID: 2003447, Page 21 of 31

Client: ASAP Environmental, Inc.

Contact: Mr. Christopher Maracic

Project: Green Meadows School; 5 Tiger Drive, Maynard, MA

Date of Sampling: 09-17-2018

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MoldREPORT

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3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030

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Understanding Your Air Sample Analysis Results (continued)

Quantity and concentration of *Cladosporium* spores

This score indicates the likelihood that spores of *Cladosporium* present in the indoor sample originated from indoor sources. A high rating indicates that there is probably a source of *Cladosporium* spores in this location.

Cladosporium is one of the most commonly found molds outdoors and is also frequently found growing indoors. Even more so than *Penicillium* and *Aspergillus*, spores from *Cladosporium* are generally present in outdoor and indoor air, even in relatively clean, mold-growth-free, indoor environments. Its levels also vary based upon activity levels, weather conditions, dustiness, outside air exchange rates, and other factors.

Quantity and concentration of basidiospores

This score indicates the likelihood that basidiospores present in the indoor sample originated from indoor sources. Basidiospores are extremely common outdoors and originate from fungi in gardens, forests, and woodlands. It is rare for the source of basidiospores to be indoors because basidiospores are produced by a group of fungi that includes mushrooms and other "macrofungi" (and are not technically molds). Their concentrations can be extremely high outdoors during wet conditions such as rain. Nevertheless, in certain conditions basidiospores can be produced indoors, and a high rating indicates that there is probably a source of basidiospores indoors. One reason basidiospores are important is that they can be an indicator of wood decay (e.g. "dry rot"), a condition that can dramatically reduce the structural integrity of a building.

Quantity and concentration of "marker" spore types

This score indicates the likelihood that certain distinctive types of mold present in the indoor sample originated from indoor sources. Certain types of mold are generally found in very low numbers outdoors. Consequently, their presence indoors, even in relatively low numbers compared to *Penicillium*, for example, is often an indication that these molds are originating from growth indoors. When present, these mold types are often the clearest indicator of a mold problem. Note, however, that the absence of marker spore types does not mean that a mold problem does not exist in a house; it just means that if a problem is present, it either involves types of mold that are more commonly found both indoors and outdoors, or that the spores from these molds were not airborne at the time of sampling.

Quantity and concentration of "other" spore types

This score indicates the likelihood that other types of mold present in the indoor sample originated from indoor sources. This score includes a heterogeneous group of genera that are not covered by any of the scores discussed above, and so it is difficult to make generalizations about this group. Molds in the "other" category are generally found outdoors in moderate numbers, and are therefore not considered markers of indoor growth. They are frequently found indoors but in lower numbers compared to *Cladosporium* and *Penicillium/Aspergillus* spores.

Other Sample Information:**Sample clarity and visibility**

Air samples collect dirt and debris in addition to mold spores. Higher levels of debris make analysis more difficult, because they obscure the analyst's view of spores and can therefore lead to undercounting of the mold spores present. When sample clarity and visibility is rated "poor", the analytical results should be regarded as minimal and actual counts may be higher than reported.

Other "normal trapping" spores

Some molds do not grow on wet building materials and, consequently, are not usually indicative of building problems, or growth on building surfaces. Strict plant pathogens, for example, even if present in high numbers indoors, are not an indication of a building leak or mold growth on a wall or carpet. This section of the report focuses on the exposure level that may be due to these spore types.

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EMLab ID: 2003447, Page 22 of 31

Client: ASAP Environmental, Inc.

Contact: Mr. Christopher Maracic

Project: Green Meadows School; 5 Tiger Drive, Maynard, MA

Date of Sampling: 09-17-2018

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MoldREPORT

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Understanding Your Air Sample Analysis Results (continued)

Sample volume

The "sample volume" indicates the volume of air sampled and is reported in liters. A high volume indicates a greater sensitivity, but is more likely to result in poor sample clarity and visibility. A low volume is more likely to have good sample clarity and visibility, but has less sensitivity.

Comments

This is where analysts can comment on unusual details or add additional information that is not captured by the other areas of the air sampling report.

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Interpretive Guidelines to MoldSCORE™ Levels

MoldSCORE™ Level: LOW

A low MoldSCORE™ indicates the air sample did not detect, relative to the outside air, the presence of indoor mold growth in this room at the time of sampling. This result, by itself, is evidence for, but does not prove, the absence of indoor mold growth in the location sampled.

Mold is a living organism that can grow very rapidly under certain conditions. If any portion of the room tested is, or has been, damp for an extended period since the time of testing, the likelihood of mold growth may have increased substantially since the time of the inspection.

MoldSCORE™ Level: MODERATE

The air sampling MoldSCORE™ indicated the possibility of mold growth indoors. Generally, a MODERATE level means that the results are inconclusive, and suggests that a more detailed inspection may make sense if there are any other reasons to believe that mold growth could be a problem in this location. Indoor mold growth is a possibility, but was not confirmed in the areas sampled at the time of the inspection. Factors such as recent cleaning, HVAC cycles, high winds, rain, or other indoor or outdoor conditions could have contributed to a MODERATE result in the absence of indoor mold growth. If mold growth is found, regardless of the magnitude of the growth, it is recommended that the growth be physically removed using appropriate controls and precautions. If mold has been located and removed, it is also important to identify and correct the source of moisture or dampness that allowed the mold to grow. If the affected area becomes moist again, mold growth will occur again. We recommend that you consult a professional if you are not familiar with how to locate and safely remove mold growth or how to identify and correct moisture problems that may exist.

Mold is a living organism that can grow very rapidly under certain conditions. If any portion of the room tested is, or has been, damp for an extended period since the time of testing, the likelihood of mold growth may have increased substantially since the time of the inspection.

MoldSCORE™ Level: HIGH

The air sampling MoldSCORE™ indicated a high likelihood of mold growth in the area tested at the time of the inspection. This result is NOT necessarily an indication that any such mold growth was extensive. If mold growth is found, regardless of the magnitude of the growth, it is recommended that the growth be physically removed using appropriate controls and precautions. If mold has been located and removed, it is also important to identify and correct the source of moisture or dampness that allowed the mold to grow. If the affected area becomes moist again, mold growth will occur again. We recommend that you consult a professional if you are not familiar with how to locate and safely remove mold growth or how to identify and correct moisture problems that may exist.

Health concerns

Neither this report nor any MoldSCORE™ rating is intended to provide medical advice, nor shall it be interpreted as an indicator of potential medical or safety problems. If you have concerns or questions relating to your health, please contact your physician for advice.

Client: ASAP Environmental, Inc.
Contact: Mr. Christopher Maracic
Project: Green Meadows School; 5 Tiger Drive, Maynard, MA
Date of Sampling: 09-17-2018
Date of Receipt: 09-18-2018
Date of Report: 09-18-2018

MoldREPORT
EMLab P & K
3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
(866) 871-1984 Fax (856) 334-1040

Important Information, Terms and Conditions Relating to your MoldREPORT™

The study and understanding of molds is a progressing science. Because different methods of sampling, collection and analysis exist within the indoor air quality industry, different inspectors or analysts may not always agree on the mold concentrations present in a given environment. Additionally, the airborne levels of mold change frequently and by large amounts due to many factors including activity levels, weather, air exchange rates (indoors), and disturbance of growth sites. It is possible for report interpretations and ranges of accuracy to vary since comprehensive, generally accepted industry standards do not currently exist for indoor air quality inspections of mold in residential indoor environments. MoldREPORT™ is intended to provide an analysis based upon samples taken at the site at the time of the inspection. Mold levels can and do change rapidly, especially if home building materials or contents remain wet for more than 24 hours, or if they are wet frequently. MoldREPORT™ is not intended to provide medical or healthcare advice. All allergy or medical-related questions and concerns, including health concerns relating to possible mold exposure, should be directed to a qualified physician. If this report indicates scores that are higher than in typical indoor living spaces relative to the outdoor environment, or indicates any findings that are of concern to you, further evaluation by a trained mold professional or a Certified Industrial Hygienist (CIH) may be advisable.

Warranties, legal disclaimers and limitations

MoldREPORT™ is designed and intended for use only in residential home inspections to help in the assessment of mold growth in the living areas sampled. Our laboratory analysis and report are based on the samples submitted to EMLab P&K. The inspection(s) and sampling should be performed only by a licensed and professional home inspector, environmental mold specialist, industrial hygienist or residential appraiser trained and qualified to conduct mold inspections in residential buildings. Client agrees to these conditions for the on-site project inspection.

This MoldREPORT™ is generated by EMLab P&K at the request of, and for the exclusive use of, the EMLab P&K client named on this report. The analysis of the test samples is performed by EMLab P&K. EMLab P&K's policy is that reports and test results will not be released to any third party without prior written consent from EMLab P&K's client. This report applies only to the samples taken at the time, place and location referenced in the report and received by EMLab P&K, and to the property and weather conditions existing at that time only. Please be aware, however, that property conditions, inspection findings and laboratory results can and do change over time relative to the original sampling due to changing conditions, the normal fluctuation of airborne mold, and many other factors. Client and reader are advised that EMLab P&K does not furnish, and has no responsibility for, the inspector or inspection service that performs the inspection or collects the test samples. It is the responsibility of the end-user of this report to select a properly trained professional to conduct the inspection and collect appropriate samples for analysis and interpretation by MoldREPORT™. None of EMLab P&K, EMLab P&K or their affiliates, subsidiaries, suppliers, employees, agents, contractors and attorneys (each an "EMLab P&K-related party") are able to make and do not make any determinations as to the safety or health condition of a property in this report. The client and client's customer are solely responsible for the use of, and any determinations made from, this report, and no EMLab P&K-related party shall have any liability with respect to decisions or recommendations made or actions taken by either the client or the client's customer based on the report.

Except as expressly provided for hereunder, each EMLab P&K-related party hereby expressly disclaims any and all representations and warranties of any kind or nature, whether express, implied or statutory, related to the testing services or this report. Additionally, neither this report nor any EMLab P&K-related party make any express or implied warranty or guarantee regarding the inspection or sampling done by the inspector, the qualifications, training or sampling methodology used by the inspector performing the sampling and inspection reported herein, or the accuracy of any information provided to any EMLab P&K-related party serving as a basis for this report. EMLab P&K reserves the right to change its scoring method at any time without notice. EMLab P&K reserves the right to dispose of samples two weeks after analysis unless otherwise specified by the client. If the client chooses to have EMLab P&K continue to retain the samples after this two week period, the client must provide written notification to EMLab P&K of this request. EMLab P&K reserves the right to charge for the additional sample storage.

In no event will any EMLab P&K-related party be liable for any special, indirect, incidental, punitive, or consequential damages of any kind regardless of the form of action whether in contract, tort (including negligence), strict product liability or otherwise, arising from or related to the testing services or this report. The aggregate liability of the EMLab P&K-related parties related to or arising from this report, whether under contract law, tort law, warranty or otherwise, shall be limited to direct damages not to exceed the fees actually received by EMLab P&K from the client for the report.

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EMLab ID: 2003447, Page 25 of 31

Client: ASAP Environmental, Inc.

Contact: Mr. Christopher Maracic

Project: Green Meadows School; 5 Tiger Drive, Maynard, MA

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Scope and Limitations of Report and Analysis

The scope of the MoldREPORT™ system is limited to EMLab P&K's proprietary MoldSCORE™ analysis of the air and surface samples taken at the time of the inspection. EMLab P&K cannot be liable, in any form of action, for any items that are not included within the scope of the MoldREPORT™ system.

MoldREPORT™ Inspection Limitations

MoldREPORT™ results are based upon mold air and surface samples. Mold surface samples are useful for confirming and identifying mold growth while air samples measure airborne mold levels.

This report provided by EMLab P&K is based upon the assumption that the information provided by the inspector is true and correct, that a sufficient number of mold and air samples were collected at all the appropriate locations following proper inspection and sampling protocols, and that the mold samples collected represent normal conditions at the site sampled. EMLab P&K is not able to, and cannot, guarantee the skill level or experience of the inspector performing the MoldREPORT™ inspection, nor can it guarantee that the samples have been properly collected at the site or are representative of normal conditions since many factors outside of EMLab P&K's (and the inspector's) control can and do substantially affect mold levels. Consequently, EMLab P&K cannot guarantee the accuracy of the interpretation provided herein. It is the responsibility of the inspector to insure that the mold samples were collected properly. MoldREPORT™ relies on non-invasive and non-destructive tests, so it cannot guarantee that hidden mold problems will be detected and reported. MoldREPORT™ results apply only to the rooms sampled, not to the entire building or any other rooms. It is the responsibility of the property owner, potential purchaser or other end-user of this report to select a properly trained and qualified inspector.

About Air Sample Sampling and Analysis

EMLab P&K requires at least one outdoor air sample and one indoor air sample in order to make indoor/outdoor comparisons and assessments of airborne mold levels, which are an integral part of the EMLab P&K MoldREPORT™ system. The indoor air samples taken can be representative of the airborne mold present in the area sampled. The analysis and interpretation of these air samples is proprietary and is based upon: relative levels of spores present, quantities and concentration of *Penicillium*/*Aspergillus* type spores, quantity and concentration of *Cladosporium* spores, quantity and concentration of basidiospores, quantity and concentration of "marker" spore types, quantity and concentration of "other" spore types, and the distribution of mold spore types. Spore identification is performed visually by trained analysts according to industry norms. Using visual identification, most mold spores lack sufficient distinguishing characteristics to allow for species identification, so the MoldREPORT™ analysis is generally performed at the genus level. Currently there are no generally-accepted protocols or regulations regarding air sampling for molds, in large part due to the inability of any single technique to provide a complete analysis of all mold spores and mold growth in an area. Air sampling for MoldREPORT™ can be performed using any standard "spore trap" method, which are also called "non-viable air sampling methods" because spore traps do not require the germination and growth of the spores before identification. Commonly used spore trap equipment for performing air sampling for mold includes Zefon Air-O-Cell™ Cassettes, Burkard™ samplers, and Allergenco™ samplers.

About Surface Sampling and Analysis

Surface sampling can be useful for differentiating between mold growth and stains, for identifying the type of mold growth present (if present), and, in some cases, identifying signs of mold growth in the vicinity. Although not required, surface sampling can improve the accuracy of the results and interpretation of the inspected environment if sampled correctly. EMLab P&K accepts surface samples in the form of swabs, tapes, or bulks in order to perform a direct examination of a specific location. The MoldREPORT™ analysis system uses the direct examination data in addition to the MoldREPORT™ air sample analysis.

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Glossary

Background Debris - Material(s) found on the air sample other than mold spore(s) or mycelia. Examples include skin cells, insect parts, and fibers.

False Positive - A test result that incorrectly indicates mold growth, when in reality there is none. For example, an air sample test result indicating indoor mold growth, when no mold growth is actually present is a "False Positive."

False Negative - A test result that shows no mold growth, when in reality mold growth is present. For example, an air sample test result indicating no indoor mold growth, when mold growth is actually present.

Fungi - A kingdom that includes yeasts, molds, smuts, and mushrooms. Fungi are not animals, plants or bacteria, but their own kingdom.

HVAC - Heating, Ventilation, and Air Conditioning (HVAC) systems are possible reservoirs for mold growth.

IAQ - Indoor Air Quality (IAQ) is the main focus of EMLab P&K and the majority of its customers.

Industrial Hygienist - A professional who monitors exposure to environmental factors that can affect human health. Examples of environmental factors include chemicals, heat, asbestos, noise, radiation, and biological hazards.

Marker Spores - Spore types, such as *Chaetomium* and *Stachybotrys*, that when found indoors, even in moderate numbers are an indication of indoor mold growth.

Note: This glossary is intended to provide general information about commonly occurring molds, and is not intended to be a complete source.

Alternaria:

Distribution: *Alternaria* is one of the most common molds and is abundant worldwide. This genus contains around 40 to 50 different species, only a few of which are commonly found indoors.

How it is spread: *Alternaria* spores are easily dispersed through the air by wind.

Where it is found outdoors: *Alternaria* is common outdoors in soil, dead organic debris, foodstuffs, and textiles. It is also a plant pathogen and is frequently found on dead or weakened plants.

Where it is found indoors: *Alternaria* can grow on a variety of substrates indoors when moisture is present.

Acremonium:

Distribution: *Acremonium* is a common mold, including about 80 to 90 different species.

How it is spread: *Acremonium* produces wet slimy spores and is normally dispersed through water flow or droplets, or by insects. Old dry *Acremonium* spores can sometimes be dispersed through the air by wind.

Where it is found outdoors: *Acremonium* is found in soil, on dead organic material and debris, hay, and foodstuffs.

Where it is found indoors: *Acremonium* can be found anywhere indoors, but requires very wet conditions in order to proliferate. The spores probably require active disturbance for release.

***Aspergillus:* (see *Penicillium/Aspergillus*)**

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Glossary (continued)

Basidiospores:

Distribution: Basidiospores are produced by a very large and diverse group of fungi called basidiomycetes, which contains over 1000 different genera. This group includes many well-known macrofungi, such as mushrooms. Basidiospores are often abundant in outdoor air and sometimes in indoor air.

How they are spread: Many types of basidiospores are actively released into the air during periods of high humidity or rain. Once the spores are expelled into the air, they are dispersed easily by wind.

Where they are found outdoors: Basidiomycetes are very common outdoors and can be found in gardens, forests, grasslands, and anywhere there is a substantial amount of dead organic material. They are also found on or near plants and some are known to be plant pathogens.

Where they are found indoors: Basidiospores found indoors typically come from outdoor sources and are carried inside by airflow or on clothing. Certain kinds of basidiomycetes can grow indoors, such as those that cause "dry rot", which can cause structural damage to wood. Occasionally, other basidiomycetes such as mushrooms can be found indoors, but this is not common. Generally, basidiomycetes require wet conditions for prolonged periods in order to grow indoors.

Bipolaris / Dreschlera:

Distribution: *Bipolaris* and *Dreschlera* are two separate genera of molds that are so visually similar that they are commonly discussed together as a group. Both genera include around 30 - 40 different species.

How they are spread: *Bipolaris / Dreschlera* spores are easily dispersed through the air by wind.

Where they are found outdoors: *Bipolaris / Dreschlera* type spores are most abundant in tropical or subtropical climates. They can grow in soils, on plant debris and grasses, and are known to be plant pathogens.

Where they are found indoors: *Bipolaris / Dreschlera* can grow on a variety of indoor substrates when moisture is present.

Ceratocystis / Ophiostoma:

Distribution: *Ceratocystis / Ophiostoma* are two separate genera of molds that are so visually similar that they are commonly discussed together as a group. These genera contain around 50 to 60 different species.

How they are spread: *Ceratocystis / Ophiostoma* produce wet slimy spores and are normally dispersed through water flow, droplets, or by insects. These spores are rarely identified in air samples.

Where they are found outdoors: *Ceratocystis / Ophiostoma* are very common in commercial lumberyards and forests.

Where they are found indoors: *Ceratocystis / Ophiostoma* are abundant on wood framing material in the home, although the spores are rarely found in air samples. This mold is sometimes called "lumber mold".

Chaetomium:

Distribution: *Chaetomium* is a common mold worldwide. This genus contains around 80 - 90 different species.

How it is spread: *Chaetomium* spores are formed inside fruiting bodies. The spores are released by being forced out through a small opening in the fruiting body. The spores are then dispersed by wind, water drops, or insects.

Where it is found outdoors: *Chaetomium* can be found in soil, on various seeds, cellulose substrates, dung, woody materials and straw.

Where it is found indoors: *Chaetomium* can grow in a variety of areas indoors, but is usually found on cellulose-based or woody materials in the home. It is very common on sheetrock paper that is or has been wet.

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Glossary (continued)

Cladosporium:

Distribution: *Cladosporium* is an abundant mold worldwide and is normally one of the most abundant spore types present in both indoor or outdoor air samples. This genus contains around 20 - 30 different species.

How it is spread: *Cladosporium* produces dry spores that are formed in branching chains. Spores are released by twisting of the spore-bearing hyphae as they dry. Thus, the spores are most abundant in dry weather.

Where it is found outdoors: *Cladosporium* is found in a wide variety of soils, in plant litter, and on old and decaying plants and leaves. Some species are plant pathogens

Where it is found indoors: *Cladosporium* can be found anywhere indoors, including textiles, bathroom tiles, wood, moist windowsills, and any wet areas in a home. Some species of *Cladosporium* grow at temperatures near or below 0(C) / 32(F) and can often be found on refrigerated foodstuffs and even frozen meat.

Curvularia:

Distribution: *Curvularia* is a cosmopolitan fungus and includes approximately 30 different species.

How it is spread: *Curvularia* produces dry spores that are formed in fragile chains and is very easily dispersed through the air by wind.

Where it is found outdoors: *Curvularia* is most common in tropical or subtropical regions. It is found in soil and on debris of tropical plants.

Where it is found indoors: *Curvularia* can be found growing on a variety of substrates indoors.

Epicoccum:

Distribution: *Epicoccum* is a cosmopolitan mold that includes only two species.

How it is spread: *Epicoccum* produces large dry spores that are easily dispersed through the air by wind.

Where it is found outdoors: *Epicoccum* can be found in soils or on plant debris.

Where it is found indoors: *Epicoccum* is commonly found on many different substrates indoors including paper, textiles, and insects.

Memnoniella:

Distribution: *Memnoniella* is a cosmopolitan mold genus that includes approximately five species. It is frequently found in conjunction with *Stachybotrys* species due to its similar ecological preferences.

How it is spread: *Memnoniella* produces dry spores that are easily dispersed through the air by wind.

Where it is found outdoors: *Memnoniella* can be found outdoors in soil, in plant debris or litter, and as pathogens on some types of living plants.

Where it is found indoors: *Memnoniella* can grow on a variety of substrates indoors, but mainly can be found on wet cellulose-based materials, such as wallboard, jute, wicker, straw baskets, paper and other wood by-products.

Paecilomyces:

Distribution: *Paecilomyces* is ubiquitous in nature and includes between 9 and 30 different species, depending on the taxonomic system used. Its spores are visually similar to *Penicillium* / *Aspergillus* types of spores.

How it is spread: *Paecilomyces* produce dry spores that are easily dispersed through the air by wind.

Where it is found outdoors: *Paecilomyces* is found outdoors in soils and decaying plant matter, composting processes, legumes and cottonseeds. Some species parasitize insects.

Where it is found indoors: *Paecilomyces* can be found on a number of materials indoors. It has been isolated from jute fibers, papers, PVC, timber, optical lenses, leather, photographic paper, cigar tobacco, harvested grapes, bottled fruit, and fruit juice undergoing pasteurization.

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Glossary (continued)

Penicillium / Aspergillus:

Distribution: *Penicillium / Aspergillus* are two separate genera of molds that are so visually similar that they are commonly discussed together as a group. Together, there are approximately 400 different species of *Penicillium / Aspergillus*.

How it is spread: *Penicillium / Aspergillus* produce dry spore types that are easily dispersed through the air by wind. These fungi serve as a food source for mites, and therefore can be dispersed by mites and various insects as well.

Where it is found outdoors: *Penicillium / Aspergillus* are found in soils, decaying plant debris, compost piles, fruit rot and some petroleum-based fuels.

Where it is found indoors: *Penicillium / Aspergillus* are found throughout the home. They are common in house dust, growing on wallpaper, wallpaper glue, decaying fabrics, wallboard, moist chipboards, and behind paint. They have also been isolated from blue rot in apples, dried foodstuffs, cheeses, fresh herbs, spices, dry cereals, nuts, onions, and oranges.

Stachybotrys:

Distribution: *Stachybotrys* is ubiquitous in nature. This genus contains about 15 species.

How it is spread: *Stachybotrys* produces wet slimy spores and is commonly dispersed through water flow, droplets, or insect transport, less commonly through the air.

Where it is found outdoors: *Stachybotrys* is found in soils, decaying plant debris, decomposing cellulose, leaf litter and seeds.

Where it is found indoors: *Stachybotrys* is common indoors on wet materials containing cellulose such as wallboard, jute, wicker, straw baskets, and other paper materials.

Torula:

Distribution: *Torula* is a cosmopolitan microfungus and includes approximately eight different species.

How it is spread: *Torula* produces dry spores that are easily dispersed through the air by wind.

Where it is found outdoors: *Torula* is most common in temperate regions and has been isolated from soils, dead herbaceous stems, sugar beet roots, groundnuts, and oats.

Where it is found indoors: *Torula* is common indoors on wet materials containing cellulose, such as wallboard, jute, wicker, straw baskets, and other paper materials.

Ulocladium:

Distribution: *Ulocladium* is ubiquitous in nature and includes approximately nine different species.

How it is spread: *Ulocladium* produces dry spores that are easily dispersed through the air by wind.

Where it is found outdoors: *Ulocladium* is common outdoors in soils, dung, paint, grasses, wood, paper, and textiles.

Where it is found indoors: *Ulocladium* is common indoors on very wet materials containing cellulose such as wallboard, jute, wicker, straw baskets, and other paper materials. *Ulocladium* requires a significant amount of water to flourish.

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Bioaerosols, Harriet Burge, Ph.D. 1995. Lewis Publishers, 2000 Corporate Blvd., N.W., Boca Raton, FL 33431-9868.

Biological Contaminants in Indoor Environments, Morey, Feeley, Otten, Editors. 1990. ASTM, 1916 Race Street, Philadelphia, PA 19103. STP 1071.

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Useful Websites:

www.acgih.org

American Conference of Governmental Industrial Hygienists - information on IAQ and useful links.

www.aiha.org

American Industrial Hygiene Association - general IAQ information

www.calepa.ca.gov

California Environmental Protection Agency - California IAQ resources

www.emlab.com

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www.epa.gov

Environmental Protection Agency - information regarding prevention and remediation of mold

www.health.state.ny.us

New York State Department of Health - New York state recommendations for IAQ, indoor mold inspections, remediation, and prevention

www.moldreport.com

MoldREPORT™ - online store, and other information about MoldREPORT™

www.nih.gov

National Institutes of Health - information regarding environmental health issues, including IAQ

www.niehs.nih.gov

National Institute of Environmental Health Sciences - information on mold

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Client Sample ID: Cafe
Laboratory ID: 74740-1

Client: Mass. Teachers Association
48 Sword Street
Auburn, MA 01450

Report Number: 74740

Sampled By: Michael Sireci
Project: Green Meadow Elementary School
Location: 5 Tiger Drive
Maynard, Massachusetts

**Thank you for using
IAQ Commercial Survey!**
If you have questions about your report,
please contact your service provider who
performed this test.

Client Sample ID: Cafe
Sample Volume (L): 47.4
Date Sampled: 10/25/2018
Sample Type: TDT SS866
Sample Condition: Acceptable

Receive Date: 10/29/2018
Approve Date: 10/29/2018
Scan Date: 10/29/2018
Report Date: 10/31/2018

IAQ Commercial Survey™ is one of the most advanced, trusted air testing products on the market today for identifying chemical sources and active mold growth. Many indoor air quality (IAQ) issues identified by IAQ Commercial Survey can be easily remediated or eliminated. This test is an invaluable tool for improving air quality because it provides important information on potential contamination issues that cannot be detected by a visual inspection alone. Acting upon the information in this report will enable you to dramatically improve the air quality, creating a healthier environment.

Your Indoor Air Quality Report Summary

Your Indoor Air Quality Report has several sections describing different aspects of your air quality. A summary of this data is provided below, additional information and descriptions are included in the full report.

Total Volatile Organic Compounds (TVOC) Level

TVOC is a general indicator of the IAQ (see page 2).

Total VOCs 830 ng/L

Total Mold Volatile Organic Compounds (TMVOC) Level

TMVOC is an assessment of the actively growing mold (see page 3).

Total MVOCs 3 ng/L

Contamination Index (CI) Level

The CI shows the types of air-contaminating products and materials that are present in the sampled area (see pages 7 and 8). These levels are estimates based on common home products and activities.

Building Sources

See page 7 for more detail.

M	Coatings (Paints, Varnishes, etc.)
	PVC Cement
	Building Materials-Toluene Based
	Gasoline
	Fuel Oil, Diesel Fuel, Kerosene
	Light Hydrocarbons
	Light Solvents

Occupant Sources

See page 8 for more detail.

HFCs and CFCs (Freons™)
Personal Care and Cleaning Products
Odorants and Fragrances
Dry Cleaning Solvents

Note: Severity levels begin at Normal or Minimal and progress through Moderate, Elevated, High and/or Severe. The color progression from green to red indicates results that are increasingly atypical and suggest potentially higher risk.

Normal Moderate Elevated High Severe

Prism Analytical Technologies, the creator of IAQ Commercial Survey, has been performing air quality assessments to industry and environmental consultants since 1995. Prism Analytical Technologies (ID 166272) is accredited by the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC in the Industrial Hygiene accreditation program for GC/MS Field of Testing as documented by the Scope of Accreditation Certificate and associated Scope. This analysis references methods EPA TO-17 and ISO 16000-6, which fall within the Scope of Accreditation.

Total Volatile Organic Compound (TVOC) Summary

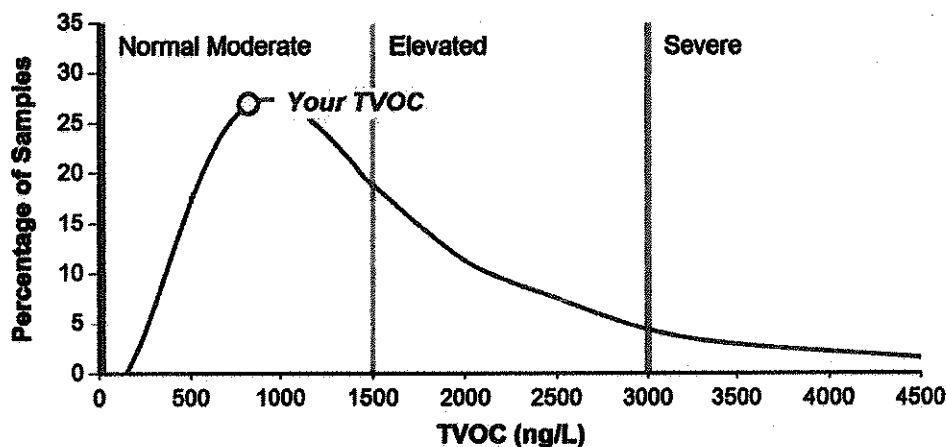
Your TVOC Level is: 830 ng/L

IAQ is borderline acceptable; some effect on occupants is possible; reduce potential sources and consider increasing ventilation.

Your Indoor Air Quality Level (Highlighted)

Normal	Moderate	Elevated	Severe
< 500 ng/L	500 - 1500 ng/L	1500 - 3000 ng/L	> 3000 ng/L

All IAQ Survey TVOC Air Quality Indicator



The average TVOC is
1900 ng/L

This chart represents the TVOC distribution of over 8,000 samples. Over 80% of these samples indicate improvements in IAQ are necessary to achieve the goal of TVOC less than 500 ng/L.

The chart above shows the TVOC levels for all locations tested using IAQ Survey. Results for this air sample are displayed on the chart as a yellow circle. The blue curved line represents the relationship between the percentage of locations (indicated on the vertical y-axis) and the TVOC level (indicated on the horizontal x-axis). The green, yellow, orange, and red vertical bars represent divisions between Normal, Moderate, Elevated, and Severe TVOC levels. As the TVOC value increases, individuals may experience aggravated health problems, and therefore, the need to address VOC issues becomes more critical. However, reductions in VOCs can be made at any level.

The U.S. federal government has not specified a TVOC limit for indoor air. However, the U.S. Green Building Council (USGBC) has recommended 500 ng/L as the upper TVOC limit. As the TVOC increases, the probability of adverse effects increases. The levels are based on observed health effects and have been determined from a combination of published journal articles (1, 2, 3) and the statistical distribution of TVOC concentrations from the IAQ Survey methodology.

The presence of chemicals in your sampled location can cause a wide range of problems, ranging from an unpleasant odor to physical symptoms (burning and irritation in the eyes, nose, and throat; headaches; nausea; nervous system effects; severe illness; etc.). In some cases, these conditions may make the location uninhabitable. Anyone with respiratory issues like asthma and allergies, as well as children, the elderly, and pregnant women are more susceptible to poor indoor air quality than healthy individuals. However, at higher TVOC levels even healthy individuals are likely to experience ill effects. The following websites can offer more information:

US EPA [Indoor Air Quality \(IAQ\)](#)
American Lung Association [Healthy Air at Work](#)
World Health Organization (WHO) [Guidelines for Indoor Air Quality](#)
Lawrence Berkeley National Laboratory [Indoor Volatile Organic Compounds \(VOCs\) and Health](#)

The Contamination Index (CI) in the next pages of this report will help guide you through determining what types of products or materials in the sampled location could be problematic for your IAQ and will provide some recommendations to help reduce or eliminate them.

1 L. Molhave, Volatile Organic Compounds, Indoor Air Quality and Health, Vol. 5, International Indoor Air Quality Conference, Toronto, Canada, 1990, p. 22 ff.
2 European Collaborative Action: Indoor Air Quality and its Impact on Man (ECA-IAQ), Report No 19 Total Volatile Organic Compounds (TVOC) in Indoor Air Quality Investigations, 1997. (from L. Molhave et al., Total Volatile Organic Compound (TVOC) in Indoor Air Quality Investigation, Indoor Air 1997; 225-240.)
3 T. Salthammer, Critical evaluation of approaches in setting indoor air quality guidelines and reference values, Chemosphere 82, 2011, 1507-1517.

Total Mold Volatile Organic Compound (TMVOC) Summary

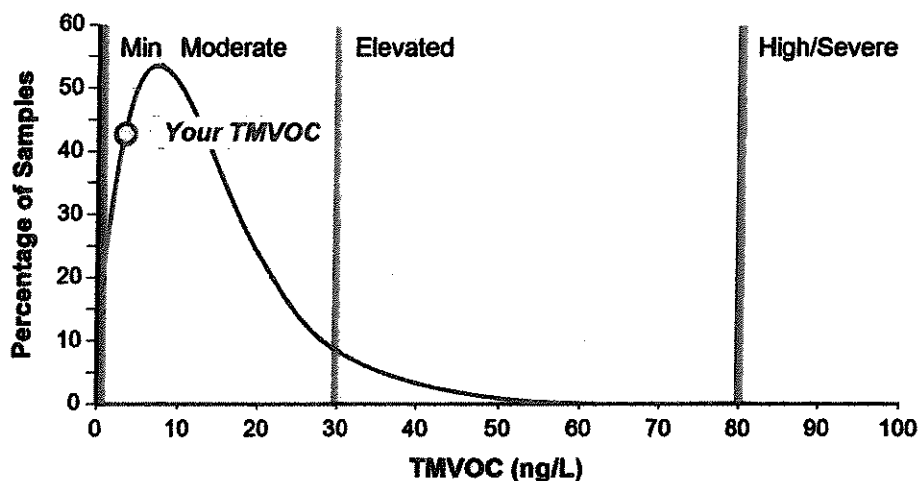
Your TMVOC Level is: 3 ng/L

Actively growing molds may be present, but are at or below levels found in most homes and working environments.

Your Active Mold Level (Highlighted)

Minimal	Active-Moderate	Active-Elevated	Active-High	Active-Severe
	8 - 30 ng/L	30-80 ng/L	80 - 150 ng/L	150 + ng/L

All IAQ Survey TMVOC Active Mold Growth Indicator



The average TMVOC is 10 ng/L

This chart represents the TMVOC distribution of over 8,000 samples. Approximately half the samples indicate that some active mold growth is occurring at the time of sample collection.

The chart above shows the TMVOC level for all locations tested using IAQ Survey. Results for this air sample are displayed on the chart as a yellow circle. The blue curved line represents the relationship between the percentage of locations (indicated on the vertical y-axis) and the TMVOC level (indicated on the horizontal x-axis). For example, a TMVOC of 20 ng/L is reported in ~20% of the samples. The green, yellow, orange, and red vertical bars represent divisions between Minimal, Moderate, Elevated, and High/Severe TMVOC levels.

Molds are fungi that grow in the form of multicellular filaments called hyphae that spread to form a network or colony called mycelium. There are thousands of known species of molds, although a much smaller number of mold species are commonly found in indoor environments.

Molds can affect humans and animals in their vicinity in several ways. The most commonly known aspect of molds is the spores they produce as their primary means of reproduction. Spores are released from the mature mold body and spread by air currents and on people, animals, or materials that travel from place to place. These spores can remain viable for a long time until they find a suitable environment and grow to form new colonies. In addition to spores, mycotoxins can also be released under certain situations. Mycotoxins are chemicals that are produced during certain parts of the mold life cycle and can evoke a toxic response (e.g., severe allergic reactions and respiratory irritation and exacerbation of asthma symptoms or other respiratory ailments) in humans and animals. Mycotoxins have low volatility, meaning they have relatively low concentrations in air, so contact or ingestion rather than inhalation is often the main route of exposure for these chemicals.

Finally, mold VOCs (MVOCs) are produced during the metabolic or digestive processes of molds and therefore can be used as an indicator of actively growing mold. When mold is in an inactive or dormant state it does not produce many MVOCs and so cannot be used as an indicator of inactive mold. There are a number of factors that can affect the production and movement of MVOCs, including but not limited to the genus/species, ventilation rates, temperature, humidity, growth surfaces, and competition from other molds. These factors make determination of the genus/species of mold very difficult so the presence of MVOCs indicates active mold growth but not the genus/species of the mold.

Total Mold Volatile Organic Compound (TMVOC) Summary

Mold can grow anywhere that satisfies four primary conditions.

1. Presence of mold spores – spores are everywhere and it is very difficult if not impossible to remove them completely.
2. Appropriate growth surface or nutrient source – molds are adaptable and can grow on almost any surface; many molds especially like cellulose-based materials (e.g., wood, drywall, insulation, cardboard, paper, carpet, etc.).
3. Appropriate temperature – although many molds grow best in warmer temperatures, given enough time mold can grow at almost any temperature condition.
4. Water – this is the most significant and most important criteria since the other conditions are too commonly available to be controlled. The consensus of most organizations with a perspective on air quality (e.g., WHO, EPA, AIHA, ASHRAE, etc.) is that controlling moisture and dampness is the only way to consistently control or limit mold growth.

Mold Sources

Since there are so many possible locations that mold can grow, it can be difficult to locate without visual indicators. However, there are some potential locations where molds are often found, as listed here.

- Air conditioning units or drain lines
- Near plumbing leaks
- Near roof or wall leaks
- Basement water intrusion from surrounding soil
- Any consistently humid area
- Near condensation around windows or any other condensation locations like exterior walls (typically where there is a temperature gradient that allows water to condense)
- Freezer/refrigerator door seals, drain lines, or drip pans; especially in summer
- Indoor plants
- Empty beverage containers and glasses, especially if left for trash or recycling without being rinsed out
- Wastebaskets and trash cans containing discarded food or wet items
- Stand pipes and traps
- Books, magazines, and newspapers if they have gotten wet or sit for a long time
- Outside mold, especially if the air intake is near the ground and landscaping near the building uses wood chips or mulch

Typically, if there is no plumbing leak, condensation, or water intrusion into the building, there will not be a mold problem. If active mold growth is indicated, the first step in fixing the problem is to find and repair the water intrusion or moisture build up.

Some new or extensively renovated buildings can have high MVOC results. Additional dampness is often introduced into a new building during the construction process (e.g., newly installed cement) and can lead to optimal mold growth conditions. Also, some building materials may have mold growth on them when they are installed due to exposure to water before installation. It is strongly recommended that new buildings or those with extensive renovation undergo a drying process to eliminate or reduce the potential for mold growth.

Total Mold Volatile Organic Compound (TMVOC) Summary

MVOC Interpretation

As described above, the TMVOC value is an assessment of the quantity of actively growing mold in the sampled location. Like TVOC, no government unit or organization has specified limits for TMVOC. The levels below describe the effects individuals exposed to these TMVOC values may experience. These levels are qualitative estimates of possible effects experienced by healthy individuals. Sensitive individuals or those with chronic or respiratory issues may experience effects at much lower levels. Mold may be visible on a surface but in an inactive state resulting in little or no production of MVOCs. Regardless of the TMVOC result if mold is visible it should be removed since molds may still produce spores or mycotoxins in an inactive state and new exposure to water or moisture can initiate new mold growth. Since MVOCs are VOCs, they can be affected by the same environmental conditions that affect other VOCs. Primarily lower temperature and higher air flow or ventilation will reduce MVOC concentrations. Any water or moisture issues should be addressed quickly to limit the potential for mold growth.

These levels were determined empirically through interaction with air quality professionals regarding the reported health effects experienced by individuals exposed to actively growing mold.

TMVOC (ng/L)	Level	Description
< 8	Minimal or Ambient	Actively growing molds may be present, but are at or below levels found in most buildings (i.e., these levels could be considered ambient or background).
8 - 30	Active - Moderate	Actively growing molds are present; individuals sensitive to molds will likely be affected. Investigate possible water or moisture sources. See Mold Sources.
30 - 80	Active - Elevated	Significant levels of actively growing molds are present; reactions or symptoms are probable. See Mold Sources
80-150	Active - High	High levels of actively growing molds are present; high probability that all occupants will be affected; take immediate action to locate and remove mold. See Mold Sources.
> 150	Active - Severe	Excessive levels of actively growing molds are present; all occupants will be affected; take immediate action to locate and remove mold. See Mold Sources.

Additional Information about Mold

* World Health Organization (WHO):

[WHO Guidelines for Indoor Air Quality – Dampness and Mold](#)

US Environmental Protection Agency (EPA):

[Molds and Moisture](#)

American Industrial Hygiene Association (AIHA)

[Position Statement on Mold and Dampness](#)

American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE):

[Limiting Indoor Mold and Dampness in Buildings](#)

(Position Documents; click on Limiting Indoor Mold and Dampness in Buildings)

Contamination Index™

The Contamination Index™ (CI) shows the types of air-contaminating products and materials that are present in the sampled area. Each CI category shows the approximate contribution of that category to the TVOC level, indicates how your location compares to thousands of other locations, and provides some suggestions about which products and materials might be the source for the VOCs. The CI is divided into two main source groups: Building Sources and Occupant Sources.

1. Building Sources are those that are typically part of the structure of the building and may be more difficult to reduce in the short term. Recent construction or renovation often increases the CI categories in this group to the Elevated, High, or Severe levels. VOCs from these activities often decrease substantially in the month following use or application of these products, especially if the area is flushed with air to dissipate the VOCs off gassed from the new products or materials.

2. Occupant Sources are those that the occupants of the building bring into the building and can usually be more readily identified and remediated. Recent construction or renovation can often contribute to other source categories in addition to Building Sources.

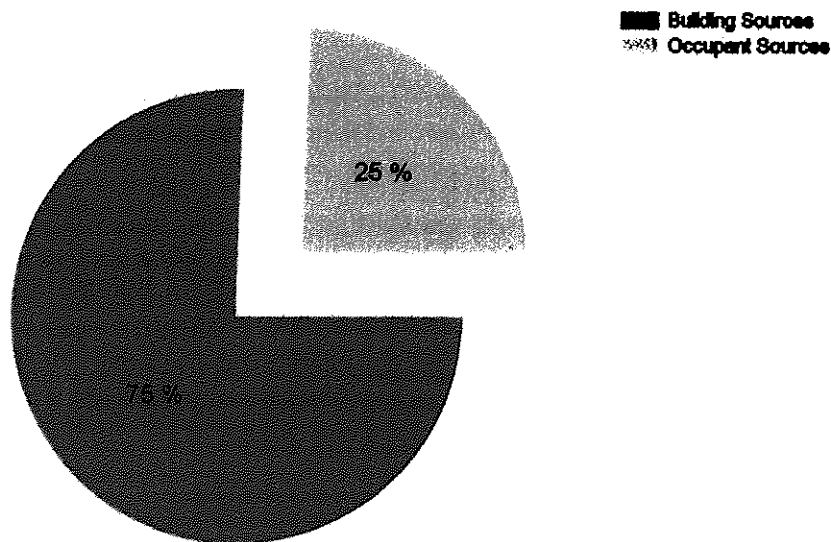
It is possible for a category listed in one source group to belong to another source group. For example, the 'Coatings' category is in the Building Sources group because the largest contribution is typically the paint on the walls, but cans of paint stored in a basement or storage area could be considered part of the Occupant Sources group. Always consider all possible sources for a particular CI category.

The CI categories comprise the most common sources but other products or activities may be present that are not included in the CI. The values assigned to each category are approximations based on typical office and commercial spaces. Locations with additional or atypical sources may require additional investigation to determine the source of certain chemicals that are not accurately represented by the CI.

Since there are potentially many sources of VOCs, buildings can often be re-contaminated even after sources have been removed because new products are constantly being brought into the building. Occupants should take note of this fact, and view IAQ as a continuous improvement process.

The chart below depicts the distribution of the Contamination Index source groups. These source groups are estimates and may not indicate all of the VOCs in your air sample.

Contamination Index Source Groups



Contamination Index™ Building Sources

Use the Contamination Index (CI) below to help you find products and materials in the sampled area that may be affecting your indoor air quality. Removing or reducing these products will improve your air quality. The concentrations reported here are approximate and may not add up to the TVOC value on page 2 of this report. These categories are typically part of the structure of the building and may be more difficult to reduce in the short term. Recent construction or renovation will often cause these categories to be elevated. Increased ventilation will help to reduce VOCs from construction or renovation sources. Levels indicated as Elevated, High, or Severe should be addressed immediately, and those listed as Moderate are areas that can be improved over time.

Building Sources	Contamination Index Category	Estimated VOC Level (ng/L)	Severity	Source Prediction & Suggestions for VOC Reduction
	Coatings (Paints, Varnishes, etc.)	410	Moderate	Includes interior and exterior paints (including low- or no-VOC paints), varnishes, lacquers, some sealants, and other products that can be classified as a coating over a surface. Typically, VOCs from these products are in the 10 to 14 carbon size range and can linger for several months, sometimes longer. Ventilate as much as possible during and after application of these products. Dispose of opened but unused products and related supplies if possible or store in areas that will minimize off gassing. Additional sources include fuel oil or diesel fuel.
	PVC Cement	0	Normal	PVC cement is used to join pieces of PVC pipe together, usually for plumbing.
	Building Materials-Toluene Based	0	Normal	Adhesives and glues used in construction and maintenance, arts and crafts; adhesive removers; contact cement; sealants; coatings (paint, polyurethane, lacquer, thinner); automotive products, including parts cleaners. Additional sources include gasoline and other fuels.
	Gasoline	17	Moderate	VOCs from gasoline are typically a result of off-gassing from gas containers, small spills, and gas-powered equipment used in facilities maintenance in nearby garage or storage areas. Most vehicles in good operating condition do not emit gasoline vapors due to the tightly sealed gas tank. This category does not include exhaust emissions. Gasoline VOCs can linger on clothing after refueling at a gas station. Gasoline includes chemical compounds that are also included in the Light Solvents category.
	Fuel Oil, Diesel Fuel, Kerosene	0	Normal	Typically found in garages and facilities maintenance areas. These fuels are not very volatile so they will not readily get into the air, but they can linger for a long time and produce a strong, unpleasant odor. This category does not include exhaust emissions. Additional sources include coatings such as paints, varnishes, sealants, waxes, etc.
	Light Hydrocarbons	6	Normal	Building materials; aerosol cans; liquefied petroleum gas (LPG); refrigerant; natural gas; propellant; blowing agent. Includes chemical compounds such as propane, butane, and isobutane.
	Light Solvents	34	Normal	Stoddard solvent; mineral spirits; some coatings (paints, varnish, enamels, etc.); wax remover; adhesives; automotive products; light oils. Typically, VOCs from these products are in the 6 to 9 carbon size range.

Contamination Index™ Occupant Sources

Use the Contamination Index (CI) below to help you find products and materials in the sampled area that may be affecting your indoor air quality. Removing or reducing these products will improve your air quality. The concentrations reported here are approximate and may not add up to the TVOC value on page 2 of this report. These categories are typically brought into the building by the occupants and can often be readily identified and removed or contained. Levels indicated as Elevated, High, or Severe should be addressed immediately, and those listed as Moderate are areas that can be improved over time.

Occupant Sources	Contamination Index Category	Estimated VOC Level (ng/L)	Severity	Source Prediction & Suggestions for VOC Reduction
	HFCs and CFCs (Freons™)	5		Most often used as refrigerants for air conditioners and refrigerator/freezers and propellants for blown-in insulation, cushions, aerosol cans, etc. Many of these chemical compounds are being phased out because of the Montreal Protocol.
	Personal Care and Cleaning Products	130		Personal care products such as soap, deodorant, lotions, perfumes, hair coloring supplies, nail care supplies, oral hygiene products, etc. Cleaning agents such as surface, window, and flooring products, also restroom and antibacterial products. These products contain many VOCs that will dissipate if use is discontinued or reduced.
	Odorants and Fragrances	18		Air fresheners, scented cleaning products, and scented personal care products.
	Dry Cleaning Solvents	1		Typical dry-cleaning methods employ the use of carcinogenic chemicals. Dry-cleaning should be allowed to vent outside, without plastics bags, before being placed inside.

Significant VOCs

Based upon your specific air analysis, the chemical compounds listed below are significant contributors to the TVOC level reported on page 2 of your IAQ Commercial Survey Report or are indicative of specific types of products or problems. Compounds from a variety of chemical classes are represented here, although only the most common or most notable are specifically listed. These chemical compounds may come from a variety of sources as shown in the Contamination Index section of this report. Many of these chemical compounds are commonly found in office and commercial locations. However, locating and removing the source of the chemical compound is the most effective way to reduce the contribution of that chemical compound to the TVOC, which ultimately leads to improved IAQ. If removing the source is not possible, try to contain it in some way (e.g., placing the source in an air-tight container when not in use). In addition, the ventilation system in some locations may not be optimized so evaluate the ventilation system and make adjustments to increase the amount of fresh air. Filter or purify re-circulated inside air to help reduce the TVOC. Since VOCs may continue to off-gas even when the sources are stored, ventilation and air-purification methods will need to be employed continuously in order to keep the VOC levels low. The Chemical Abstracts Service (CAS) registry number after the chemical compound name in the table below is a unique identifier for that chemical compound and is often the best means to search for additional information. The two VOC levels in the table below (ng/L and ppb) are different ways of describing the same concentration, in some cases exposure limits or other information may be described using one or both of these concentration units.

Compound	CAS	Estimated VOC Level (ng/L)	Estimated VOC Level (ppb)	Description
Ethanol	64-17-5	110	58	Cleaners, especially antiseptic wipes; personal care; consumable alcohol; some solvents; renewable gasoline component; pharmaceuticals
Limonene	138-86-3 or 5989-27-5	30	5	Limonene (CAS 138-86-3) or d-Limonene (CAS 5989-27-5) Fragrances; paints and coatings; cleaners; solvent; preservative
Acetone	67-64-1	29	12	Personal care, especially nail care; cleaners; paints and coatings; strippers and thinners; PVC cleaner; caulks and adhesives; wood filler; solvent

The notes below indicate any additional significant compounds present in this air sample or other noteworthy information.

EPA Hazardous Air Pollutants (HAPs)

Hazardous air pollutants, also known as toxic air pollutants or air toxics, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. Listed below are those HAPs that are included with the IAQ Commercial Survey VOC test. This list does not include all HAPs. The '<' (less than) symbol in the 'Estimated VOC Level' columns indicates the compound is below the reporting limit for this air sample and therefore can be considered absent from the air sample. For more information about HAPs visit the [EPA Air Toxics website](#). The exposure limits listed below can also be found in the [NIOSH Guide to Chemical Hazards](#). The HAPs in the table below may also be listed as Significant VOCs if the concentration of that chemical compound is greater than the threshold level for a Significant VOC.

Compound	CAS	Estimated VOC Level (ng/L)	Estimated VOC Level (ppb)	NIOSH Exposure Limit	Description
Carbonyl sulfide	463-58-1	< 1	< 0.4	None Listed	Fumigant; contaminated drywall; fuel combustion byproduct; some foods; naturally occurring at low levels
Carbon Disulfide	75-15-0	< 1	< 0.3	3,000 ng/L (1,000 ppb)	Solvent; fumigant; contaminated drywall; combustion byproduct
Methylene Chloride	75-09-2	< 1	< 0.3	Carcinogen	Automotive products; degreasing solvent; paint stripper; adhesive remover; aerosol propellant; insecticide
Hexane (C 6)	110-54-3	< 1	< 0.3	180,000 ng/L (50,000 ppb)	Solvent; adhesive; grease; lubricant; paints and coatings; petroleum fuel component
1,1,1-Trichloroethane	71-55-6	< 1	< 0.2	C; 1,900,000 ng/L (350,000 ppb)	Adhesives, lubricants, cleaners, solvents
Benzene	71-43-2	< 1	< 0.3	320 ng/L (100 ppb)	Gasoline. Less common sources include some discontinued solvents; printing and lithography; paints and coatings; rubber; dry cleaning; adhesives; detergents
1,2-Dichloroethane	107-06-2	< 1	< 0.2	Carcinogen; 4,000 ng/L (1,000 ppb)	PVC production; solvent for rubber, insecticides, oils, waxes, gums, resins; rug and upholstery cleaners
Trichloroethene	79-01-6	< 1	< 0.2	Carcinogen	Dry cleaning; degreasers and cleaners for home/automotive; varnish removers; anesthetic
Methyl methacrylate	80-62-6	< 1	< 0.3	410,000 ng/L (100,000 ppb)	Acrylic Polymers for paints and coatings, adhesives, fillers; solvent; pharmaceuticals; personal care
Toluene	108-88-3	< 1	< 0.3	375,000 ng/L (100,000 ppb)	Gasoline; adhesives (building and arts/crafts); contact cement; solvent; heavy duty cleaner
Tetrachloroethene	127-18-4	< 1	< 0.1	Carcinogen	Dry cleaning; adhesives, automotive cleaners, polishes
Ethylbenzene	100-41-4	< 1	< 0.2	435,000 ng/L (100,000 ppb)	Gasoline; paints and coatings; solvent; pesticide
m,p-Xylene	108-38-3; 106-42-3	1	0.3	435,000 ng/L (100,000 ppb)	Gasoline; paints and coatings; adhesives and cements; solvent; print cartridges
o-Xylene	95-47-6	< 1	< 0.2	435,000 ng/L (100,000 ppb)	Gasoline; paints and coatings; adhesives and cements; solvent; print cartridges
Styrene	100-42-5	< 1	< 0.2	215,000 ng/L (50,000 ppb)	Polystyrene foam; synthetic rubber; flavoring agent
1,4-Dichlorobenzene	106-46-7	< 1	< 0.2	Carcinogen	Moth balls/crystals; room deodorant
Naphthalene	91-20-3	< 1	< 0.2	50,000 ng/L (10,000 ppb)	Gasoline; diesel; Moth balls/crystals; insecticide

These results are authorized by the Laboratory Director or approved representative.

This analysis was performed by Prism Analytical Technologies (Prism). The results contained in this report are dependent upon a number of factors over which Prism has no control, which may include, but are not limited to, the sampling technique utilized, the size or source of sample, the ability of the sampler to collect a proper or suitable sample, the compounds which make up the TVOC, and/or the type of mold(s) present. Therefore, the opinions contained in this report may be invalid and cannot be considered or construed as definitive and neither Prism, nor its agents, officers, directors, employees, or successors shall be liable for any claims, actions, causes of action, costs, loss of service, medical or other expenses or any compensation whatsoever which may now or hereafter occur or accrue based upon the information or opinions contained herein.

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Client Sample ID: Room 70
Laboratory ID: 74740-2

Client: Mass. Teachers Association
48 Sword Street
Auburn, MA 01450

Report Number: 74740

Sampled By: Michael Sireci
Project: Green Meadow Elementary School
Location: 5 Tiger Drive
Maynard, Massachusetts

**Thank you for using
IAQ Commercial Survey!**
If you have questions about your report,
please contact your service provider who
performed this test.

Client Sample ID: Room 70
Sample Volume (L): 45.4
Date Sampled: 10/25/2018
Sample Type: TDT UU824
Sample Condition: Acceptable

Receive Date: 10/28/2018
Approve Date: 10/28/2018
Scan Date: 10/29/2018
Report Date: 10/31/2018

IAQ Commercial Survey™ is one of the most advanced, trusted air testing products on the market today for identifying chemical sources and active mold growth. Many indoor air quality (IAQ) issues identified by IAQ Commercial Survey can be easily remediated or eliminated. This test is an invaluable tool for improving air quality because it provides important information on potential contamination issues that cannot be detected by a visual inspection alone. Acting upon the information in this report will enable you to dramatically improve the air quality, creating a healthier environment.

Your Indoor Air Quality Report Summary

Your Indoor Air Quality Report has several sections describing different aspects of your air quality. A summary of this data is provided below, additional information and descriptions are included in the full report.

Total Volatile Organic Compounds (TVOC) Level

TVOC is a general indicator of the IAQ (see page 2).

 **Total VOCs 950 ng/L**

Total Mold Volatile Organic Compounds (TMVOC) Level

TMVOC is an assessment of the actively growing mold (see page 3).








 **Total MVOCs < 3 ng/L**

Contamination Index (CI) Level

The CI shows the types of air-contaminating products and materials that are present in the sampled area (see pages 7 and 8). These levels are estimates based on common home products and activities.





Building Sources

See page 7 for more detail.

	Coatings (Paints, Varnishes, etc.)
	PVC Cement
	Building Materials-Toluene Based
	Gasoline
	Fuel Oil, Diesel Fuel, Kerosene
	Light Hydrocarbons
	Light Solvents

Occupant Sources

See page 8 for more detail.

	HFCs and CFCs (Freons™)
	Personal Care and Cleaning Products
	Odorants and Fragrances
	Dry Cleaning Solvents

Note: Severity levels begin at Normal or Minimal and progress through Moderate, Elevated, High and/or Severe. The color progression from green to red indicates results that are increasingly atypical and suggest potentially higher risk.

 **Moderate**  **Elevated**  **High**  **Severe**

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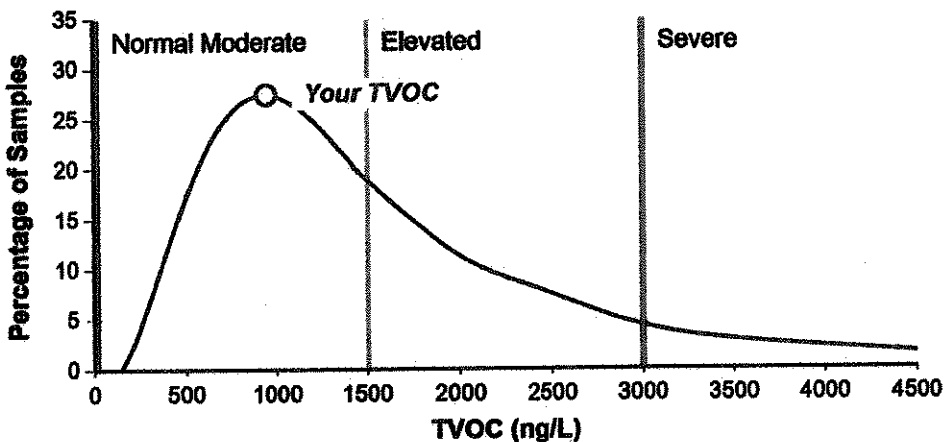
Your TVOC Level is: 950 ng/L

IAQ is borderline acceptable; some effect on occupants is possible; reduce potential sources and consider increasing ventilation.

Your Indoor Air Quality Level (Highlighted)

Normal	Moderate	Elevated	Severe
< 500 ng/L	500 - 1500 ng/L	1500 - 3000 ng/L	> 3000 ng/L

**All IAQ Survey TVOC
Air Quality Indicator**



**The average TVOC is
1900 ng/L**

This chart represents the TVOC distribution of over 8,000 samples. Over 80% of these samples indicate improvements in IAQ are necessary to achieve the goal of TVOC less than 500 ng/L.

The chart above shows the TVOC levels for all locations tested using IAQ Survey. Results for this air sample are displayed on the chart as a yellow circle. The blue curved line represents the relationship between the percentage of locations (indicated on the vertical y-axis) and the TVOC level (indicated on the horizontal x-axis). The green, yellow, orange, and red vertical bars represent divisions between Normal, Moderate, Elevated, and Severe TVOC levels. As the TVOC value increases, individuals may experience aggravated health problems, and therefore, the need to address VOC issues becomes more critical. However, reductions in VOCs can be made at any level.

The U.S. federal government has not specified a TVOC limit for indoor air. However, the U.S. Green Building Council (USGBC) has recommended 500 ng/L as the upper TVOC limit. As the TVOC increases, the probability of adverse effects increases. The levels are based on observed health effects and have been determined from a combination of published journal articles (1, 2, 3) and the statistical distribution of TVOC concentrations from the IAQ Survey methodology.

The presence of chemicals in your sampled location can cause a wide range of problems, ranging from an unpleasant odor to physical symptoms (burning and irritation in the eyes, nose, and throat; headaches; nausea; nervous system effects; severe illness; etc.). In some cases, these conditions may make the location uninhabitable. Anyone with respiratory issues like asthma and allergies, as well as children, the elderly, and pregnant women are more susceptible to poor indoor air quality than healthy individuals. However, at higher TVOC levels even healthy individuals are likely to experience ill effects. The following websites can offer more information:

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American Lung Association [Healthy Air at Work](#)
World Health Organization (WHO) [Guidelines for Indoor Air Quality](#)
Lawrence Berkeley National Laboratory [Indoor Volatile Organic Compounds \(VOCs\) and Health](#)

The Contamination Index (CI) in the next pages of this report will help guide you through determining what types of products or materials in the sampled location could be problematic for your IAQ and will provide some recommendations to help reduce or eliminate them.

1 L. Molhave, Volatile Organic Compounds, Indoor Air Quality and Health, Vol. 5, International Indoor Air Quality Conference, Toronto, Canada, 1990, p. 22 ff.
2 European Collaborative Action: Indoor Air Quality and its Impact on Man (ECA-IAQ), Report No 19 Total Volatile Organic Compounds (TVOC) in Indoor Air Quality Investigations, 1997. (from L. Molhave et al., Total Volatile Organic Compound (TVOC) in Indoor Air Quality Investigation, Indoor Air 1997: 225-240.)
3 T. Salthammer, Critical evaluation of approaches in setting indoor air quality guidelines and reference values, Chemosphere 82, 2011, 1507-1517.

Total Mold Volatile Organic Compound (TMVOC) Summary

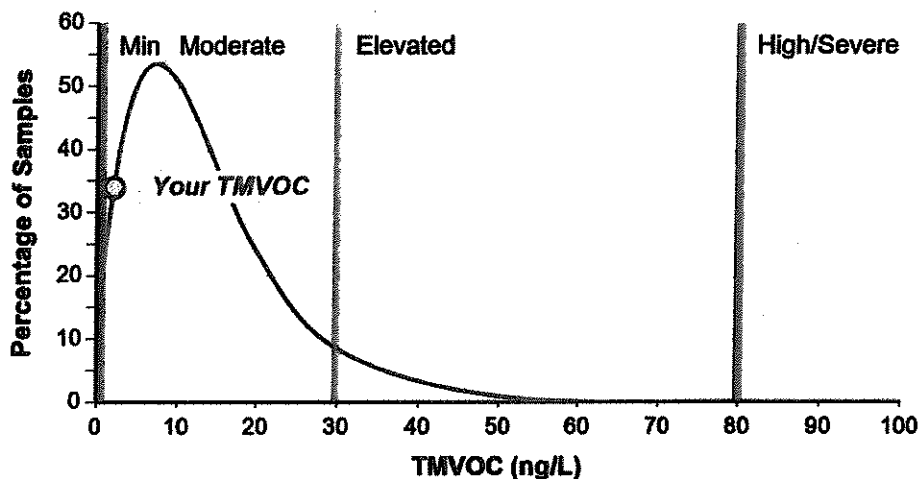
Your TMVOC Level is: < 3 ng/L

Actively growing molds may be present, but are at or below levels found in most homes and working environments.

Your Active Mold Level (Highlighted)

Minimal	Active-Moderate	Active-Elevated	Active-High	Active-Severe
	8 - 30 ng/L	30-80 ng/L	80 - 150 ng/L	150 + ng/L

All IAQ Survey TMVOC Active Mold Growth Indicator



The average TMVOC is 10 ng/L

This chart represents the TMVOC distribution of over 8,000 samples. Approximately half the samples indicate that some active mold growth is occurring at the time of sample collection.

The chart above shows the TMVOC level for all locations tested using IAQ Survey. Results for this air sample are displayed on the chart as a yellow circle. The blue curved line represents the relationship between the percentage of locations (indicated on the vertical y-axis) and the TMVOC level (indicated on the horizontal x-axis). For example, a TMVOC of 20 ng/L is reported in ~20% of the samples. The green, yellow, orange, and red vertical bars represent divisions between Minimal, Moderate, Elevated, and High/Severe TMVOC levels.

Molds are fungi that grow in the form of multicellular filaments called hyphae that spread to form a network or colony called mycelium. There are thousands of known species of molds, although a much smaller number of mold species are commonly found in indoor environments.

Molds can affect humans and animals in their vicinity in several ways. The most commonly known aspect of molds is the spores they produce as their primary means of reproduction. Spores are released from the mature mold body and spread by air currents and on people, animals, or materials that travel from place to place. These spores can remain viable for a long time until they find a suitable environment and grow to form new colonies. In addition to spores, mycotoxins can also be released under certain situations. Mycotoxins are chemicals that are produced during certain parts of the mold life cycle and can evoke a toxic response (e.g., severe allergic reactions and respiratory irritation and exacerbation of asthma symptoms or other respiratory ailments) in humans and animals. Mycotoxins have low volatility, meaning they have relatively low concentrations in air, so contact or ingestion rather than inhalation is often the main route of exposure for these chemicals.

Finally, mold VOCs (MVOCs) are produced during the metabolic or digestive processes of molds and therefore can be used as an indicator of actively growing mold. When mold is in an inactive or dormant state it does not produce many MVOCs and so cannot be used as an indicator of inactive mold. There are a number of factors that can affect the production and movement of MVOCs, including but not limited to the genus/species, ventilation rates, temperature, humidity, growth surfaces, and competition from other molds. These factors make determination of the genus/species of mold very difficult so the presence of MVOCs indicates active mold growth but not the genus/species of the mold.

Total Mold Volatile Organic Compound (TMVOC) Summary

Mold can grow anywhere that satisfies four primary conditions.

1. Presence of mold spores – spores are everywhere and it is very difficult if not impossible to remove them completely.
2. Appropriate growth surface or nutrient source – molds are adaptable and can grow on almost any surface; many molds especially like cellulose-based materials (e.g., wood, drywall, insulation, cardboard, paper, carpet, etc.).
3. Appropriate temperature – although many molds grow best in warmer temperatures, given enough time mold can grow at almost any temperature condition.
4. Water – this is the most significant and most important criteria since the other conditions are too commonly available to be controlled. The consensus of most organizations with a perspective on air quality (e.g., WHO, EPA, AIHA, ASHRAE, etc.) is that controlling moisture and dampness is the only way to consistently control or limit mold growth.

Mold Sources

Since there are so many possible locations that mold can grow, it can be difficult to locate without visual indicators. However, there are some potential locations where molds are often found, as listed here.

- Air conditioning units or drain lines
- Near plumbing leaks
- Near roof or wall leaks
- Basement water intrusion from surrounding soil
- Any consistently humid area
- Near condensation around windows or any other condensation locations like exterior walls (typically where there is a temperature gradient that allows water to condense)
- Freezer/refrigerator door seals, drain lines, or drip pans; especially in summer
- Indoor plants
- Empty beverage containers and glasses, especially if left for trash or recycling without being rinsed out
- Wastebaskets and trash cans containing discarded food or wet items
- Stand pipes and traps
- Books, magazines, and newspapers if they have gotten wet or sit for a long time
- Outside mold, especially if the air intake is near the ground and landscaping near the building uses wood chips or mulch

Typically, if there is no plumbing leak, condensation, or water intrusion into the building, there will not be a mold problem. If active mold growth is indicated, the first step in fixing the problem is to find and repair the water intrusion or moisture build up.

Some new or extensively renovated buildings can have high MVOC results. Additional dampness is often introduced into a new building during the construction process (e.g., newly installed cement) and can lead to optimal mold growth conditions. Also, some building materials may have mold growth on them when they are installed due to exposure to water before installation. It is strongly recommended that new buildings or those with extensive renovation undergo a drying process to eliminate or reduce the potential for mold growth.

Total Mold Volatile Organic Compound (TMVOC) Summary

MVOC Interpretation

As described above, the TMVOC value is an assessment of the quantity of actively growing mold in the sampled location. Like TVOC, no government unit or organization has specified limits for TMVOC. The levels below describe the effects individuals exposed to these TMVOC values may experience. These levels are qualitative estimates of possible effects experienced by healthy individuals. Sensitive individuals or those with chronic or respiratory issues may experience effects at much lower levels. Mold may be visible on a surface but in an inactive state resulting in little or no production of MVOCs. Regardless of the TMVOC result if mold is visible it should be removed since molds may still produce spores or mycotoxins in an inactive state and new exposure to water or moisture can initiate new mold growth. Since MVOCs are VOCs, they can be affected by the same environmental conditions that affect other VOCs. Primarily lower temperature and higher air flow or ventilation will reduce MVOC concentrations. Any water or moisture issues should be addressed quickly to limit the potential for mold growth.

These levels were determined empirically through interaction with air quality professionals regarding the reported health effects experienced by individuals exposed to actively growing mold.

TMVOC (ng/L)	Level	Description
< 8	Minimal or Ambient	Actively growing molds may be present, but are at or below levels found in most buildings (i.e., these levels could be considered ambient or background).
8 - 30	Active - Moderate	Actively growing molds are present; individuals sensitive to molds will likely be affected. Investigate possible water or moisture sources. See Mold Sources.
30 - 80	Active - Elevated	Significant levels of actively growing molds are present; reactions or symptoms are probable. See Mold Sources
80-150	Active - High	High levels of actively growing molds are present; high probability that all occupants will be affected; take immediate action to locate and remove mold. See Mold Sources.
> 150	Active - Severe	Excessive levels of actively growing molds are present; all occupants will be affected; take immediate action to locate and remove mold. See Mold Sources.

Additional Information about Mold

* World Health Organization (WHO):

[WHO Guidelines for Indoor Air Quality – Dampness and Mold](#)

US Environmental Protection Agency (EPA):

[Molds and Moisture](#)

American Industrial Hygiene Association (AIHA)

[Position Statement on Mold and Dampness](#)

American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE):

[Limiting Indoor Mold and Dampness in Buildings](#)

(Position Documents; click on Limiting Indoor Mold and Dampness in Buildings)

Contamination Index™

The Contamination Index™ (CI) shows the types of air-contaminating products and materials that are present in the sampled area. Each CI category shows the approximate contribution of that category to the TVOC level, indicates how your location compares to thousands of other locations, and provides some suggestions about which products and materials might be the source for the VOCs. The CI is divided into two main source groups: Building Sources and Occupant Sources.

1. Building Sources are those that are typically part of the structure of the building and may be more difficult to reduce in the short term. Recent construction or renovation often increases the CI categories in this group to the Elevated, High, or Severe levels. VOCs from these activities often decrease substantially in the month following use or application of these products, especially if the area is flushed with air to dissipate the VOCs off gassed from the new products or materials.

2. Occupant Sources are those that the occupants of the building bring into the building and can usually be more readily identified and remediated. Recent construction or renovation can often contribute to other source categories in addition to Building Sources.

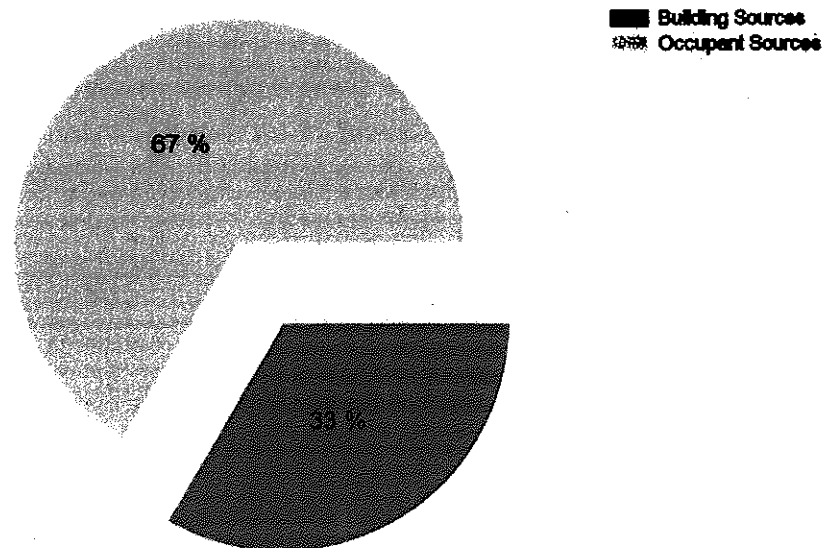
It is possible for a category listed in one source group to belong to another source group. For example, the 'Coatings' category is in the Building Sources group because the largest contribution is typically the paint on the walls, but cans of paint stored in a basement or storage area could be considered part of the Occupant Sources group. Always consider all possible sources for a particular CI category.

The CI categories comprise the most common sources but other products or activities may be present that are not included in the CI. The values assigned to each category are approximations based on typical office and commercial spaces. Locations with additional or atypical sources may require additional investigation to determine the source of certain chemicals that are not accurately represented by the CI.

Since there are potentially many sources of VOCs, buildings can often be re-contaminated even after sources have been removed because new products are constantly being brought into the building. Occupants should take note of this fact, and view IAQ as a continuous improvement process.

The chart below depicts the distribution of the Contamination Index source groups. These source groups are estimates and may not indicate all of the VOCs in your air sample.

Contamination Index Source Groups



Contamination Index™ Building Sources

Use the Contamination Index (CI) below to help you find products and materials in the sampled area that may be affecting your indoor air quality. Removing or reducing these products will improve your air quality. The concentrations reported here are approximate and may not add up to the TVOC value on page 2 of this report. These categories are typically part of the structure of the building and may be more difficult to reduce in the short term. Recent construction or renovation will often cause these categories to be elevated. Increased ventilation will help to reduce VOCs from construction or renovation sources. Levels indicated as Elevated, High, or Severe should be addressed immediately, and those listed as Moderate are areas that can be improved over time.

Contamination Index Category	Estimated VOC Level (ng/L)	Severity	Source Prediction & Suggestions for VOC Reduction
Coatings (Paints, Varnishes, etc.)	210	Severe	Includes interior and exterior paints (including low- or no-VOC paints), varnishes, lacquers, some sealants, and other products that can be classified as a coating over a surface. Typically, VOCs from these products are in the 10 to 14 carbon size range and can linger for several months after application, sometimes longer. Ventilate as much as possible during and after application of any of these products. Dispose of opened but unused products and related supplies if possible or store in areas that will minimize off gassing. Additional sources include fuel oil or diesel fuel.
PVC Cement	0	Low	PVC cement is used to join pieces of PVC pipe together, usually for plumbing.
Building Materials-Toluene Based	0	Low	Adhesives and glues used in construction and maintenance, arts and crafts; adhesive removers; contact cement; sealants; coatings (paint, polyurethane, lacquer, thinner); automotive products, including parts cleaners. Additional sources include gasoline and other fuels.
Gasoline	8	Moderate	VOCs from gasoline are typically a result of off-gassing from gas containers, small spills, and gas-powered equipment used in facilities maintenance in nearby garage or storage areas. Most vehicles in good operating condition do not emit gasoline vapors due to the tightly sealed gas tank. This category does not include exhaust emissions. Gasoline VOCs can linger on clothing after refueling at a gas station. Gasoline includes chemical compounds that are also included in the Light Solvents category.
Fuel Oil, Diesel Fuel, Kerosene	0	Moderate	Typically found in garages and facilities maintenance areas. These fuels are not very volatile so they will not readily get into the air, but they can linger for a long time and produce a strong, unpleasant odor. This category does not include exhaust emissions. Additional sources include coatings such as paints, varnishes, sealants, waxes, etc.
Light Hydrocarbons	3	Moderate	Building materials; aerosol cans; liquefied petroleum gas (LPG); refrigerant; natural gas; propellant; blowing agent. Includes chemical compounds such as propane, butane, and isobutane.
Light Solvents	28	Moderate	Stoddard solvent; mineral spirits; some coatings (paints, varnish, enamels, etc.); wax remover; adhesives; automotive products; light oils. Typically, VOCs from these products are in the 6 to 9 carbon size range.

Building Sources

Contamination Index™ Occupant Sources

Use the Contamination Index (CI) below to help you find products and materials in the sampled area that may be affecting your indoor air quality. Removing or reducing these products will improve your air quality. The concentrations reported here are approximate and may not add up to the TVOC value on page 2 of this report. These categories are typically brought into the building by the occupants and can often be readily identified and removed or contained. Levels indicated as Elevated, High, or Severe should be addressed immediately, and those listed as Moderate are areas that can be improved over time.

Occupant Sources	Contamination Index Category	Estimated VOC Level (ng/L)	Severity	Source Prediction & Suggestions for VOC Reduction
	HFCs and CFCs (Freons™)	9		Most often used as refrigerants for air conditioners and refrigerator/freezers and propellants for blown-in insulation, cushions, aerosol cans, etc. Many of these chemical compounds are being phased out because of the Montreal Protocol.
	Personal Care and Cleaning Products	450	Moderate	Personal care products such as soap, deodorant, lotions, perfumes, hair coloring supplies, nail care supplies, oral hygiene products, etc. Cleaning agents such as surface, window, and flooring products, also restroom and antibacterial products. These products contain many VOCs that will dissipate if use is discontinued or reduced. Consider storing these products in a closed container or enclosed ventilated area such as a cabinet or closet when not in use. Increase ventilation when using these products if possible.
	Odorants and Fragrances	38		Air fresheners, scented cleaning products, and scented personal care products.
	Dry Cleaning Solvents	0		Typical dry-cleaning methods employ the use of carcinogenic chemicals. Dry-cleaning should be allowed to vent outside, without plastics bags, before being placed inside.

Significant VOCs

Based upon your specific air analysis, the chemical compounds listed below are significant contributors to the TVOC level reported on page 2 of your IAQ Commercial Survey Report or are indicative of specific types of products or problems. Compounds from a variety of chemical classes are represented here, although only the most common or most notable are specifically listed. These chemical compounds may come from a variety of sources as shown in the Contamination Index section of this report. Many of these chemical compounds are commonly found in office and commercial locations. However, locating and removing the source of the chemical compound is the most effective way to reduce the contribution of that chemical compound to the TVOC, which ultimately leads to improved IAQ. If removing the source is not possible, try to contain it in some way (e.g., placing the source in an air-tight container when not in use). In addition, the ventilation system in some locations may not be optimized so evaluate the ventilation system and make adjustments to increase the amount of fresh air. Filter or purify re-circulated inside air to help reduce the TVOC. Since VOCs may continue to off-gas even when the sources are stored, ventilation and air-purification methods will need to be employed continuously in order to keep the VOC levels low. The Chemical Abstracts Service (CAS) registry number after the chemical compound name in the table below is a unique identifier for that chemical compound and is often the best means to search for additional information. The two VOC levels in the table below (ng/L and ppb) are different ways of describing the same concentration, in some cases exposure limits or other information may be described using one or both of these concentration units.

Compound	CAS	Estimated VOC Level (ng/L)	Estimated VOC Level (ppb)	Description
Ethanol	64-17-5	490	250	Cleaners, especially antiseptic wipes; personal care; consumable alcohol; some solvents; renewable gasoline component; pharmaceuticals
Isopropanol	67-63-0	60	24	Rubbing alcohol; cleaners, especially antiseptic wipes; personal care; solvents; food and beverages; microbial biocides or antimicrobial agents
Limonene	138-86-3 or 5989-27-5	40	7	Limonene (CAS 138-86-3) or d-Limonene (CAS 5989-27-5)Fragrances; paints and coatings; cleaners; solvent; preservative
Acetone	67-64-1	17	7	Personal care, especially nail care; cleaners; paints and coatings; strippers and thinners; PVC cleaner; caulks and adhesives; wood filler; solvent

The notes below indicate any additional significant compounds present in this air sample or other noteworthy information.

EPA Hazardous Air Pollutants (HAPs)

Hazardous air pollutants, also known as toxic air pollutants or air toxics, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. Listed below are those HAPs that are included with the IAQ Commercial Survey VOC test. This list does not include all HAPs. The '<' (less than) symbol in the 'Estimated VOC Level' column indicates the compound is below the reporting limit for this air sample and therefore can be considered absent from the air sample. For more information about HAPs visit the EPA [Air Toxics website](https://www.epa.gov/air-toxics). The exposure limits listed below can also be found in the [NIOSH Guide to Chemical Hazards](https://www.niosh.gov/publications). The HAPs in the table below may also be listed as Significant VOCs if the concentration of that chemical compound is greater than the threshold level for a Significant VOC.

Compound	CAS	Estimated VOC Level (ng/L)	Estimated VOC Level (ppb)	NIOSH Exposure Limit	Description
Carbonyl sulfide	463-58-1	< 1	< 0.4	None Listed	Fumigant; contaminated drywall; fuel combustion byproduct; some foods; naturally occurring at low levels
Carbon Disulfide	75-15-0	< 1	< 0.3	3,000 ng/L (1,000 ppb)	Solvent; fumigant; contaminated drywall; combustion byproduct
Methylene Chloride	75-09-2	< 1	< 0.3	Carcinogen	Automotive products; degreasing solvent; paint stripper; adhesive remover; aerosol propellant; insecticide
Hexane (C 6)	110-54-3	< 1	< 0.3	180,000 ng/L (50,000 ppb)	Solvent; adhesive; grease; lubricant; paints and coatings; petroleum fuel component
1,1,1-Trichloroethane	71-55-6	< 1	< 0.2	C; 1,900,000 ng/L (350,000 ppb)	Adhesives, lubricants, cleaners, solvents
Benzene	71-43-2	< 1	< 0.3	320 ng/L (100 ppb)	Gasoline. Less common sources include some discontinued solvents; printing and lithography; paints and coatings; rubber; dry cleaning; adhesives; detergents
1,2-Dichloroethane	107-06-2	< 1	< 0.2	Carcinogen; 4,000 ng/L (1,000 ppb)	PVC production; solvent for rubber, insecticides, oils, waxes, gums, resins; rug and upholstery cleaners
Trichloroethene	79-01-6	< 1	< 0.2	Carcinogen	Dry cleaning; degreasers and cleaners for home/automotive; varnish removers; anesthetic
Methyl methacrylate	80-62-6	< 1	< 0.3	410,000 ng/L (100,000 ppb)	Acrylic Polymers for paints and coatings, adhesives, fillers; solvent; pharmaceuticals; personal care
Toluene	108-88-3	< 1	< 0.3	375,000 ng/L (100,000 ppb)	Gasoline; adhesives (building and arts/crafts); contact cement; solvent; heavy duty cleaner
Tetrachloroethene	127-18-4	< 1	< 0.1	Carcinogen	Dry cleaning; adhesives, automotive cleaners, polishes
Ethylbenzene	100-41-4	< 1	< 0.2	435,000 ng/L (100,000 ppb)	Gasoline; paints and coatings; solvent; pesticide
m,p-Xylene	108-38-3; 106-42-3	< 1	< 0.2	435,000 ng/L (100,000 ppb)	Gasoline; paints and coatings; adhesives and cements; solvent; print cartridges
o-Xylene	95-47-6	< 1	< 0.2	435,000 ng/L (100,000 ppb)	Gasoline; paints and coatings; adhesives and cements; solvent; print cartridges
Styrene	100-42-5	< 1	< 0.2	215,000 ng/L (50,000 ppb)	Polystyrene foam; synthetic rubber; flavoring agent
1,4-Dichlorobenzene	106-46-7	< 1	< 0.2	Carcinogen	Moth balls/crystals; room deodorant
Naphthalene	91-20-3	< 1	< 0.2	50,000 ng/L (10,000 ppb)	Gasoline; diesel; Moth balls/crystals; insecticide

These results are authorized by the Laboratory Director or approved representative.

This analysis was performed by Prism Analytical Technologies (Prism). The results contained in this report are dependent upon a number of factors over which Prism has no control, which may include, but are not limited to, the sampling technique utilized, the size or source of sample, the ability of the sampler to collect a proper or suitable sample, the compounds which make up the TVOC, and/or the type of mold(s) present. Therefore, the opinions contained in this report may be invalid and cannot be considered or construed as definitive and neither Prism, nor its agents, officers, directors, employees, or successors shall be liable for any claims, actions, causes of action, costs, loss of service, medical or other expenses or any compensation whatsoever which may now or hereafter occur or accrue based upon the information or opinions contained herein.

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REPORT DATE: 11-12-2018

Date Received: 11-09-2018

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IMPORTANT: It is important that you have received ALL pages of this report (minimum of 3) that include the disclosures, disclaimers, types of molds, and range graphs. If you did not, please contact your inspector directly or contact the lab at 1.888.445.8005

RANGE GRAPHS

CFU (Viable Samples)

Petri Dishes, Swabs, Vials, Bulk

This graph represents living spores or bacteria that have been incubated in culture 3-5 days after being received at the laboratory. (301 represents TNTC)

Expected/Normal	(minor contamination)	0-30 CFUs
Potential Growth	(limited contamination)	31-150 CFUs
Potential Colonization	(moderate contamination)	151-300 CFUs
Probable Colonization	(high contamination)	300+ CFUs

Spores/Item, total lift (Non-viable Samples)

Tapelifts, Bulk, other

This graph represents non-viable spores or /items that has been identified in the collection media once received at the laboratory found on the total lift.

Expected/Normal	(minor contamination)	<10 spores
Potential Growth	(limited contamination)	10-25 spores
Potential Colonization	(moderate contamination)	Not Applicable
Probable Colonization	(high contamination)	Not Applicable

Spores/Item, per field (Non-viable Samples)

Tapelifts, Bulk, other

This graph represents non-viable spores or /items that has been identified in the collection media once received at the laboratory found per microscopic field.

Expected/Normal	(minor contamination)	Not Applicable
Potential Growth	(limited contamination)	Not Applicable
Potential Colonization	(moderate contamination)	10-25 spores
Probable Colonization	(high contamination)	>25 spores

Cubic M (Cubic Meter of Non-viable Samples)

Air-O-Cell

This graph represents non-viable spores or particulate that has been identified in the collection media once received at the laboratory. Often compared to outside.

Expected/Normal	(minor contamination)	0-999 items
Potential Growth	(limited contamination)	1000-2999 items
Potential Colonization	(moderate contamination)	3000-6999 items
Probable Colonization	(high contamination)	7000-9999 items

DISCLAIMERS

RANGES GUIDELINE DISCLAIMERS

1. It should be noted that mold and bacteria is found throughout our environment and identifying mold in your environment does not necessarily mean that you have a mold problem.
2. Currently there are no Federal or State recognized standards, critical or threshold exposure limits to aeroallergens.
3. Because everyone's immune system is unique, individual exposure response to aeroallergens will vary. The purpose of these guidelines is to help the user determine the need and value of advice received from a Certified IAQ Specialist.
4. These guidelines are unique only to these test methodologies and have been determined to be reasonable by the manufacturer of the test kits (EnviroScreening.com) in conjunction with NORMI (National Organization of Remediators & Mold Inspectors) Counts on the report are estimates based on the density of growth.
5. Test results only apply to the area from which the sample was taken, and the description of the ranges only signify the increasing amount of germs present.
6. This methodology should only be considered a screening, and more detailed analysis may be necessary. For more information, discuss additional testing options with your Certified IAQ Specialist.
7. These screening methodologies are mold screenings only and therefore NOT intended for legal / lawsuit purposes. Any attempt to use them for legal purposes will be considered hostile and a distortion of their intended use which is to provide a reasonably priced screening alternative to more expensive testing procedures. Should legal documentation be required we recommend that the client or customer consider utilizing the services of a Licensed Industrial Hygienist who can control testing procedures.

Clarifications of these disclosures/disclaimers may be directed to EnviroScreening Legal Department at legal@EnviroScreening.com or 888.445-8005

Chart of Custody ID Number	001	002	003	004	005	006	007	008	009	010
Client ID Number	1									
Location of Sample	7 D Upstream exhaust									
Type of Sample	Swab									

Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
● CFU ○ Direct Read ○ Colic M	○ CFU ○ Direct Read ○ Colic M	○ CFU ○ Direct Read ○ Colic M	○ CFU ○ Direct Read ○ Colic M	○ CFU ○ Direct Read ○ Colic M	○ CFU ○ Direct Read ○ Colic M	○ CFU ○ Direct Read ○ Colic M	○ CFU ○ Direct Read ○ Colic M	○ CFU ○ Direct Read ○ Colic M	○ CFU ○ Direct Read ○ Colic M
Alternaria									
Aspergillus									
Aspergillus Like Group									
Basidiomycetes									
Bipolaris/Drechslera									
Chaetomium									
Cladosporium sp.	145								
Cervularia	2								
Epicoccum									
Fusarium									
Phanerochaete/Trichia									
Rhizoglyphus									
Rhizoglyphus									
Stachybotrys									
Aspergillus									
Penicillium	60								
Yeast									
Hyalal Fragments									
Bacteria (non-specific)									
Pollen									
Insect Parts									
Skin Cells (animal/human)									
Fibers (non-specific)									
Sample date: 10/25/18									
001	002	003	004	005	006	007	008	009	010
207	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
● PRE O POST	○ PRE O POST	○ PRE O POST	○ PRE O POST	○ PRE O POST	○ PRE O POST	○ PRE O POST	○ PRE O POST	○ PRE O POST	○ PRE O POST
Moderate Contamination	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable



Many pages have been written regarding mold, mildew and the deleterious effects these have or may have on construction materials and our health. For more information, please review our website at www.EnviroScreening.com and read the book entitled *Mold-Free Construction™* which is available at www.MoldFreeConstruction.com. We also highly recommend Dr. Doris Rapp, Board Certified Pediatric Physician and Environmental MD and her DVD "Molds and Their Effects" along with her popular book, "Is This Your Child".

In an effort to help you sort through the information, we are providing this reference sheet along with information regarding ranges and the potential contamination that certain ranges may represent. Please read all the footnotes so you will have a clear understanding of what this screening process does and does not represent. Drawing conclusions from information that a screening provides is best done by a trained mold professional who has been certified by a national agency in the fields of indoor air quality, mold and other indoor air contaminants.

In most cases, and certainly where extreme remediation measures are considered, this screening test should be understood as simply being a "snap-shot" of what MAY be going on in the screened areas of your indoor environment. Settled-out spores can often be representative of a larger area but the correlation is still unclear between what you find in a square inch sampling versus what you might find in other areas of the environment. Your professional partner will be able to direct you to a better understanding of this report.

The material found in this document has been reviewed by the NORMI (National Organization of Remediators and Mold Inspectors at www.NORMI.org) and is provided in agreement with their standards. Any specific questions may be directed to:

Info@EnviroScreening.com

www.EnviroScreening.com

1.888.445.8005

REFERENCE COMMENTS

REFERENCE COMMENT SHEET - There are many different types of bacteria that can be found throughout our living environment. These may inhabit dust particulate, soil and non-treated water. Examples: species of *Bacillus*, *actinomyces* and nonfermentative gram-negative rods. Infections from most of these isolates are not common, however, occurrence of infection will vary based on species isolated.

Acromonium sp. is another common fungus that is found in our environment, which has been reported to cause such ailments as mycetomas (swelling of tissues), keratitis (cornea), and other mycoses.

Alternaria sp. is commonly found in our environment to include such places as soil, plants and decaying vegetation. Has been reported to cause keratitis (cornea), skin and nasal infections.

Aspergillus is found throughout our environment and disease caused by this fungus is relatively uncommon. However, there are species of this genus that can cause both invasive and non-invasive diseases, most notably with immunosuppressed hosts.

Allergic response to inhalation of the *aspergilli* has also been known to occur.

Bipolaris sp. is commonly isolated in the laboratory from environmental samples, it has been reported to cause sinusitis and allergies in some cases.

Chaetomium sp. is a common laboratory "contaminant" naturally found in the soil, plants, or decaying vegetation. Infection is not common.

Chrysosporium is a fungus that rarely causes diseases. However, cases of endocarditis and osteomyelitis has been reported. Several species are keratinophilic and can cause nail infections.

Cladosporium is another common mold isolated in the laboratory. It is naturally found in soil and in association with plant material. Infection is also uncommon; however, infections of the sinuses, endocarditis, keratomycosis (cornea) and subcutaneous lesions have been noted.

Curvularia is a commonly isolated environmental mold and some species has been noted to cause disease in man.

Epilicium is commonly isolated in the laboratory based on geographic location and has been associated with allergies.

Fusarium sp. is a common laboratory saprophyte commonly found in soil and decaying vegetation. *Fusarium* has been reported to cause keratitis (cornea).

Geotrichum sp. is another filamentous fungi that is considered a common laboratory contaminant, infections due to this organism is rare in man.

Hyphal Fragments: are fragments/broken pieces of molds that are not complete structures and cannot, therefore, be fully identified.

Mucilago sp. is a common laboratory filamentous fungi that can be found in samples containing soil. This organism is a common laboratory contaminant and infection is not common.

Penicillium sp. is a fast growing, common environmental fungus. Some species have been noted in cases of endocarditis, sinusitis, nephritis and infections in dogs.

Penicillium is a fungus that is abundant in man's environment and is a common laboratory contaminant. *Penicillium* has also been known to cause a number human infections such as keratitis (eye / cornea), penicilliosis, otomycosis (ear), and rarely, deep infections.

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Stachybotrys chartarum has been well publicized for being a potential agent in causing severe respiratory problems in young children and persons with immunosuppressed conditions. It is commonly referred to as "toxic mold" & "black mold". *Sterile Hyphae*: are molds/fungi grown in culture that has not produced spores and cannot, therefore, be accurately identified.

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Yeast are seen in nature from sources like soil, fruits, milk, plants, and feces of normal humans. Infections vary based on the species and sources identified.

NOTE: There is scientific evidence showing that persons with immunosuppressed conditions run the highest risk of infection due to environmental factors such as bacteria and fungal elements. Please see more at www.EnviroScreening.com

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* Cultures submitted may have colony counts estimated based on the density of growth in the culture.

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Recommendation: Air purification and mold remediation companies can help reduce the amount of particulate matter in the air, including the mold spore counts. (See your local Certified IAQ Specialist for more information and recommendations regarding air purification equipment and remediation options) Be sure to read the "SANITIZATION PROTOCOL" in www.MoldFreeConstruction.com for a better understanding of how to affect a significant change.



State of Texas
Certified Environmental
Laboratory #1001

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Info@EnviroScreening.com



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NORMI™ Sanitization Protocol

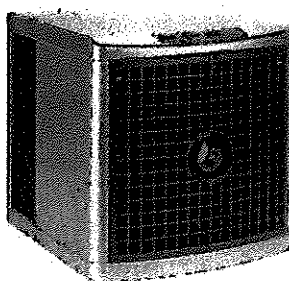
- ☒ Keep the premises clean and regularly dust, vacuum, and mop.
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- ☒ Leave exhaust fans on long enough to remove moisture from the room.
- ☒ Use ceiling fans.
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Products Clients Have Also Purchased:



This innovative product has taken the 1" filter market by storm because it provides an anti-microbial to reduce bio-nesting making it a true 90 day filter. With its unique internal frame, the filter media extends to the outer edge of the register sealing it and preventing blow-by thus keeping your HVAC system cleaner longer. This filter can be purchased through a subscription process with FREE Shipping on an annual basis so you always have the filters you need.

www.PerfectFitFilter.com



The MCI12K utilizes the trademarked MCI™ Multi-Cluster Ionization to proactively clean the air and surfaces throughout 12,000 cubic feet without producing ozone.

www.MCI12K.com



Enzymes are nature's cleaning process. Using a proprietary blends of enzymes, this all-purpose cleaner is 100% bio-degradable, water-based and powerful enough to use in laundry, on floors, on carpet and hard surfaces to clean those surfaces and eliminate the odors from odor-causing bacteria and fungal contamination. EnzyMagic201 is a 20:1 concentrate good to use as an all-purpose cleaner in place of those more toxic chemicals that use quaternary disinfectants like ammonium chloride. One quart makes 5 gallons of ready-to-use product.

www.BestLivingSystems.com



REPORT NUMBER: 9022195

REPORT DATE: 11-09-2018

Date Received: 11-09-2018

Date Processed: 11-09-2018

CLIENT NAME: Green Meadow Elementary School

Project Address: 5 Tiger Dr

City, State, Zip: Matnard, MA 01754

Telephone:

eMail:

Lab Technician: Glenn Moore

Lab Technician ID: SU30654

PROFESSIONAL: Michael Sireci

Pre ID: 12572

Street Address: 98 Blueberry Lane

City, State, Zip: Concord MA 01742

eMail Address: Msireci@massteacher.org

Telephone: 978.844.2322 Phone 2

IMPORTANT: It is important that you have received ALL pages of this report (minimum of 3) that include the disclosures, disclaimers, types of molds, and range graphs. If you did not, please contact your inspector directly or contact the lab at 1.888.445.8005

RANGE GRAPHS

CFU (Viable Samples)

Petri Dishes, Swabs, ViaCells, Bulk

This graph represents living spores or bacteria that have been incubated in culture 3-5 days after being received at the laboratory. (301 represents TNTC)

Expected/Normal

Potential Growth

Potential Colonization

Probable Colonization

(minor contamination)

(limited contamination)

(moderate contamination)

(high contamination)

0-30 CFUs

31-150 CFUs

151-300 CFUs

300+ CFUs

Spores/Item, total lift (Non-viable Samples)

Tapelifts, Bulk, other

This graph represents non-viable spores or /items that has been identified in the collection media once received at the laboratory found on the total lift.

Expected/Normal

Potential Growth

Potential Colonization

Probable Colonization

(minor contamination)

(limited contamination)

(moderate contamination)

(high contamination)

<10 spores

10-25 spores

Not Applicable

Not Applicable

Spores/Item, per field (Non-viable Samples)

Tapelifts, Bulk, other

This graph represents non-viable spores or /items that has been identified in the collection media once received at the laboratory found per microscopic field.

Expected/Normal

Potential Growth

Potential Colonization

Probable Colonization

(minor contamination)

(limited contamination)

(moderate contamination)

(high contamination)

Not Applicable

Not Applicable

10-25 spores

>25 spores

Cubic M (Cubic Meter of Non-viable Samples)

Air-O-Cell

This graph represents non-viable spores or particulate that has been identified in the collection media once received at the laboratory. Often compared to outside.

Expected/Normal

Potential Growth

Potential Colonization

Probable Colonization

(minor contamination)

(limited contamination)

(moderate contamination)

(high contamination)

0-999 Items

1000-2999 Items

3000-6999 Items

7000-9999 Items

DISCLAIMERS

RANGES GUIDELINE DISCLAIMERS

1. It should be noted that mold and bacteria is found throughout our environment and identifying mold in your environment does not necessarily mean that you have a mold problem.
2. Currently there are no Federal or State recognized standards, critical or threshold exposure limits to aeroallergens.
3. Because everyone's immune system is unique, individual exposure response to aeroallergens will vary. The purpose of these guidelines is to help the user determine the need and value of advice received from a Certified IAQ Specialist.
4. These guidelines are unique only to these test methodologies and have been determined to be reasonable by the manufacturer of the test kits (EnviroScreening.com) in conjunction with NORMI (National Organization of Remediators & Mold Inspectors) Counts on the report are estimates based on the density of growth.
5. Test results only apply to the area from which the sample was taken, and the description of the ranges only signify the increasing amount of germs present.
6. This methodology should only be considered a screening, and more detailed analysis may be necessary. For more information, discuss additional testing options with your Certified IAQ Specialist.
7. These screening methodologies are mold screenings only and therefore NOT intended for legal / lawsuit purposes. Any attempt to use them for legal purposes will be considered hostile and a distortion of their intended use which is to provide a reasonably priced screening alternative to more expensive testing procedures. Should legal documentation be required we recommend that the client or customer consider utilizing the services of a Licensed Industrial Hygienist who can control testing procedures.

Clarifications of these disclosures/disclaimers may be directed to EnviroScreening Legal Department at legal@EnviroScreening.com or 888.445-8005



Chain of Custody ID Number	011	012	013	014	015	016	017	018	019	020
Client ID Number	11	12	13	14	15	16	17	18	19	20
Location of Sample	Library office 10/26	2C 10/26	Art room	2C	7E	Outside 10/25	7C 10/25	7B 10/25	7D 10/25	7F 10/25
Type of Sample	Air-O-Cell	Air-O-Cell	Tapelift	Tapelift	Tapelift	Air-O-Cell	Air-O-Cell	Air-O-Cell	Air-O-Cell	Air-O-Cell

Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
○ CFU ○ Direct Read ● Cubic M	○ CFU ○ Direct Read ● Cubic M	○ CFU ○ Direct Read ● Cubic M	○ CFU ○ Direct Read ● Cubic M	○ CFU ○ Direct Read ● Cubic M	○ CFU ○ Direct Read ● Cubic M	○ CFU ○ Direct Read ● Cubic M	○ CFU ○ Direct Read ● Cubic M	○ CFU ○ Direct Read ● Cubic M	○ CFU ○ Direct Read ● Cubic M	○ CFU ○ Direct Read ● Cubic M
										1
Alternaria										
Ascomycetes										
Asperg/Pen Like Group	4	>25/ field			<10 total		6		2	3
Basidiospores										
Bipolaris/Drechlera										
Chaetomium										
Cladosporium sp.						7				
Curvularia						1				
Epitocum										
Fusarium										
Phthomyces/Uloclax										
Rhiz/Sunits										
Stachybotrys										
Aspergillus										
Penicillium										
Yeast										
Hyphal Fragments	1	2			<10 total	1			3	1
Bacteria (non-specific)										
Pollen						4				
No fungal elements seen				0				0		
Skin Cells (animal/human)	4									5
Fibers (non-specific)	3						3			1
Sample date: 10/25/18										2
011	012	013	014	015	016	017	018	019	020	
768	576	N/A	N/A	N/A	1248	864	N/A	672	1056	
● PRE O POST	● PRE O POST	● PRE O POST	● PRE O POST	● PRE O POST	● PRE O POST	● PRE O POST	● PRE O POST	● PRE O POST	● PRE O POST	● PRE O POST
TOTAL Results										
Culture Type										
										Limited Contamination



EnviroScreening Lab

RESULTS

Chain of Custody ID Number	021	022	023	024	025	026	027	028	029	030
Client ID Number	21	22	23	24	25	26	27	28		
Location of Sample	7K 10/25	7K	7D top smart board	7D sink	7D behind wall board	Library office	Library office	7D ceiling		
Type of Sample	Air-Q-Cell	Tapelift	Tapelift	Tapelift	Tapelift	Tapelift	Tapelift	Tapelift		

Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
○ CFU ○ Direct Read ● Cubic M	○ CFU ○ Direct Read ○ Cubic M	○ CFU ○ Direct Read ○ Cubic M	○ CFU ○ Direct Read ○ Cubic M	○ CFU ○ Direct Read ○ Cubic M	○ CFU ○ Direct Read ○ Cubic M	○ CFU ○ Direct Read ○ Cubic M	○ CFU ○ Direct Read ○ Cubic M	○ CFU ○ Direct Read ○ Cubic M	○ CFU ○ Direct Read ○ Cubic M	○ CFU ○ Direct Read ○ Cubic M
Alternaria										
Ascoportes										
Asper/Pen Like Group	<10 total			<10 total		10-25 total		<10 total		
Buddiocytes										
Bipolaris/Drechslera										
Chaetochytrium										
Chaetochytrium sp.				<10 total						
Curularia	1					<10 total		<10 total		
Epicoccium										
Fusarium										
Phycomycetes/Blodias										
Rhizoctonia										
Rhizoctonia/Smut										
Stachybotrys										
Aspergillus										
Penicillium										
Yeast										
Hyalal Fragments	4	<10 total			<10 total	10-25 total		<10 total		
Bacteria (non-specific)										
Pollen	1									
No fungal elements seen			0					0		
Skin Cells (animal/human)	2									
Fibers (non-specific)										
Sample date: 10/25/16										
021	022	023	024	025	026	027	028	029	030	
768	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
● PRE O POST	● PRE O POST	● PRE O POST	● PRE O POST	● PRE O POST	● PRE O POST	● PRE O POST	● PRE O POST	● PRE O POST	● PRE O POST	● PRE O POST
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable



Many pages have been written regarding mold, mildew and the deleterious effects these have or may have on construction materials and our health. For more information, please review our website at www.EnviroScreening.com and read the book entitled *Mold-Free Construction™* which is available at www.MoldFreeConstruction.com. We also highly recommend Dr. Doris Rapp, Board Certified Pediatric Physician and Environmental MD and her DVD "Molds and Their Effects" along with her popular book, "Is This Your Child".

In an effort to help you sort through the information, we are providing this reference sheet along with information regarding ranges and the potential contamination that certain ranges may represent. Please read all the footnotes so you will have a clear understanding of what this screening process does and does not represent. Drawing conclusions from information that a screening provides is best done by a trained mold professional who has been certified by a national agency in the fields of indoor air quality, mold and other indoor air contaminants.

In most cases, and certainly where extreme remediation measures are considered, this screening test should be understood as simply being a "snap-shot" of what MAY be going on in the screened areas of your indoor environment. Settled-out spores can often be representative of a larger area but the correlation is still unclear between what you find in a square inch sampling versus what you might find in other areas of the environment. Your professional partner will be able to direct you to a better understanding of this report.

The material found in this document has been reviewed by the NORMI (National Organization of Remediators and Mold Inspectors at www.NORMI.org) and is provided in agreement with their standards. Any specific questions may be directed to:

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www.EnviroScreening.com

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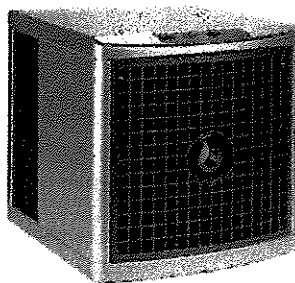
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- ☒ Answer this question regularly and check for the signs of mold: "If I were mold and liked moisture, where would I feel most comfortable to set up a home and build a family?"

Products Clients Have Also Purchased:



This innovative product has taken the 1" filter market by storm because it provides an anti-microbial to reduce bio-nesting making it a true 90 day filter. With its unique internal frame, the filter media extends to the outer edge of the register sealing it and preventing blow-by thus keeping your HVAC system cleaner longer. This filter can be purchased through a subscription process with FREE Shipping on an annual basis so you always have the filters you need.

www.PerfectFitFilter.com



The MCI12K utilizes the trademarked MCI™ Multi-Cluster Ionization to proactively clean the air and surfaces throughout 12,000 cubic feet without producing ozone.

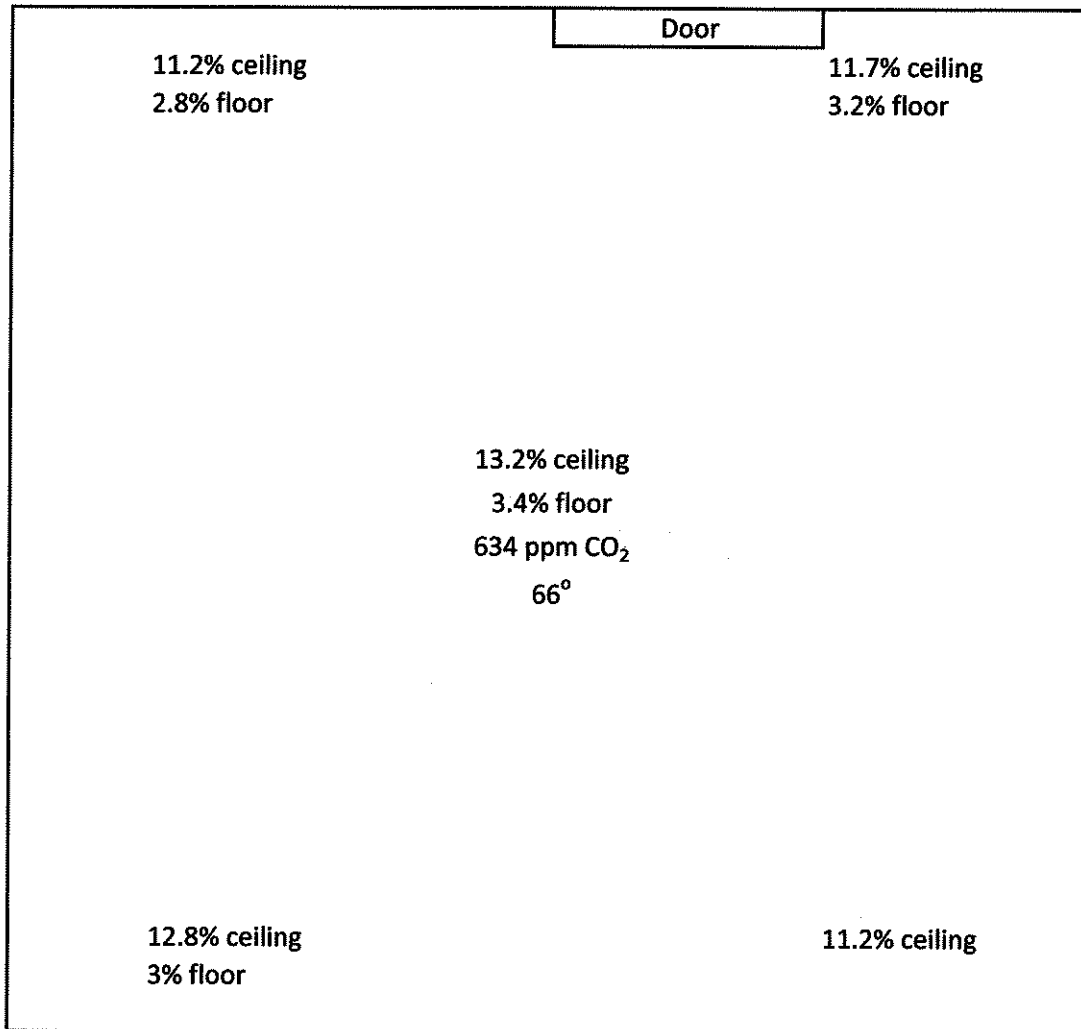
www.MCI12K.com



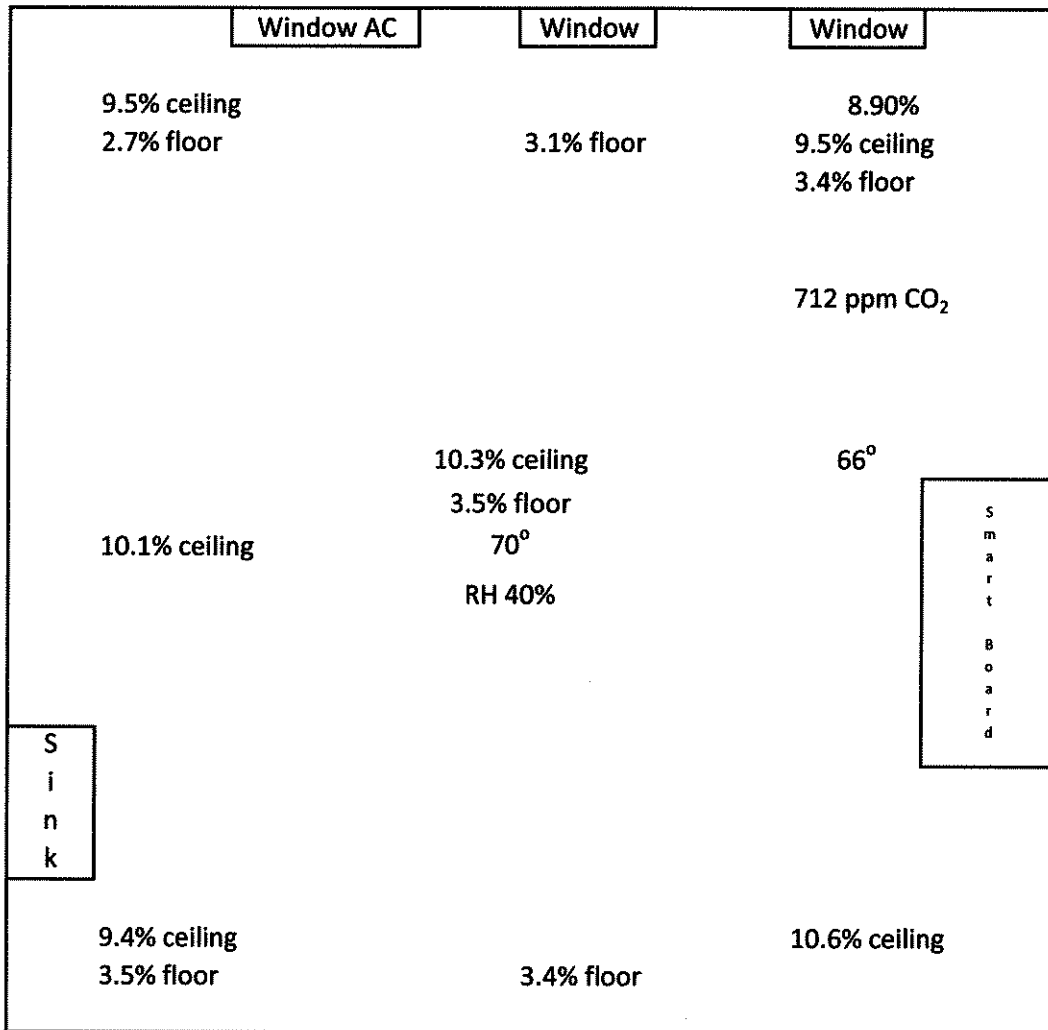
Enzymes are nature's cleaning process. Using a proprietary blends of enzymes, this all-purpose cleaner is 100% bio-degradable, water-based and powerful enough to use in laundry, on floors, on carpet and hard surfaces to clean those surfaces and eliminate the odors from odor-causing bacteria and fungal contamination. EnzyMagic201 is a 20:1 concentrate good to use as an all-purpose cleaner in place of those more toxic chemicals that use quaternary disinfectants like ammonium chloride. One quart makes 5 gallons of ready-to-use product.

www.BestLivingSystems.com

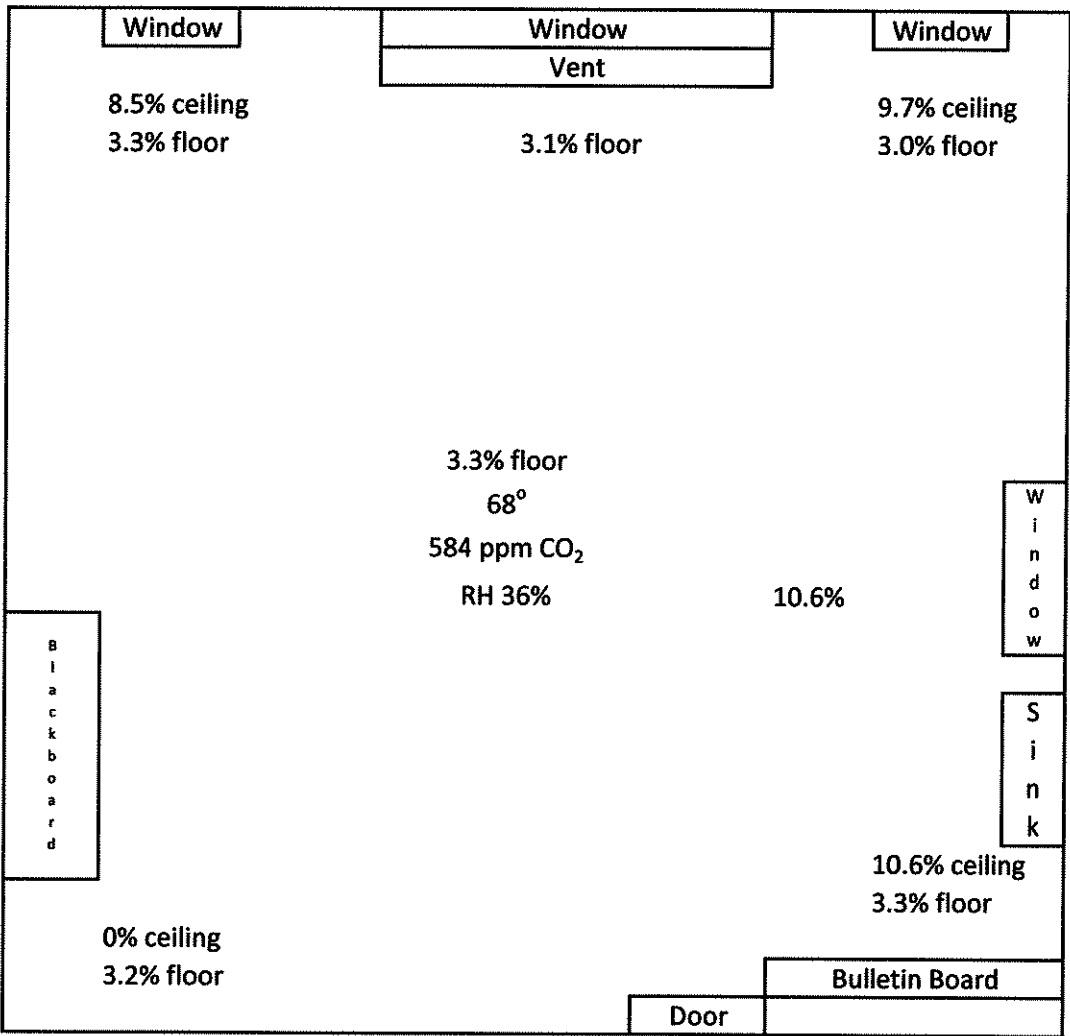
Green Meadow-Maynard
Room 7F



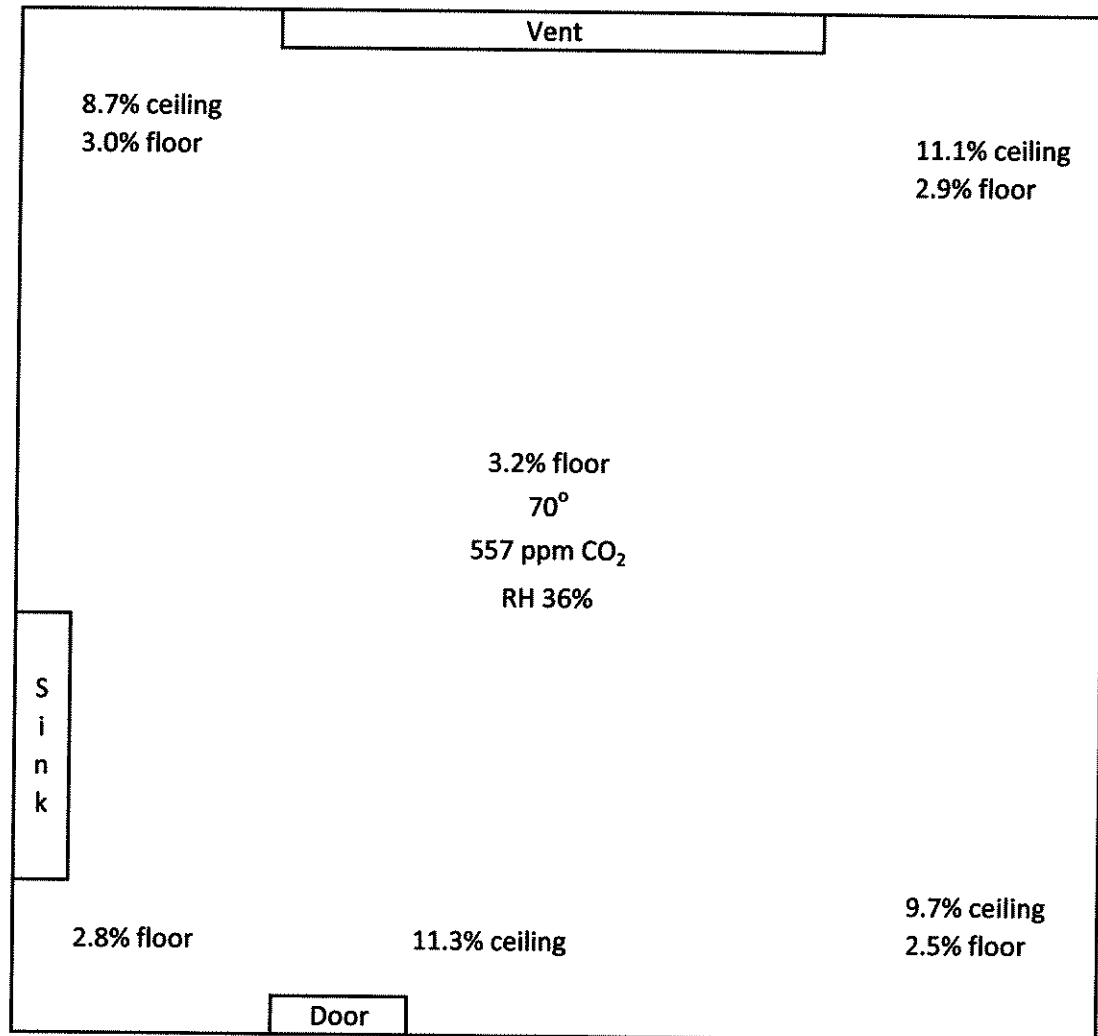
Green Meadow-Maynard
Room 7D



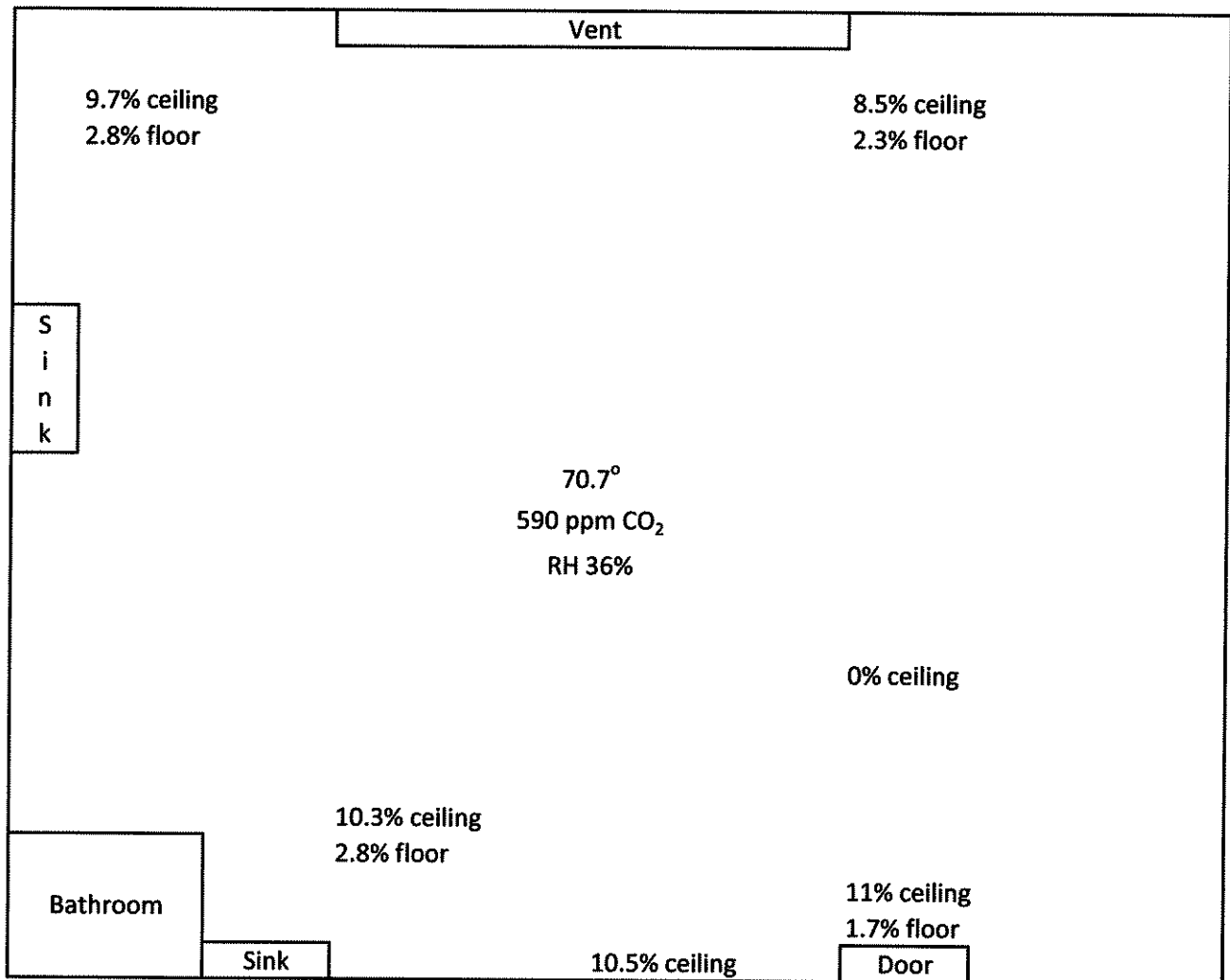
Green Meadow-Maynard
Room 7C



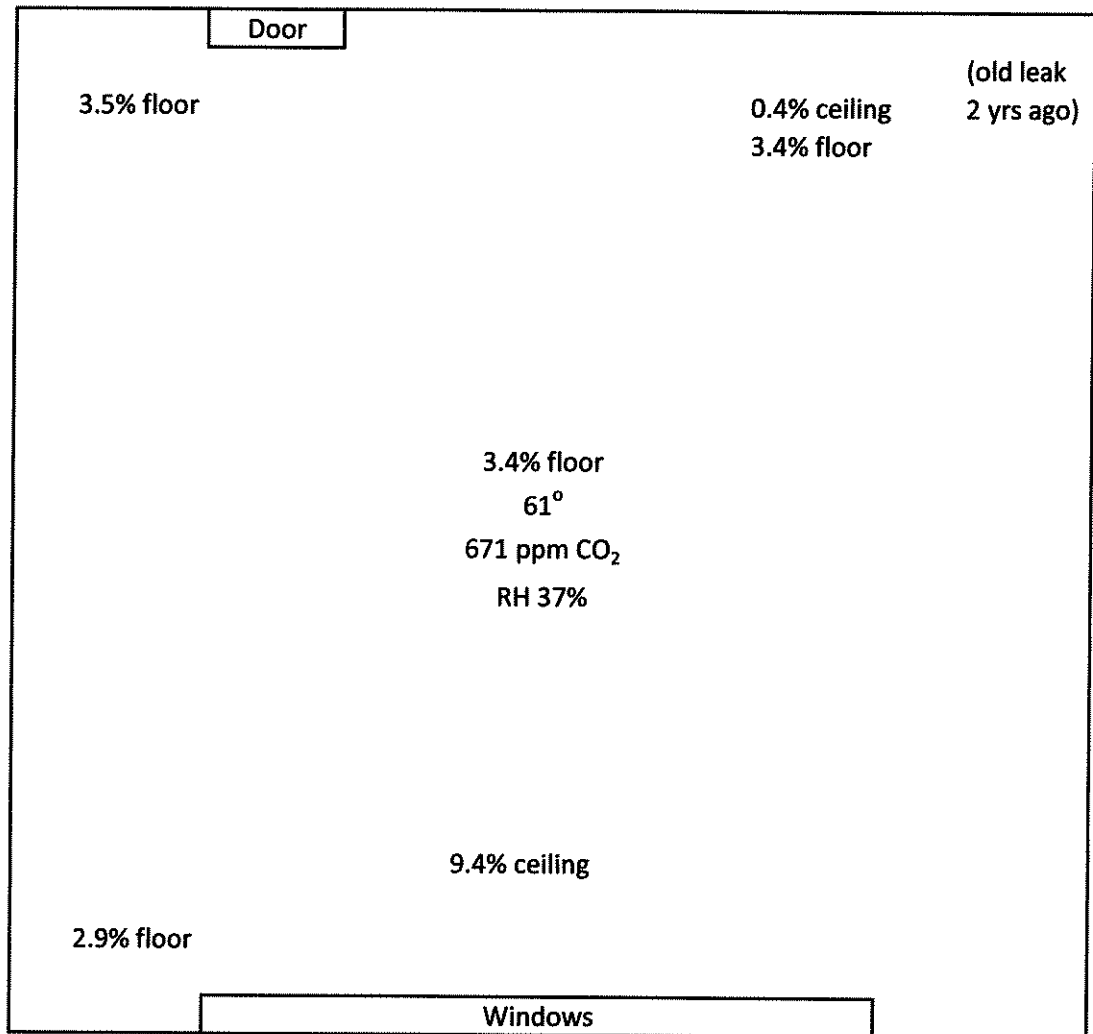
Green Meadow-Maynard
Room 7B



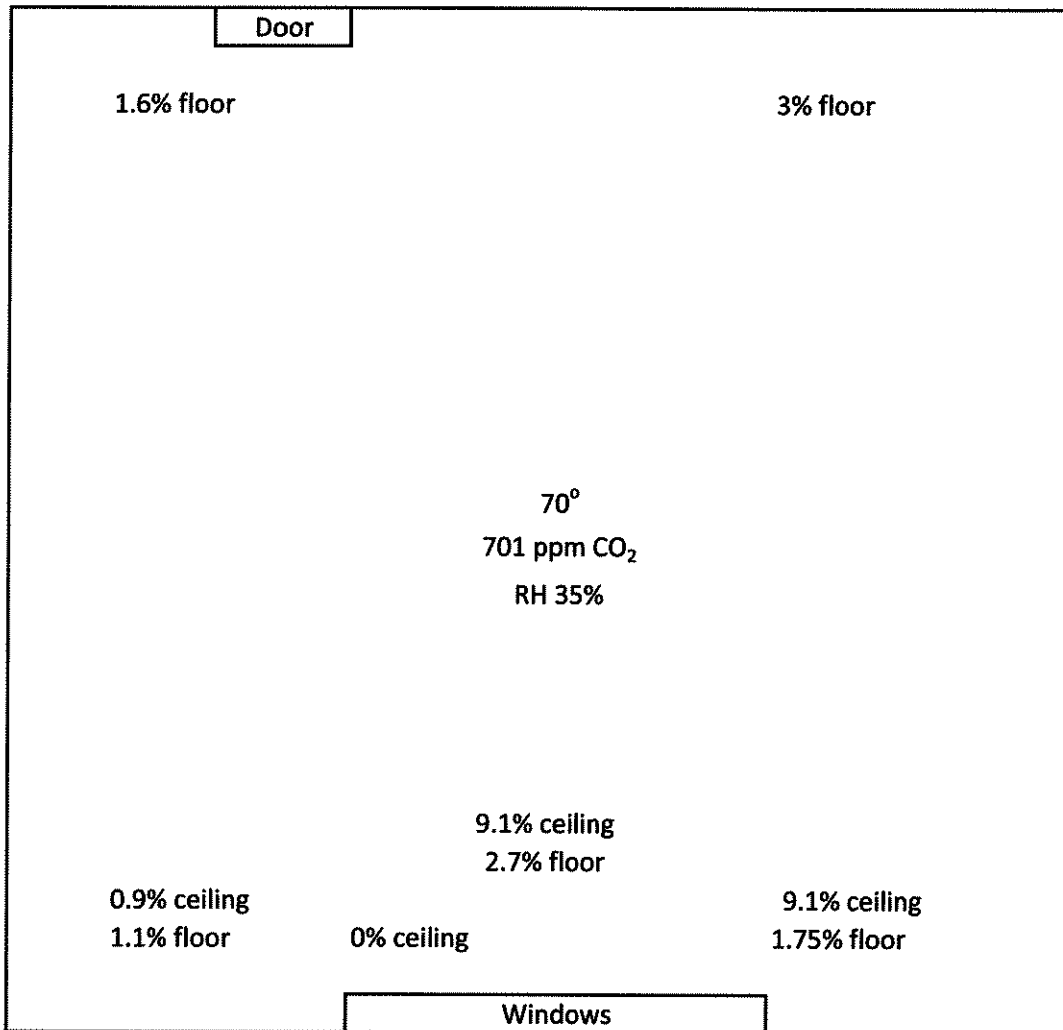
Green Meadow-Maynard
Room 7K



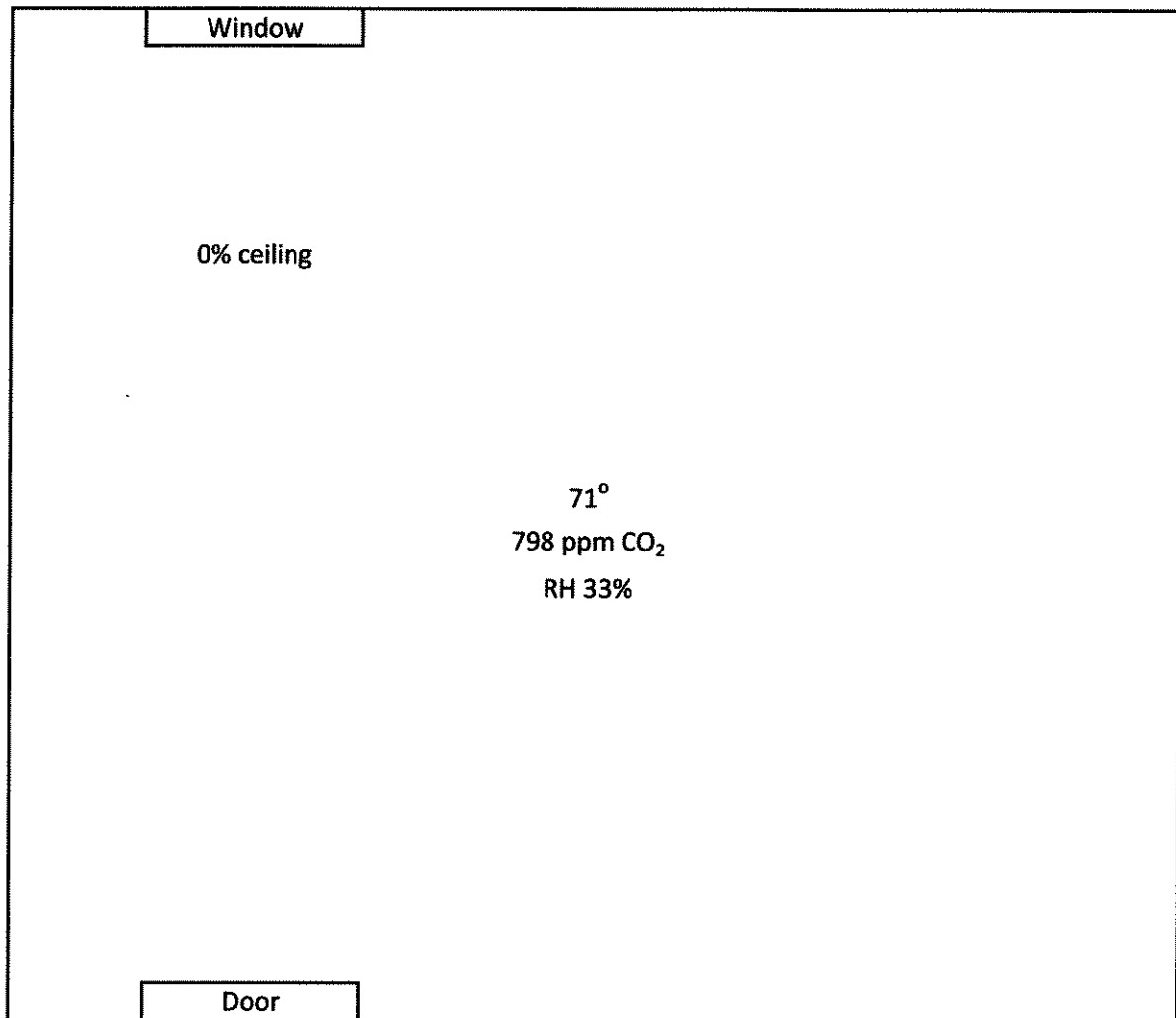
Green Meadow-Maynard
Room 7E



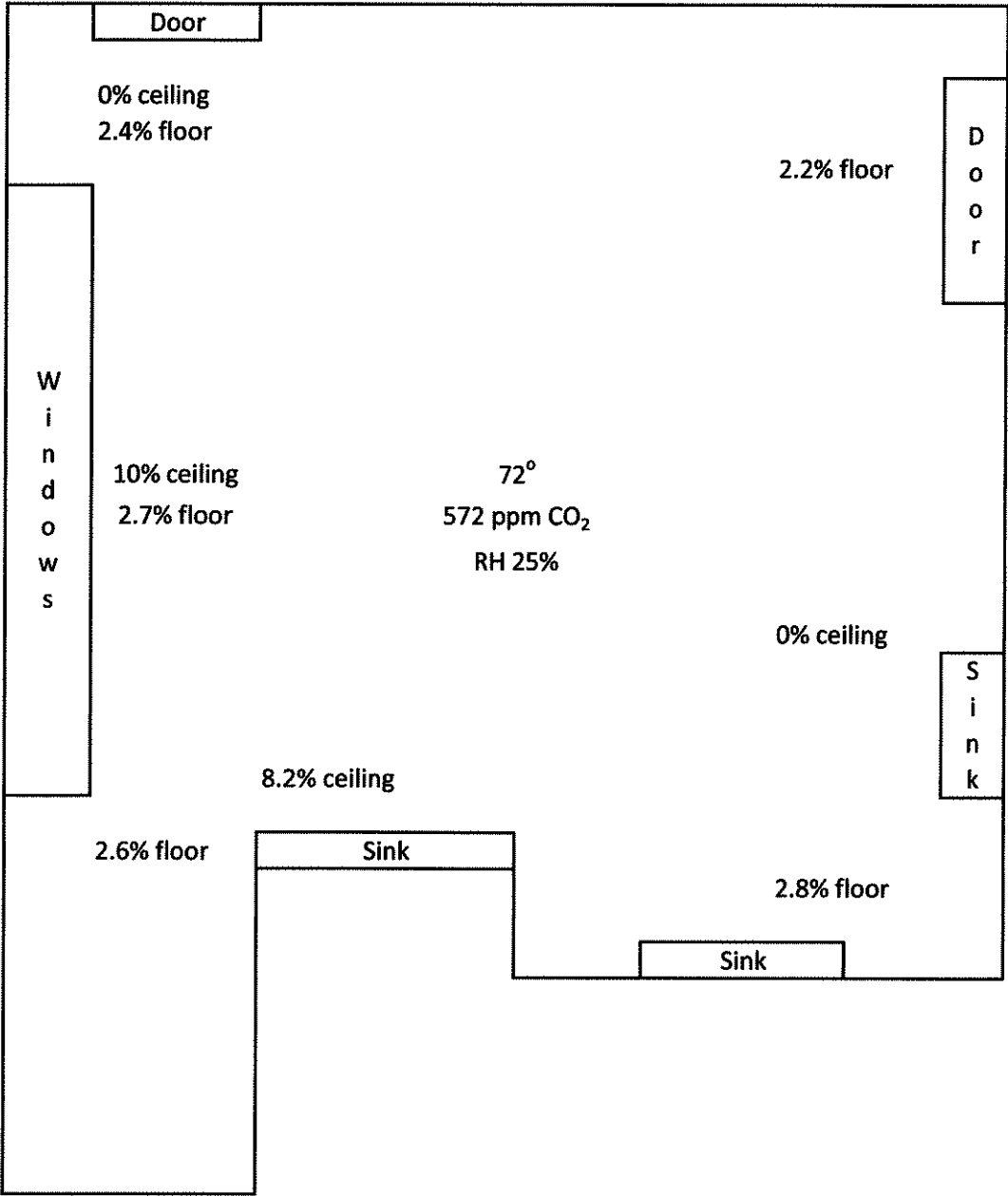
Green Meadow-Maynard
Room 2C



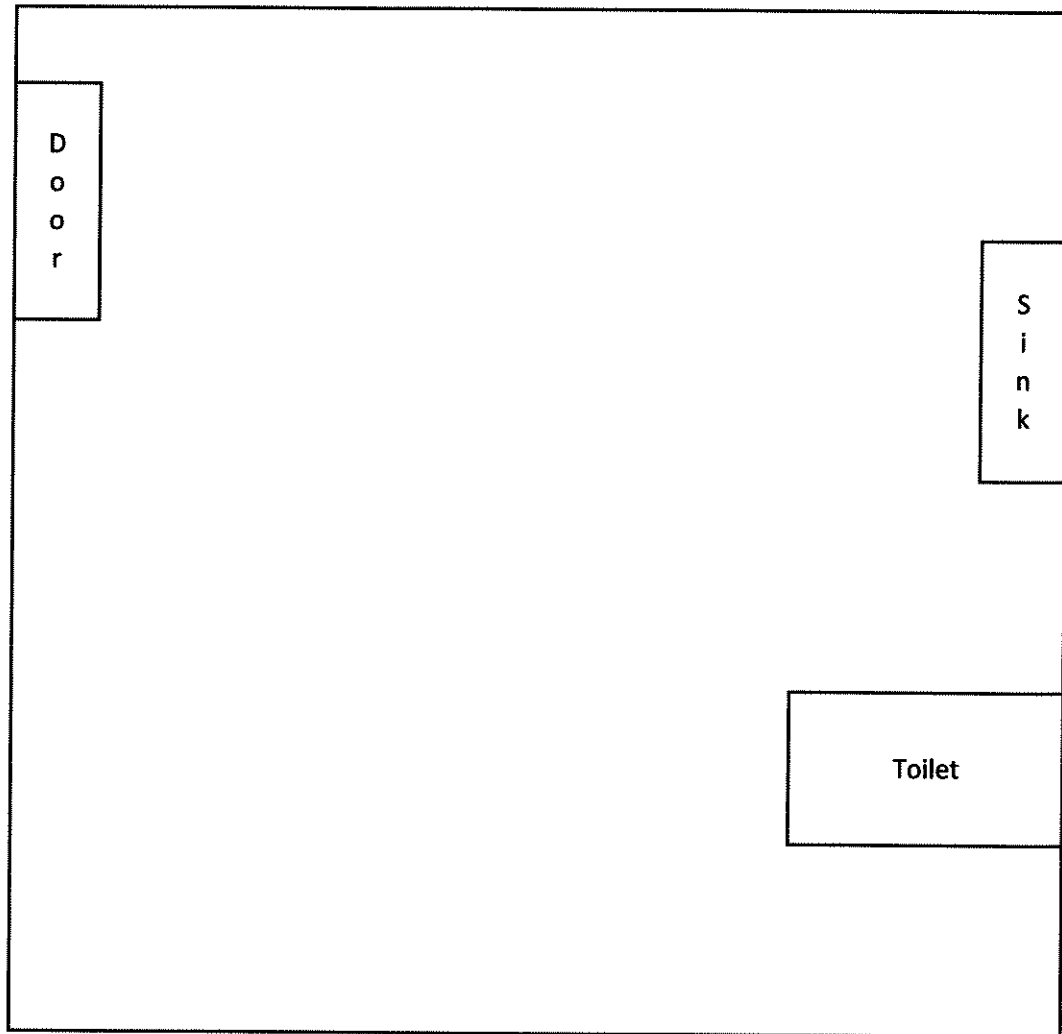
Green Meadow-Maynard
Library Office



Green Meadow-Maynard
Art Room



Green Meadow-Maynard
Teachers' Bathroom



Green Meadow Elementary School Maynard, Massachusetts

Art Room Ceiling



Art Room dirty shelf



Library Office ceiling



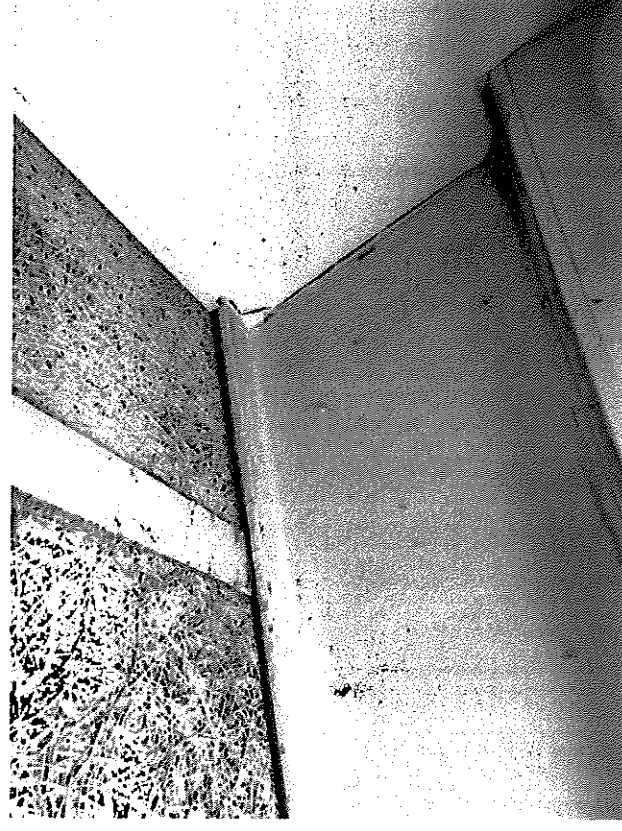
Art Room



Library Office



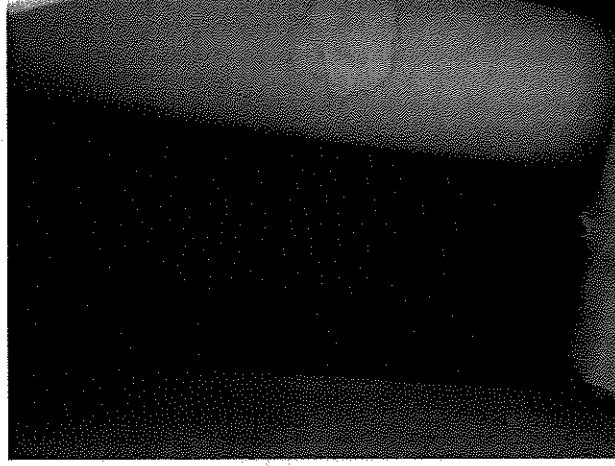
2C



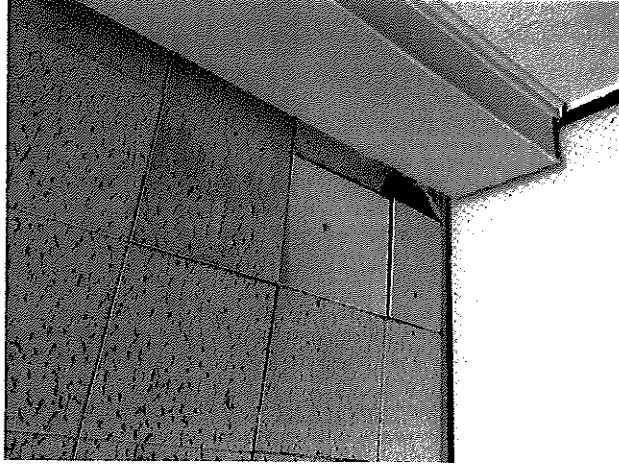
7E



7B above drop ceiling



7E



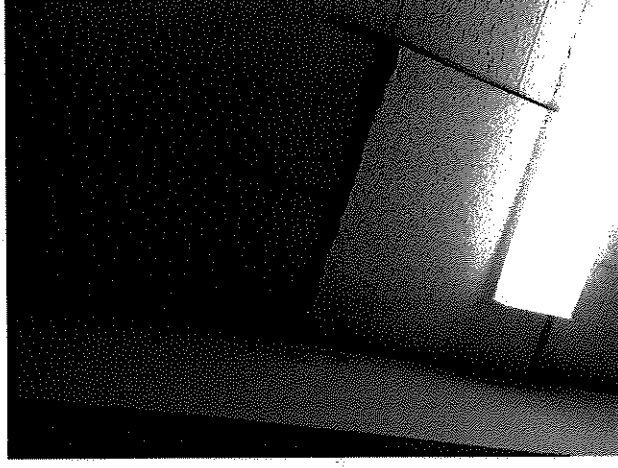
7B Missing tile and stain



7B Missing tile



7C ceiling front wall



7C



7C Ceiling

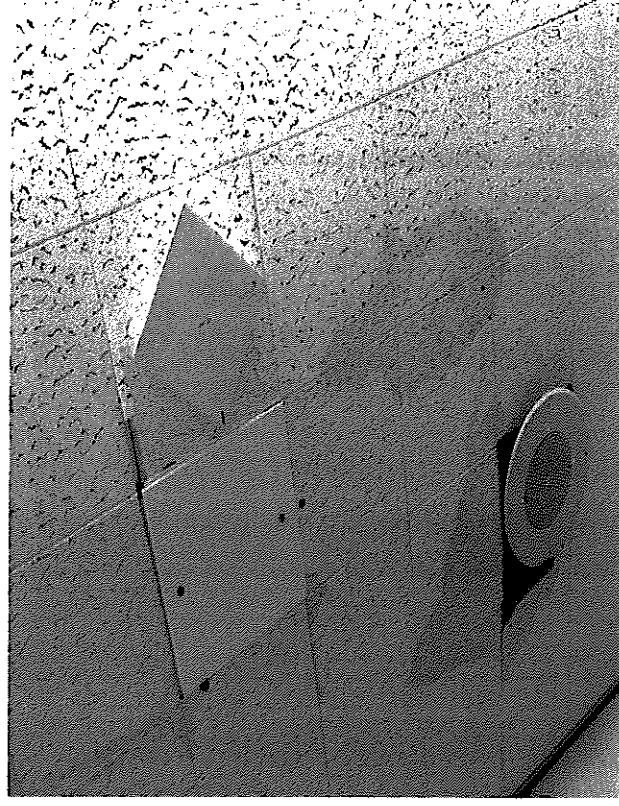




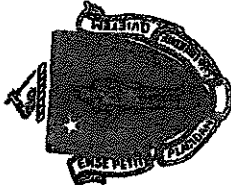
7D



7D (Cont'd)

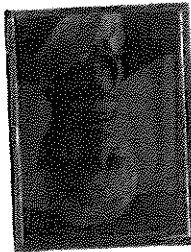


University of Massachusetts



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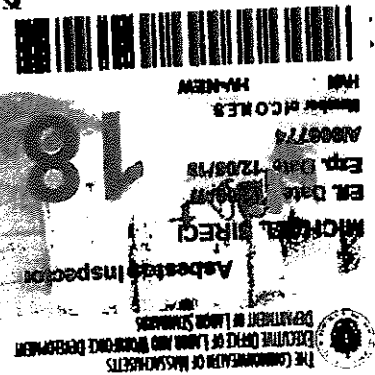
William D. McKinney,
Director



*the Degree of
Master of Science in Work Environment*

*in consideration of the satisfactory completion of the Course of Study
prescribed for that Degree.*

*Given at Lowell
June 1, 1997*



Hoyan
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