



Mystic Air Quality Consultants, Inc.

1204 North Road (Rt. 117) Groton, Connecticut 06340

June 15, 2016

Oxford Public Schools
1 Great Hill Road
Oxford, Connecticut 06478
Attn: Mr. John Barlow

**Re: Limited Accessible Indoor Air Quality Survey with Bioaerosol
(Environmental Fungi) Enumeration and Genus Identification**

Date of Survey: June 2, 2016

**Location: Oxford Center School
462 Oxford Road, Oxford, CT 06478**

**Encl: (1) Recommendations
(2) Ambient Air Sample Results
(3) Fungi Air Sample Screening Results with Chain of Custody
(4) Limitations of Survey
(5) Diagram of School**

Dear Mr. Barlow:

As requested, on June 2, 2016, Mystic Air Quality performed a limited and directed ambient air sampling and accessible visual investigation of several locations referenced in the school building to sample indoor air quality. The sampling included the following buildings located on the school campus.

- Main Building – Built 1947, 1955 and 2006
- Portable Building 8 – Built 2000
- Campus Buildings 1 thru 7 – Built 1957

In addition to conducting direct reading air measurements, accessible visual observations were made of the areas sampled. This included looking for water damage, cleanliness of the areas, if visible microbial growth was present and anything else that might contribute to air quality in the building.

The purpose of Mystic Air Quality's visit was limited in scope. Mystic Air Quality can only evaluate the current condition of the areas sampled and makes no assumptions on any work that was previously conducted. Sampling and observations were made only of the space or spaces listed in this report. This survey was limited in sampling and investigation and can only be relied on as a screening "snapshot" of conditions occurring in the building at the time of the survey.

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A slight musty odor was detected during the survey in Building 8, Classroom 5. Typically musty odors are associated with fungal growth. As mold begins to grow the fungi begin to release fungal volatile organic compounds (FVOCs) that take the characteristic of a damp musty odor.

Enclosure (2) contains the ambient gas, vapor, temperature and humidity air sample results. Results reflect the conditions only at the time the samples were taken. Sampling was conducted using direct reading instruments for carbon dioxide, carbon monoxide, total hydrocarbons, oxygen, combustible gases, hydrogen sulfide, respirable particulates, temperature and humidity.

At the time of the survey carbon monoxide, total hydrocarbons, respirable particulates, oxygen, combustible gases, hydrogen sulfide, humidity and temperature levels were within applicable guidelines and/or recommendations.

Carbon dioxide ambient levels in several classrooms were above The American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE) recommended guideline however all the carbon dioxide levels were below OSHA's Permissible Exposure Limit.

Enclosure (3) contains the mold ambient air sample results. Sampling was conducted using an Allergenco Cassette that is a unique sampling device designed for the rapid collection and analysis of a wide range of airborne particles, including total fungal spores. The cassette is attached to a high flow calibrated pump that operates at fifteen (15) liters per minute for five minutes.

Although a limited number of samples was taken indoors and outdoors of the school buildings a comparison of biodiversity was also evaluated with limitations.

Genus identification by the laboratory indicated similar biodiversity when compared to the outside reference air samples. In other words the molds identified inside the classrooms were similar and lower than what was detected outdoors.

The exception was Classroom 5 located in Building 8. 18 Raw counts of Chaetomium species were detected on the air sample. These species of mold were not present on the Outdoor Reference Samples. A further detailed summary of this classroom is presented in Enclosure (1).

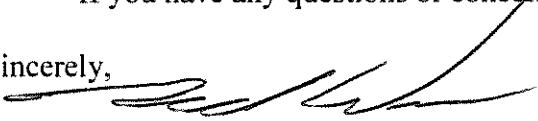
Please note, however, that certain individuals may exhibit hypersensitive or allergic symptoms in environments where there are contaminants below set standards or detectable limits.

It is important to note when reviewing these sample results, that susceptible individuals may respond not only to fungi but also to the various by-products produced by these organisms including enzymes, mycotoxins and other chemical by-products.

Please refer to **Enclosures (1) and (5)** for recommendations, limitations and school diagram of the sampling that was conducted.

If you have any questions or concerns please do not hesitate to contact me directly.

Sincerely,

A handwritten signature in black ink, appearing to read 'David Wiseman', with a long, sweeping horizontal stroke extending to the right.

David Wiseman, MS, CIAQP, CIAQC, CIEC
Compliance and Inspection Services

Enclosure (1)

Summary of Direct Reading Results

Enclosure (2) contains the ambient air sample results. Results reflect the conditions only at the time the samples were taken. Sampling was conducted for carbon dioxide, carbon monoxide, respirable particulates, total hydrocarbons, temperature and humidity. **At the time of the survey carbon monoxide respirable particulates, total hydrocarbons, oxygen, combustible gases, hydrogen sulfide, temperature and humidity were within applicable standards and/or recommendations.**

Carbon Monoxide

The real time measurements for carbon monoxide averaged none detected. These levels are well below the Occupational Safety and Health Administration (OSHA) standard of 50 ppm and below the American Conference of Governmental Industrial Hygienists (ACGIH) recommended Threshold Limit Value (TLV) of 25 ppm for carbon monoxide. **The results of carbon monoxide for all areas over the sampling period was 0 parts per million.**

Respirable Particulates

Particulate matter (PM) is a complex mixture of extremely small particles. People are exposed to PM from both naturally occurring processes and human activities. Major sources of PM include cars, trucks, construction equipment, coal-fired power plants, and wood burning. Common airborne particles in buildings include pollens, dust, mold spores, human skin flakes, fibers, building materials, and hospital materials.

The size of particles is directly linked to their potential for causing health problems. The size of PM in the air ranges from approximately 0.005 micrometers (μm) to 100 μm in diameter. The two size categories of particulates that are of particular concern for respiratory health are: particles between 2.5 micrometers and 10 micrometers in diameter, "inhalable coarse particles," such as those found near roadways and dusty industries.

Health effects that have been associated with various types of PM exposure include respiratory, eye, and skin irritation and asthma.

Levels in the school ranged from 0.006 mg/m³ to 0.018 mg/m³. The respirable particulates for the areas tested were well below the Occupational Safety and Health Administration (OSHA) standard of 5 mg/m³ and below the American Conference of Governmental Industrial Hygienists (ACGIH) recommended Threshold Limit Value (TLV) of 3 mg/m³ for respirable particulates.

Total Hydrocarbons (VOCs)

Photoionization detectors use high-energy ultraviolet light from a lamp housed within the detector as a source of energy used to remove an electron from the neutrally charged target molecules. The electrically charged fragments are called ions. PIDs collect the charged particles on charged plates. This produces a flow of electrical current proportional to the concentration of contaminant.

The amount of energy needed to remove an electron from the target molecule is called the ionization potential for that substance. The larger the molecule, or the more double or triple bonds the molecule contains, the lower the IP. Thus, in general, the larger the molecule, the easier it is to detect. This is exactly the opposite of the performance characteristics of the catalytic hot bead-type combustible sensor.

PIDs provide real-time, dynamic readings that are able to capture sudden changes in the concentration of VOC vapors in the area being monitored, and which can easily be used to track down "hot spots" or localizations in the concentration of vapor. **At the time of the sampling the quantity of total hydrocarbons (VOCs) detected on the meter in all areas tested was <1 ppm.**

Relative Humidity

The relative humidity measurements in the areas tested (average) were within the recommended ASHRAE criteria of 30-60%. If possible humidity levels should be maintained between 30% - 60%. Elevated humidity levels greatly increases the risk for microbial growth. The use of dehumidifiers or properly sized air conditioning units (window) can reduce humidity levels.

Low humidity levels will be the norm outside and inside buildings during the winter months. If building occupants experience dryness of the mucous membranes it is recommended that they increase their water intake. Humidification systems are not recommended since they are known source for microbial growth and if not maintained meticulously can pose a serious problem.

Temperature

The temperature readings should be maintained between 68.0 – 78.0 degrees Fahrenheit during the cool months and 75.0 – 82.0 during the warm months. **While temperature outside the ASHRAE recommendation may occur in the building it does not pose a health issue.** Temperature is based primarily on the comfort of the occupant(s).

Carbon Dioxide

Human occupants, water vapor and contaminants produce carbon dioxide. The more human occupants you have with minimal dilution ventilation typically the higher the carbon dioxide. **At the time of the sampling the carbon dioxide levels in all the areas tested were below the Occupational Safety and Health Administration (OSHA), Permissible Exposure Limit (PEL) of 5,000 parts per million (ppm) for carbon dioxide.**

The American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE) recommended "comfort" level of 700 ppm above outside air. The recommended range for carbon dioxide at the time of testing should be maintained at or below 1115-1120 ppm. Carbon dioxide levels no greater than 700 ppm above outside indicated comfort (odor) criteria related to human bioeffluents are likely to be satisfied. The following areas exceeded this recommendation.

<i>Building</i>	<i>Classroom</i>	<i>Occupants</i>	<i>Carbon Dioxide Level ppm</i>
2	18	24	1211
3	19	25	1392
3	20	23	1205 outside door open
4	21	0	1113
4	22	0	1176
5	23	24	1534
7	28	11	1773
Main	11	1	1382
Main	7	20	1200
Main	4	3	1110

Standards/Recommendations	----	----	700 ppm above outside ASHRAE 5000 ppm OSHA
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Using carbon dioxide as the primary indicator of bioeffluents does not eliminate the need for consideration of other contaminants. For areas that exceeded the recommended level it is recommended that more fresh air be delivered to the space through the opening of windows or increasing the ventilation system to allow for additional fresh air if available or possible.

Outdoor “fresh” air ventilation is important because it can dilute contaminants that are produced in the indoor environment, such as odors released from people and contaminants released from the building, equipment, furnishings, and people’s activities. Adequate ventilation can limit the buildup of these contaminants. It is these other contaminants and not usually the carbon dioxide that may lead to indoor air quality problems, such as discomfort, odors, “stuffiness” and possibly health symptoms. ASHRAE has developed ventilation guidelines that should maintain a comfortable environment for most occupants.

Occupants may experience health effects in buildings where CO₂ is elevated, but the symptoms are usually due to the other contaminants in the air that also build up as a result of insufficient ventilation. At high levels, the carbon dioxide itself can cause headache, dizziness, nausea, fatigue, eye symptoms, nasal symptoms and respiratory tract symptoms.

Microbial Ambient Air Sampling – Allergenco Method

Results reflect conditions only at the time samples were taken. Allergenco samples are analyzed via light microscopy at 600X magnification, with the entire slide (100% of the sample) being analyzed. The results are reported as total, meaning they include both viable and non-viable spores. The technique however does not differ between *Aspergillus* and *Penicillium* like species. If specific speciation and cultivation is desired it is recommended that sampling using malt extract agar base used in conjunction with 10-centimeter plates be conducted. This sampling method would identify culturable fungi to the genus level allowing for the differentiation between *Aspergillus*, *Penicillium* and *Trichoderma*.

SanAir Technologies Laboratory analyzed the samples. SanAir is staffed by certified microbiologists and is accredited by the American Industrial Hygiene Association’s Environmental Microbiology Laboratory Accreditation Program (EMLAP). SanAir’s laboratory identification number is 162952.

Enclosure (3) contains the ambient air screening sample results. Sampling was conducted using an Allergenco Cassette that is a unique sampling device designed for the rapid collection and analysis of a wide range of airborne particles, including fungal spores. The cassette is attached to a high flow calibrated pump that operates at fifteen (15) liters per minute for five minutes.

In the table below are the laboratory results from the sampling on June 2nd. Please reference Enclosure (3) for a complete listing of species identified.

<i>Location of Sample</i>	<i>Result (Count/M³)</i>
Building 1 – Classroom 15	560
Building 1 – Classroom 16	587
Building 2 – Classroom 17	267
Building 2 – Classroom 18	253
Building 3 – Classroom 19	1,080
Building 3 – Classroom 20	560
Building 4 – Classroom 21	400
Building 4 – Classroom 22	147
Building 5 – Classroom 23	627
Building 5 – Classroom 24	1,293
<i>Reference Samples – Outdoors</i> <ul style="list-style-type: none"> • <i>Outside Building 1</i> • <i>Outside Building 5</i> • <i>Outside Building 8</i> • <i>Outside Front of Building</i> 	10,333 10,173 12,333 7,213

Ambient Mold Sample Results Continued

<i>Location of Sample</i>	<i>Result (Count/M³)</i>
Building 6 – Classroom 25	213
Building 6 – Classroom 26	93
Building 7 – Classroom 27	133
Building 7 – Classroom 28	347
Building 8 – Classroom 5	467 Presence of 18 raw count of Chaetomium species
Building 8 – Classroom 4	2,027
Main Building – Classroom 11	1,173
Main Building – Classroom 12	1,480
Main Building – Classroom 13	1,547
Main Building – Classroom 14	1,413
Reference Samples – Outdoors	
• Outside Building 1	10,333
• Outside Building 5	10,173
• Outside Building 8	12,333
• Outside Front of Building	7,213

Ambient Mold Sample Results Continued

<i>Location of Sample</i>	<i>Result (Count/M³)</i>
Main Building – Classroom 10	827
Main Building – Classroom 9	1,347
Main Building – Classroom 13	1,547
Main Building – Classroom 14	1,413
Main Building – Classroom 10	827
Main Building – Classroom 9	1,347
Main Building – Classroom 8B	240
Main Building – Classroom 8	827
Main Building – Classroom 7	667
Main Building – Classroom 5 (Art Room)	747
Main Building – Classroom 6 (Music Room)	547
Library	1,240
Computer Lab	333
Reading Room	507
<i>Reference Samples – Outdoors</i> <ul style="list-style-type: none"> • <i>Outside Building 1</i> • <i>Outside Building 5</i> • <i>Outside Building 8</i> • <i>Outside Front of Building</i> 	10,333 10,173 12,333 7,213

Ambient Mold Sample Results Continued

<i>Location of Sample</i>	<i>Result (Count/M³)</i>
Main Building – Classroom 3	747
Main Building – Classroom 4	267
Gym	2,173
<i>Reference Samples – Outdoors</i> <ul style="list-style-type: none">• <i>Outside Building 1</i>• <i>Outside Building 5</i>• <i>Outside Building 8</i>• <i>Outside Front of Building</i>	<i>10,333</i> <i>10,173</i> <i>12,333</i> <i>7,213</i>

Although a limited number of samples was taken indoors and outdoors of the school buildings a comparison of biodiversity was also evaluated with limitations.

Genus identification by the laboratory indicated similar biodiversity when compared to the outside reference air samples. In other words the molds identified inside the classrooms were similar and lower than what was detected outdoors.

The exception was Classroom 5 located in Building 8. 18 Raw counts of Chaetomium species were detected on the air sample. These species of mold were not present on the Outdoor Reference Samples.

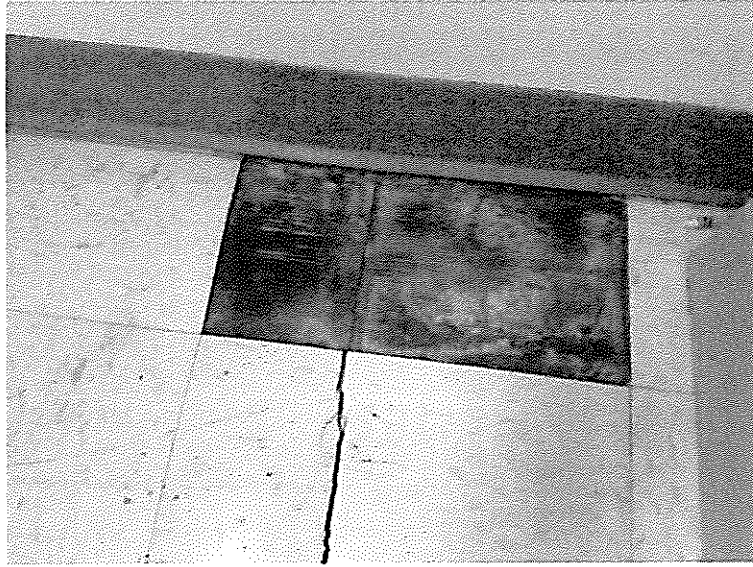
Explanation of Air Sampling

With the present science, the primary method to identify microbial reservoirs is to identify liquid water and/or moisture sources. The sampling was of an extremely limited nature and it is imperative not to rely on these results as the sole criteria for determining remediation. The samples results presented in this report are for environmental purposes only and are used to assist in the determination of potential microbial reservoirs or amplifiers.

Building 8 – Classroom 5

Several issues were present at the time of the inspection pertaining to Building 8. The mold air sampling when compared to the outdoor reference samples revealed the presence of Chaetomium species. The laboratory analysis indicated the presence of 18 raw counts of these species. According to SanAir's organism description "it is found on a variety of substrates containing cellulose including paper and plant compost. It can be found on the damp or water damaged paper sheetrock after a long term water damage. Several species have been reported to play a major role in decomposition of cellulose made materials.

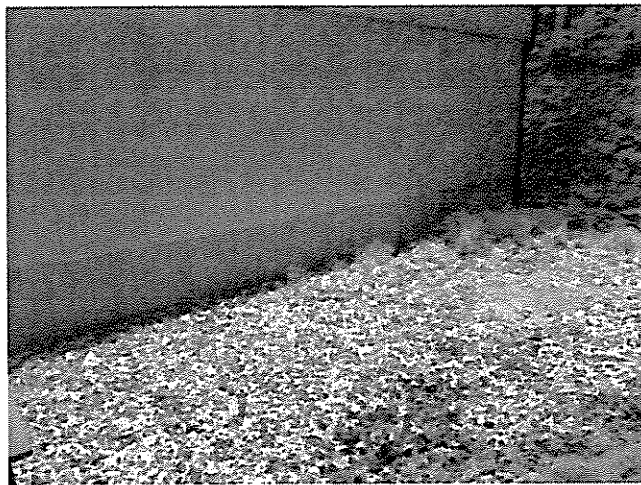
The inspection of the classroom revealed the presence of severely damaged wooden subfloor that adjoins the custodial closet that contains a mop sink. The picture below was taken of the floor in the classroom showing evidence of water damage. A musty odor was detected when the tile was removed from the floor.



Based on the mold air sampling and visual inspection of the classroom it is recommended that a further investigation be performed of the adjacent wall separating the classroom and custodial closet. This would include the removal of the lower wall and treating and removing any mold that might be present. Any damage to wood should also be addressed through the cleaning/disinfecting or replacement.

Building 8 – Exterior

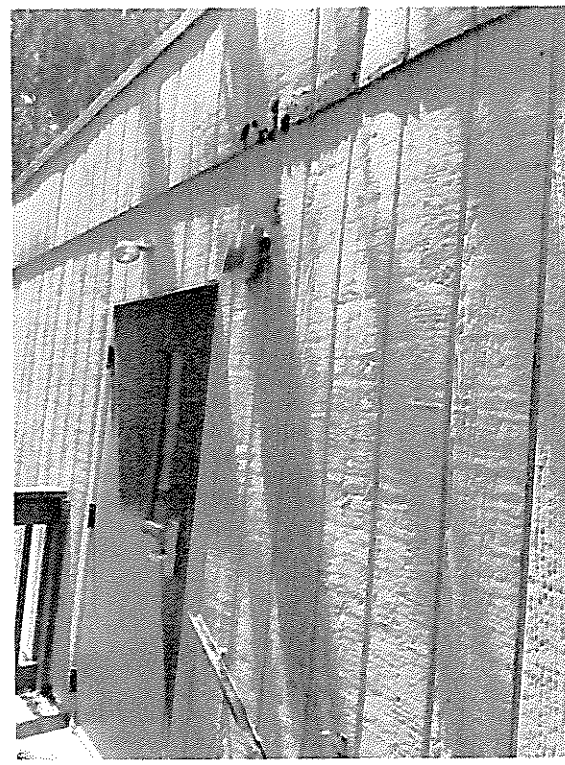
A walkthrough of the exterior of Building 8 also revealed issues that can contribute to potential air quality issues. The accumulation of leaves surrounding the perimeter of the building is of concern and need to be removed especially during the fall.



Building 8 – Exterior (continued)



Accumulation of leaves and other vegetation that needs to be removed. Working downspouts need to be extended further away from the elevated foundation of the portable



Signs of wood rot to exterior siding of portable. In addition to decay of wooden handrail. These items need to be repaired and the removal of tree branches to gain additional sunlight will help in reducing additional damage to the building.

Building 8 – Exterior (continued)



Front of building showing evidence of disconnected downspout. Could cause an ice buildup during the winter where foot traffic is present. Also the shirting along the perimeter of the building needs to be repaired to minimize rodents from entering.

Ventilation Supply/Return Grills – Campus Buildings 1-7

Observations during the survey revealed visible dust build-up on the supply and return units. There are several factors at work that can be responsible for the surface dust build-up ventilation grills. The factors are gravity, and attraction (electrostatic forces and moisture). The surface dust build up cannot be used as an indication of contamination in the ductwork.

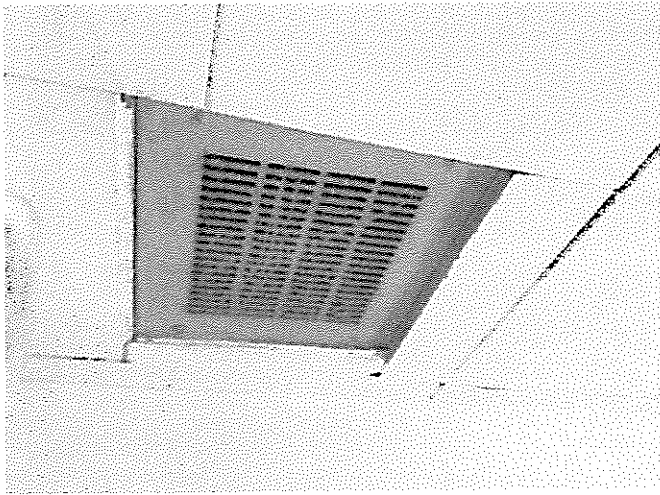
Depending on the size and length of particles certain types of particles can remain airborne longer than others. Particles such as cat dander, cell debris may require days before they settle in the room. Eventually, thanks to gravity all particles present in the room will settle. Settled particles tend to cover most flat surfaces. Those particles still airborne tend to follow the airstream (exhaust) until it strikes a solid surface (grill).

The second factor at work can be from air coming out of an air handler, open windows or general foot traffic can cause a high enough velocity to make particles electronically charged. This charge is then passed on to any particles moving through the airstream. Once charged the particles will be naturally attracted to any surfaces in the room that has the opposite charge. This would include desks, walls, windows, etc.

The third charging condition is called bipolar. Bipolar occurs when the particle is caught in some air turbulence within the duct system. This causes the particles to have both positive and a negative charge. The particles are now attracted to each other and collect on surfaces to form larger, more visible particles. An example would be fan blades on ceiling fans or the filter media for the air handler unit.



Building 3 – Classroom 20
Dirty return grill located in coat closet.



Building 5 – Classroom 24
Dirty return grill located in bathroom.

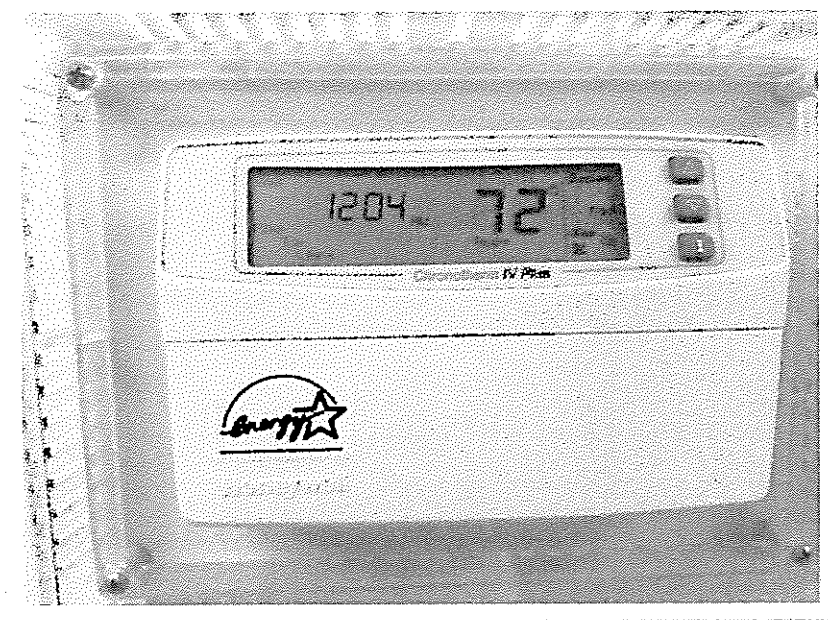


Campus Buildings – surface dust build
up inside supply diffusers.

All supply and return grills in the campus buildings (includes exhausts only in main building) should be taken down and cleaned removing the surface dust build-up. Cleaning should be conducted using a HEPA vacuum and/or wet wiping methods to limit particle dispersion. The ventilation system should be shut down while performing the cleaning. The cleaning of the supply and returns should be placed in a periodic maintenance schedule.

Campus Buildings 1-7 – Thermostat Control

The campus buildings have the ability to control the temperature, fan control and other functions. Not all buildings were running the system during the inspection. Several revealed that the fan had been turned to “Auto” instead of being “On” as intended by the school. Having the ventilation system operate with the fan on continuous mode can help in reducing air quality issues. Running the fan continuously can be less wear and tear on the motor. It will also have a beneficial effect on the air distribution and even heat distribution throughout the classrooms. A downside of continuous blower fan operation is higher electrical costs. However the need to reduce building dust and allergen levels and/or increase comfort levels, this approach might avoid wasting money on other attempts at air cleaning that are expensive and less effective. The bottom line is that if the building’s system is designed for continuous operation, has great filtration, and the setting is far from the ambient temperature outdoor (i.e. very cold setting in summer or very hot setting in winter) it will probably do better to leave it on continuously.



Water Damaged Materials

At the time of the sampling visual observations were also made of the areas tested. Water damaged porous building materials were noted in the following areas:

- Building 2 – Classroom 18 – Ceiling tiles in coat closet
- Building 3 – Classroom 19 – Ceiling tile in cost closet
- Building 3 – Classroom 20 – Isolated ceiling tiles
- Building 4 – Classroom 21 – Isolated ceiling tiles
- Building 4 – Classroom 22 – Ceiling tiles in closet and classroom
- Building 5 – Classroom 23 – Isolated ceiling tiles
- Library – Isolated ceiling tiles
- Reading Room – Isolated ceiling tiles
- Gym – Isolated ceiling tiles

Since porous water damaged building materials are capable of fungi germination in as little as twenty-four hours, it is recommended that any future water leaks, water intrusion or condensation issues be repaired and any porous water damaged building materials be replaced.

Air Fresheners

Located in several classrooms were reed/oil and plug in air freshners. While these products provide odor control in bathrooms, classrooms, closets, etc. there might be a situation where the individual might have hypersensitivities to the fine odor. Symptoms may include headaches, dizziness, fatigue, shortness of breath or other allergic reactions. If problems persist it is recommended that the air fresheners be removed from the various classrooms.

Pest Allergens

During the survey a frog and fish aquarium were noted in the campus buildings. Fish tanks, snakes, lizards, etc. since they do not shed dander or have feathers are less likely to cause allergic reactions in individuals. However with these animals come other health issues such as salmonella. Aquariums can add moisture to the air increasing the possibility of microbial growth. Aquariums were located in Classroom 19 and Classroom 28. If aquariums are to be used in the classrooms they must be maintained on a continuous basis to limit algae growth and odors associated with poor maintenance.

Housekeeping

Molds identified indoors are typically associated with moisture, and dust accumulation. Several classrooms located in the campus buildings indicated dust accumulation. This was visually apparent in Buildings 5 thru 7. It is recommended that these classrooms be cleaned on a daily basis to reduce dust and dirt accumulation. The cleaning should involve the removing of dust on all vertical and horizontal surfaces. Cleaning of the spaces would include the following procedures. Please note that these are just recommendations and can change depending on scope of work.

- Clean by HEPA vacuuming all surfaces followed by wet wiping all surfaces including window frames, walls, ceilings, floors, cabinets, heating units, etc. then HEPA vacuumed again.



Building 6 – Classroom 25

General Observations

- Building 4 – Classroom 21. The base of the metal door leading to the outside is rusted and in need of repair or replacement. If not addressed that can allow water intrusion and other issues (rodents).
- Building 1 was has been unoccupied for some time was inspected. The building contains new ceiling tiles, epoxy floor and walls, and both closets have had their walls replaced. No unusual odors were detected.
- Many of the campus building windows had failed window seals. It was noted that there is a schedule for those windows to be replaced.
- There are returns located in the closet of the classroom in the Main Building. They are returns only and are controlled manually be a switch. It is important that these returns remain on during the school day. Several of these returns exhibited surface dust build up and must be cleaned.

Window Air Conditioning Units

When window mounted air conditioning units are to be used during the school year there are several recommendations. The good news is, bigger is not always better for these types of units. The key to proper cooling is to match the capacity of the air conditioner to the dimensions of the area you intend to cool. An underpowered AC unit, obviously, will struggle to cope with the heat stored in a large room. Conversely, though, a unit with too high a BTU rating may provide disappointing performance in a smaller room.

This is because one of the main functions of any AC unit is to remove excess humidity from the air. An air conditioner that cools too effectively must cycle its motor on and off more frequently, giving the unit's condenser element inadequate opportunity to dehumidify the air. All this starting and stopping also exacerbates mechanical wear and tear, posing a risk to long-term reliability.

The following chart below provides general guidelines for selecting an appropriate BTU rating to match the area where the air conditioners are located.

100 to 150	5,000
150 to 250	6,000
250 to 300	7,000
300 to 350	8,000
350 to 400	9,000
400 to 450	10,000
450 to 550	12,000
550 to 700	14,000
700 to 1,000	18,000
1,000 to 1,200	21,000
1,200 to 1,400	23,000
1,400 to 1,500	24,000
1,500 to 2,000	30,000
2,000 to 2,500	34,000

Prior to the cooling season it is recommended that all window air conditioning units be cleaned and serviced. If these units remain in windows all year long many things can be housed in the unit during the winter months. The maintenance and cleaning should incorporate the following:

- Remove and reinstall the unit if possible
- Clean the cooling coils, remove dust and debris
- Install a new air filter
- Check and clear the drain to assure free flow of condensate water
- Check and verify the unit is operating correctly and properly cooling

Dehumidifiers

Dehumidifiers can help in controlling and reducing moisture and humidity levels in classrooms, basements, lower levels, crawl spaces, etc. during the year especially in the summer months. When operating correctly the dehumidifier will aid in controlling humidity levels below 60%. Ideally a safeguard would be below 45% relative humidity. The unit should be inspected, cleaned and maintained according to the manufacture's recommendations. It is important to ensure that the dehumidifier is large enough for the space and that it is properly draining and in working order.

Personnel - Certified-Non-Certified

Rights, Responsibilities and Duties

Acceptable Computer Network Use (Employee Use of Technology)

Social Networking Websites

The Board of Education (Board) strongly discourages District staff from socializing with students outside of school on social networking websites, including but not limited to MySpace, Facebook, Twitter, or dating websites.

Personal social media use should be separate from use of social media as an educational or communication tool. Social media can be used as an educational tool as outlined in Policy and Regulation 6141.326 and Policy and Regulation 1114. Any and all references, including but not limited to, the Oxford Board of Education, Administration, individual schools, programs, students, activities, etc. shall not be used on a personal social media account in a manner that may be construed as official district communication. An employee may not link a personal social media site or webpage to a district-sponsored social media site, the BOE's website or the websites of individual schools, programs or teams.

All District employees, faculty and staff who participate in social networking websites shall not post any District data, documents, photographs, or other District owned or created information on any website. Further, the posting of any private or confidential District data is strictly prohibited.

Nothing in this policy prohibits employees, faculty, staff or students from the use of approved educational websites if such sites are used solely for educational purposes.

Access of social networking websites for individual use during school hours is prohibited.

The misuse of social media can substantially interfere with the effective operation of the school district and can impinge significantly upon the rights of others.

School district employees are prohibited from engaging in any conduct on social networking websites that violates the law, Board policies, or other standards of conduct. Conduct must negatively impact or disrupt the educational environment in the school. Employees who violate this policy may face discipline and/or termination, in line with other Board policies, acceptable use agreement, and/or collective bargaining unit agreements, as applicable. A teacher may be recommended for dismissal if

- A) he/she has behaved in any unethical or lascivious conduct;
- B) there is an inappropriate and/or adverse relationship between the conduct;
- C) their ability to function in a professional manner is compromised.

Personnel - Certified-Non-Certified

Rights, Responsibilities and Duties

Acceptable Computer Network Use (Employee Use of Technology)

Social Networking Websites

The Board of Education reserves the right to monitor all employee use of district computers and other electronic devices, including employee blogging and social networking activity. An employee should have no expectation of personal privacy in any personal communication made through social media while using district computers, cellular telephones or other electronic data devices.

See also Policy 1114
 Policy 6141.321
 Policy 6141.322
 Policy 6141.326
 Policy 6141.328

Adopted	January 26, 2016
Amended	March 18, 2016
Amended DRAFT	June 28, 2016

Oxford Public Schools
Oxford, CT

Instruction

Internet/Computer Networks Use

Online Social Networking

The Internet and electronic communications have vast potential to support curriculum and student learning. The Board of Education (Board) believes they should be used in school as a learning resource both in developing student literacy and providing on-going professional staff development activities. The Board realizes that existing and emerging smart technologies present new challenges to the educational community.

District Social Media shall be used in conjunction with other standardized means of communication including but not limited to email, hard copy letters or flyers, or phone calls. The use of District Social Media shall not be used as the primary nor sole method of communication with students, parents, staff, and the community.

Definitions

Social Media - also referred to as social networking, is a form of electronic communication through which users create online communities to share information, ideas, personal messages, and other content. Social media includes, but is not limited to, social networking sites such as Twitter, LinkedIn, YouTube, and Facebook.

Sharing District and Community Information

District-sponsored social media may only be used for the purpose of sharing district-related information with families, students, staff, and community regarding meetings, activities, games, announcements, etc. for a school based club, school based activity, an official school based organization or an official sports team, or other similar groups.

- a. The employee must seek and obtain the written permission of his/her supervisor prior to setting up and/or utilizing the site by submitting a "social media request form," which shall include a written description of the proposed use of the site.
- b. The employee must set up the district-sponsored social media site as a group page and approve membership.
- c. The employee must set up the district-sponsored social media site with the ability to edit, remove or to block any lewd, profane or obscene language from being posted and monitor all communications being posted to the site.
- d. When Facebook or similar social media sites are used as a district-sponsored social media site, members will not be established as "friends" but as members of the group list.
- e. Parents shall be permitted to access any site that their child has been invited to join.
- f. The employee responsible for the site shall monitor it regularly.

Instruction

Internet/Computer Networks Use

Online Social Networking

- g. The employee's supervisor shall be permitted access to any site established by the employee for a school related purpose.
- h. Employees are required to maintain appropriate professional boundaries in the use of district-sponsored social media activity at all times.

Sharing Classroom Information

If an employee wishes to use district-sponsored social media sites to communicate information **related to specific classroom activities** with parents, students and/or other appropriate personnel, the employee must also comply with the following rules:

- a. The employee must set up the district-sponsored social media site as a group page which will be "closed" (e.g. membership in the group is limited to students, parents and appropriate school personnel).
- b. Any district employee utilizing social media as related to classroom activities is responsible for responding to posts in a timely manner.

Rules and Guidelines Concerning District-Sponsored Social Media Activity

The following applies to all uses of district sponsored social media.

1. Employees are required to comply with all Oxford Board of Education (BOE) policies and procedures and all applicable laws when using district-sponsored social media sites.
2. The Board and / or their designee (i.e. the superintendent, administration) reserves the right to monitor any and all district-sponsored social media sites. An employee should have no expectation of personal privacy with regard to any communication or post made or accessed through a district-sponsored social media site.
3. All posts on district-sponsored social media must comply with Oxford BOE's policies concerning confidentiality, including the confidentiality of student information. If an employee is unsure about the confidential nature of the information the employee is considering posting, the employee shall consult with his/her supervisor prior to making the post. See policy 5125 Student Record; Confidentiality
4. Employees are required to refrain from making harassing, defamatory, obscene, abusive, discriminatory, or threatening, or similarly inappropriate, statements in their social media posts on district-sponsored sites.

Instruction

Internet/Computer Networks Use

Online Social Networking (continued)

5. Employees are required to refrain from making harassing, defamatory, obscene, abusive, discriminatory, or threatening, or similarly inappropriate, statements in their social media posts on district-sponsored sites.
6. No personal social media site or webpage shall be linked to a district-sponsored social media site at any time. Personal and professional social media profiles and accounts must be kept separate. See Policy 4118.51/ 4218.51 Personnel - Acceptable Computer Network Use
7. An employee may not use district-sponsored social media communications for private financial gain, political, commercial, advertisement, proselytizing or solicitation purposes.
8. An employee may not use district-sponsored social media communications in a manner that misrepresents personal views as those of the Board, individual school or school district, or in a manner that could be construed as such.

Disciplinary Consequences for Inappropriate, Unauthorized and Illegal Use

Violation of the Board's policy concerning the use of social media may lead to discipline up to and including the termination of employment consistent with state and federal law.

(cf. 4118.24/4218.24 - Staff/Student Non-Fraternization)

(cf. 4118.4/4218.4 - E-Mail - Electronic Monitoring)

(cf. 4118.5/4218.5 - Acceptable Computer Network Use)

(cf. 4118.51/4218.51 - Acceptable Computer Network Use)

(cf. 4131 - Staff Development)

(cf. 5125 - Student Records)

(cf. 6141.32 - Computer Literacy)

(cf. 6141.321 - Student Acceptable Use of the Internet)

(cf. 6141.322 - Websites/Pages)

(cf. 6141.323 - Internet Safety Policy/Filtering)

Instruction

Internet/Computer Networks Use

Online Social Networking (Continued)

Legal References: Connecticut General Statutes

The Freedom of Information Act.

53A-182B Harassment in the first degree.

P.A. 98-142 An Act Requiring Notice to Employees of Electronic Monitoring by Employers.

United States Code, Title 20.

675 1-6777 Enhancing Education Through Technology Act, Title II, Part D, especially: 6777 Internet safety.

United States Code, Title 47.

254 Universal service discounts (E-rate).

Code of Federal Regulations, Title 47.

54.520 Internet safety policy and technology protection measures, E-rate discounts.

Enclosure (2)

Mystic Air Quality Consultants, Inc.

1204 North Road, Groton, Connecticut 06340 (860) 449-8903

AMBIENT AIR SAMPLE RESULTS

LOCATION: Oxford Center School

462 Oxford Road

Oxford, CT 06478

DATE: June 2, 2016

SAMPLE LOCATION	Occupants	CO2 Carbon Dioxide ppm	CO Carbon Monoxide ppm	Hydrogen Sulfide ppm	O2 Oxygen %	Total Hydrocarbons ppm	Temperature F	Humidity %	Respirable Particulates mg/m ³	% LEL Combustible Gases	Fungi Sample #
Building 1 Classroom 15	0	494	<1	<1	20.9	<1	70.7	57.3	.010	<1	1674862
Building 1 Classroom 16	0	465	<1	<1	20.9	<1	68.9	64.6	.010	<1	1674856
Outside Building 1	---	420	<1	<1	20.9	<1	66.9	66.5	.016	<1	1674841

Building 2 Classroom 17	0	936	<1	<1	20.9	<1	68.3	64.4	.006	<1	1674860
Building 2 Classroom 18	24	1211	<1	<1	20.9	<1	70.5	66.3	.006	<1	1674845

Building 3 Classroom 19	25	1392	<1	<1	20.9	<1	71.3	54.9	.013	<1	1674863
Building 3 Classroom 20	23	1205 Door Open	<1	<1	20.9	<1	69.6	57.2	.008	<1	1674832

Building 4 Classroom 21	0	1113	<1	<1	20.9	<1	72.4	59.7	.009	<1	1674821
Building 4 Classroom 22	0	1176	<1	<1	20.9	<1	71.3	64.3	.006	<1	1674835
Standards		700 above outside ASHRAE 5000 OSHA	50 ppm OSHA	10 ppm OSHA	19.5-23.5% OSHA	Various	68-78.0 Cool Season 75-82 Warm Season ASHRAE	30-60% ASHRAE	5.0 mg/m ³ OSHA	10% OSHA	---

Sampling Instrumentation: O2, %LEL, CO, H2S – BW Gas Alert 5

Total Hydrocarbons – 3M EVM-7 Series

Temperature/Humidity/CO2/Respirable Particulates – 3M EVM-7 Series

Key: OSHA – Occupational Safety and Health Administration

ASHRAE – American Society of Heating, Refrigerating and Air-Conditioning Engineers

Mystic Air Quality Consultants, Inc.

1204 North Road, Groton, Connecticut 06340 (860) 449-8903

AMBIENT AIR SAMPLE RESULTS

LOCATION: Oxford Center School

DATE: June 2, 2016

462 Oxford Road

Oxford, CT 06478

SAMPLE LOCATION	Occupants	CO2 Carbon Dioxide ppm	CO Carbon Monoxide ppm	Hydrogen Sulfide ppm	O2 Oxygen %	Total Hydrocarbons ppm	Temperature F	Humidity %	Respirable Particulates mg/m ³	% LEL Combustible Gases	Fungi Sample #
Building 5 Classroom 23	24	1534	<1	<1	20.9	<1	72.0	63.0	.011	<1	1674829
Building 5 Classroom 24	0	664	<1	<1	20.9	<1	71.6	56.6	.008	<1	1674823
Outside Building 5	----	415	<1	<1	20.9	<1	74.6	57.1	.012	<1	1674830

Building 6 Classroom 25	0	651	<1	<1	20.9	<1	74.8	52.6	.011	<1	1674825
Building 6 Classroom 26	1	600	<1	<1	20.9	<1	71.1	60.0	.006	<1	1674827

Building 7 Classroom 27	0	1097	<1	<1	20.9	<1	69.5	49.1	.006	<1	1674833
Building 7 Classroom 28	11	1773	<1	<1	20.9	<1	68.9	53.6	.007	<1	1674844
Standards		700 above outside ASHRAE 5000 OSHA	50 ppm OSHA	10 ppm OSHA	19.5-23.5% OSHA	Various	68-78.0 Cool Season 75-82 Warm Season ASH-RAE	30-60% ASH-RAE	5.0 mg/m ³ OSHA	10% OSHA	-----

Sampling Instrumentation: O2, %LEL, CO, H2S – BW Gas Alert 5

Total Hydrocarbons – 3M EVM-7 Series

Temperature/Humidity/CO2/Respirable Particulates – 3M EVM-7 Series

Key: OSHA – Occupational Safety and Health Administration

ASHRAE – American Society of Heating, Refrigerating and Air-Conditioning Engineers

Mystic Air Quality Consultants, Inc.

1204 North Road, Groton, Connecticut 06340 (860) 449-8903

AMBIENT AIR SAMPLE RESULTS

LOCATION: Oxford Center School
462 Oxford Road
Oxford, CT 06478

DATE: June 2, 2016

SAMPLE LOCATION	Occupants	CO2 Carbon Dioxide ppm	CO Carbon Monoxide ppm	Hydrogen Sulfide ppm	O2 Oxygen %	Total Hydrocarbons ppm	Temperature F	Humidity %	Respirable Particulates mg/m ³	% LEL Combustible Gases	Fungi Sample #
Building 8 Classroom 5	1	480 Windows Open	<1	<1	20.9	<1	71.8	63.2	.006	<1	1674836
Building 8 Classroom 4	0	1176 Windows Open	<1	<1	20.9	<1	74.9	55.6	.009	<1	1674824
Outside Building 8	---	417	<1	<1	20.9	<1	71.3	59.1	.014	<1	1674842

Main Building Classroom 11	1	1382	<1	<1	20.9	<1	77.2	54.2	.017	<1	1674837
Main Building Classroom 12	1	829 AC On	<1	<1	20.9	<1	75.9	48.3	.010	<1	1674828
Main Building Classroom 13	1	929	<1	<1	20.9	<1	76.1	48.5	.016	<1	1674840
Main Building Classroom 14	2	841 AC On	<1	<1	20.9	<1	74.9	47.5	.011	<1	1808584
Main Building Classroom 10	1	640 AC On	<1	<1	20.9	<1	73.0	55.1	.009	<1	1808580
Standards		700 above outside ASHRAE 5000 OSHA	50 ppm OSHA	10 ppm OSHA	19.5-23.5% OSHA	Various	68-78.0 Cool Season 75-82 Warm Season ASH-RAE	30-60% ASH-RAE	5.0 mg/m ³ OSHA	10% OSHA	---

Sampling Instrumentation: O2, %LEL, CO, H2S – BW Gas Alert 5
Total Hydrocarbons – 3M EVM-7 Series
Temperature/Humidity/CO2/Respirable Particulates – 3M EVM-7 Series

Key: OSHA – Occupational Safety and Health Administration
ASHRAE – American Society of Heating, Refrigerating and Air-Conditioning Engineers
Enclosure (2) Page 3 of 5

Mystic Air Quality Consultants, Inc.

1204 North Road, Groton, Connecticut 06340 (860) 449-8903

AMBIENT AIR SAMPLE RESULTS

LOCATION: Oxford Center School
462 Oxford Road
Oxford, CT 06478

DATE: June 2, 2016

<i>SAMPLE LOCATION</i>	<i>Occupants</i>	<i>CO2 Carbon Dioxide ppm</i>	<i>CO Carbon Monoxide ppm</i>	<i>Hydrogen Sulfide ppm</i>	<i>O2 Oxygen %</i>	<i>Total Hydrocarbons ppm</i>	<i>Temperature F</i>	<i>Humidity %</i>	<i>Respirable Particulates mg/m³</i>	<i>% LEL Combustible Gases</i>	<i>Fungi Sample #</i>
Main Building Classroom 9	1	660	<1	<1	20.9	<1	75.0	54.6	.018	<1	1808589
Main Building Classroom 8B	2	586	<1	<1	20.9	<1	76.0	53.3	.008	<1	1808585
Main Building Classroom 8	2	896	<1	<1	20.9	<1	76.6	50.3	.011	<1	1808579
Main Building Classroom 7	20	1200	<1	<1	20.9	<1	76.4	54.4	.014	<1	1808574
Main Building Classroom 5 (Art Room)	0	755 AC On	<1	<1	20.9	<1	74.9	53.9	.010	<1	1808575
Main Building Classroom 6 (Music Room)	27	1023	<1	<1	20.9	<1	73.6	54.9	.014	<1	1808570
Library	2	831	<1	<1	20.9	<1	74.1	55.6	.014	<1	1808569
Computer Lab	0	682	<1	<1	20.9	<1	75.1	56.0	.014	<1	1808576
Reading Room	2	691	<1	<1	20.9	<1	75.0	55.1	.014	<1	1808571
Standards		700 above outside ASHRAE 5000 OSHA	50 ppm OSHA	10 ppm OSHA	19.5- 23.5% OSHA	Various	68-78.0 Cool Season 75-82 Warm Season ASH- RAE	30-60% ASH- RAE	5.0 mg/m ³ OSHA	10% OSHA	—

Sampling Instrumentation: O2, %LEL, CO, H2S – BW Gas Alert 5
Total Hydrocarbons – 3M EVM-7 Series
Temperature/Humidity/CO2/Respirable Particulates – 3M EVM-7 Series

Key: OSHA – Occupational Safety and Health Administration
ASHRAE – American Society of Heating, Refrigerating and Air-Conditioning Engineers

Mystic Air Quality Consultants, Inc.

1204 North Road, Groton, Connecticut 06340 (860) 449-8903

AMBIENT AIR SAMPLE RESULTS

LOCATION: Oxford Center School
462 Oxford Road
Oxford, CT 06478

DATE: June 2, 2016

<i>SAMPLE LOCATION</i>	<i>Occupants</i>	<i>CO2 Carbon Dioxide ppm</i>	<i>CO Carbon Monoxide ppm</i>	<i>Hydrogen Sulfide ppm</i>	<i>O2 Oxygen %</i>	<i>Total Hydrocarbons ppm</i>	<i>Temperature F</i>	<i>Humidity %</i>	<i>Respirable Particulates mg/m³</i>	<i>% LEL Combustible Gases</i>	<i>Fungi Sample #</i>
Main Building Classroom 3	3	766 Window Open	<1	<1	20.9	<1	75.6	52.8	.015	<1	1808581
Main Building Classroom 4	3	1110 AC On	<1	<1	20.9	<1	74.3	38.4	.008	<1	1808586
Gym	>50	769 Doors Open	<1	<1	20.9	<1	78.5	49.4	.017	<1	1808590
Outside Front of Building	---	420	<1	<1	20.9	<1	76.2	49.0	.012	<1	1808583
<i>Standards</i>		700 above outside ASHRAE 5000 OSHA	50 ppm OSHA	10 ppm OSHA	19.5-23.5% OSHA	Various	68-78.0 Cool Season 75-82 Warm Season ASH-RAE	30-60% ASH-RAE	5.0 mg/m ³ OSHA	10% OSHA	---

Sampling Instrumentation: O2, %LEL, CO, H2S – BW Gas Alert 5
Total Hydrocarbons – 3M EVM-7 Series
Temperature/Humidity/CO2/Respirable Particulates – 3M EVM-7 Series

Key: OSHA – Occupational Safety and Health Administration
ASHRAE – American Society of Heating, Refrigerating and Air-Conditioning Engineers

Enclosure (3)

SanAir Technologies Laboratory

Analysis Report

prepared for

Mystic Air Quality Consultants

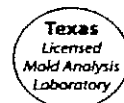
Report Date: 6/8/2016
Project Name: Oxford Center School
SanAir ID#: 16018985



NVLAP LAB CODE 200870-0



Certification # 652931



License # LAB0166



804.897.1177

www.sanair.com



SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: <http://www.sanair.com> E-mail: iaq@sanair.com

Mystic Air Quality Consultants
Linda Lastella
1204 North Road
Groton, CT 06340

June 8, 2016

SanAir ID # 16018985
Project Name: Oxford Center School
Project Number:

Dear David Wiseman,

We at SanAir would like to thank you for the work you recently submitted. The 37 sample(s) were received on Monday, June 06, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 1674862, 1674856, 1674841, 1674860, 1674845, 1674863, 1674832, 1674821, 1674835, 1674829, 1674823, 1674830, 1674825, 1674827, 1674833, 1674844, 1674836, 1674824, 1674842, 1674837, 1674828, 1674840, 1808584, 1808580, 1808589, 1808585, 1808579, 1808574, 1808575, 1808570, 1808569, 1808576, 1808571, 1808581, 1808586, 1808590, 1808583.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

L. Claire Macdonald
Microbiology Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

sample conditions:
37 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: <http://www.sanair.com> E-mail: iaq@sanair.com

SanAir ID Number

16018985

FINAL REPORT

Name: Mystic Air Quality Consultants
Address: Linda Lastella
1204 North Road
Groton, CT 06340

Project Number:
P.O. Number:
Project Name: Oxford Center School

Collected Date: 6/2/2016
Received Date: 6/6/2016 2:40:00 PM
Report Date: 6/8/2016 11:49:05 AM
Analyst: Tucker, Crystal

Air Cassette Analysis

ND = None Detected

[illegible]

Certification

Signature: Crystal Jackson
Date: 6/7/2016

Reviewed: *L. Claire Macdonald*
Date: 6/8/2016

Page 3 of 23

Name: Mystic Air Quality Consultants
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Analyst: Tucker, Crystal

Air Cassette Analysis

SanAir ID Number	16018985-017	16018985-018	16018985-019	16018985-020
Analysis Using STL:	105C	105C	105C	105C
Sample Number	1674836	1674824	1674842	1674837
Sample Identification	Bldg 8 - Classroom 5	Bldg 8 - Classroom 4	Outside - Bldg 8	Main Bldg - Classroom 11
Sample Type	Air Cassette - Allergenco-D	Air Cassette - Allergenco-D	Air Cassette - Allergenco-D	Air Cassette - Allergenco-D
Volume	75 Liters	75 Liters	75 Liters	75 Liters
Limit of Detection	13 Count/M ³	13 Count/M ³	13 Count/M ³	13 Count/M ³
Background Density	2	2+	2+	3+

Fungal Identification	Raw Count	Count/M ²	%	Raw Count	Count/M ²	%	Raw Count	Count/M ²	%	Raw Count	Count/M ²	%
Alternaria species	1	13	3				5	67	< 1	1	13	1
Ascospores	9	120	28	61	813	40	448	5973	48	28	373	32
Aspergillus/Penicillium				4	53	3	10	133	1			
Basidiospores	5	67	14	62	827	41	252	3360	27	29	387	33
Bipolaris/Drechslera												
Botrytis species				1	13	< 1						
Chaetomium species	18	240	51									
Cladosporium species	1	13	3	21	280	14	196	2613	21	19	253	22
Curvularia species							2	27	< 1			
Epicoccum species	1	13	3	1	13	< 1	2	27	< 1			
Fusicladium species							1	13	< 1			
Nigrospora species												
Oldium species												
Periconia species												
Pestalotia- / Pestalotiopsis-like										1	13	1
Pithomyces species												
Rusts										1	13	1
Smuts/Myxomycetes				1	13	< 1	9	120	< 1	9	120	10
Spegazzinia species												
Tetraploa species												
Torula species												
Ulocladium species				1	13	< 1						
Total Fungi	35	467		152	2027		925	12333		88	1173	

	Raw Count	Count/MP	%	Raw Count	Count/MP	%	Raw Count	Count/MP	%	Raw Count	Count/MP	%
Other												
Mycelial Fragments	3	40	>99	1	13	>99	2	27	>99	13	173	>99

Certification

Signature: Crystal Jackson
Date: 6/7/2016

Reviewed: *L. Claire Macdonald*
Date: 6/8/2016

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[illegible]

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: <http://www.sanair.com> E-mail: iaq@sanair.com

SanAir ID Number

16018985

FINAL REPORT

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Address: Linda Lastella
1204 North Road
Groton, CT 06340

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P.O. Number:
Project Name: Oxford Center School

Collected Date: 6/2/2016
Received Date: 6/6/2016 2:40:00 PM
Report Date: 6/8/2016 11:49:05 AM
Macdonald, Claire

ORGANISM DESCRIPTIONS

The descriptions of the organisms presented are derived from various reference materials. The laboratory report is based on the data derived from the samples submitted and no interpretation of the data, as to potential, or actual, health effects resulting from exposure to the numbers of organisms found, can be made by laboratory personnel. Any interpretation of the potential health effects of the presence of this organism must be made by qualified professional personnel with first hand knowledge of the sample site, and the problems associated with that site.

MYCELIAL FRAGMENTS - A mycelium (plural = mycelia) is the "body" of a fungus. It is a collective term for hyphae (singular = hypha), which are the tubular units of the mycelium usually composed of chitin. The terms hyphae and mycelial fragments are used interchangeably. [This information was referenced from the mycology text "The Fifth Kingdom"] In some cases a fungal identification cannot be obtained due to lack of sporulation. Only the mycelial fragments are present, and cannot be identified without the distinguishing characteristics of the spores or the structures they grow from. *Health Effects:* Allergic reactions may occur in the presence of spores (conidia) or mycelial/hyphal fragments.

ALTERNARIA SPECIES - This genus comprises a large number of saprobes and plant pathogens. It is one of the predominate airborne fungal spores indoor and outdoor. Outdoors it may be isolated from samples of soil, seeds, and plants. It is one of the more common fungi found in nature, extremely widespread and ubiquitous. Conidia are easily carried by the wind, with peak concentrations in the summer and early fall. It is commonly found in outdoor samples. It is often found in indoor environments, on drywall, ceiling tiles, in house dust, carpets, textiles, and on horizontal surfaces in building interiors. Often found on window frames. *Health Effects:* In humans, it is recognized to cause type I and III allergic responses. Because of the large size of the spores, it can be deposited in the nose, mouth and upper respiratory tract, causing nasal septum infections. It has been known to cause Baker's asthma, farmer's lung, and hay fever. It has been associated with hypersensitivity pneumonitis, sinusitis, dermatomycosis, onychomycosis, subcutaneous phaeohyphomycosis, and invasive infection. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms, chronic cases may develop pulmonary emphysema. *References:* Flannigan, Brian, Robert A. Samson, and J. David Miller, eds. Microorganisms in Home and Indoor Work Environments: Diversity, Health Impacts, Investigation, and Control. London and New York: Taylor & Francis, 2001.

ASCOSPORES - From the fungal Subphylum Ascomycotina. Ascospores are ubiquitous in nature and are commonly found in the outdoor environment. This class contains the "sac fungi" and yeasts. Some ascospores can be identified by spore morphology, however; some care should be exercised with regard to specific identification. They are identified on tape lifts and non-viable analysis by the fact that they have no attachment scars and are sometimes enclosed in sheaths with or without sacs. Ascomycetes may develop both sexual and asexual stages. Rain and high humidity may help asci to release, and disperse ascospores, which is why during these weather conditions there is a great increase in counts. *Health Effects:* This group contains possible allergens.

ASPERGILLUS/PENICILLIUM - These spores are easily aerosolized. Only through the visualization of reproductive structures can the genera be distinguished. Also included in this group are the spores of the genera Acremonium, Phialophora, Verticillium, Paecilomyces, etc. Small, round spores of this group lack the necessary distinguishing characteristics when seen on non-viable examination. *Health Effects:* Can cause a variety of symptoms including allergic reactions. Most symptoms occur if the individual is immunocompromised in some way (HIV, cancer, etc). Both Penicillium and Aspergillus spores share similar morphology on non-viable analysis and therefore are lumped together into the same group.

BASIDIOSPORES - From the Subphylum Basidiomycotina which contains the mushrooms, shelf fungi, and a variety of other macrofungi. They are saprophytes, ectomycorrhizal fungi or agents of wood rot, which may destroy the structure wood of buildings. It is extremely difficult to identify a specific genera of mushrooms by using standard culture plate techniques. Some basidiomycete spores can be identified by spore morphology; however, some care should be exercised with regard to specific identification. The release of basidiospores is dependant upon moisture, and they are dispersed by wind. *Health Effects:* Many have the potential to produce a variety of toxins. Members of this group may trigger Type I and III fungal hypersensitivity reactions. Rarely reported as opportunistic pathogens.

BIPOLARIS/DRECHSLERA - Found on grasses, grains, various plants, and decaying food. May grow in semi-dry environments. Some species are found in indoor environments. Because of the microscopic similarities between the two genera, they are grouped together on non-viable analyses. *Health Effects:* Can occasionally cause corneal infection of the eye. This group of fungi constitutes the most commonly reported causes of allergic fungal sinusitis. They produce type I fungal hypersensitivity in humans.



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SanAir ID Number

16018985

FINAL REPORT

Name: Mystic Air Quality Consultants
Address: Linda Lastella
1204 North Road
Groton, CT 06340

Project Number:
P.O. Number:
Project Name: Oxford Center School

Collected Date: 6/2/2016
Received Date: 6/6/2016 2:40:00 PM
Report Date: 6/8/2016 11:49:05 AM
Macdonald, Claire

ORGANISM DESCRIPTIONS

The descriptions of the organisms presented are derived from various reference materials. The laboratory report is based on the data derived from the samples submitted and no interpretation of the data, as to potential, or actual, health effects resulting from exposure to the numbers of organisms found, can be made by laboratory personnel. Any interpretation of the potential health effects of the presence of this organism must be made by qualified professional personnel with first hand knowledge of the sample site, and the problems associated with that site.

References: St-Germain, Guy, and Richard Summerbell. Identifying Filamentous Fungi: A Clinical Laboratory Handbook. California: Star Publishing Co., 1996.

BOTRYTIS SPECIES - Very common. It is parasitic on over 200 plants, vegetables, and soft fruits causing gray mold, but may also be found in soil. Is commonly found in tropical and temperate climates growing on vegetative matter or as a plant parasite. **Health Effects:** Reported to be allergenic, and can induce asthma attacks. Botrytis does have the potential to produce type I and III fungal hypersensitivity reactions.

CHAETOMIUM SPECIES - It is an ascomycete. It is found on a variety of substrates containing cellulose including paper and plant compost. It can be found on the damp or water damaged paper in sheetrock after a long term water damage. Several species have been reported to play a major role in decomposition of cellulose made materials. These fungi are able to dissolve the cellulose fibers in cotton and paper, and thus cause these materials to disintegrate. The process is especially rapid under moist conditions. **Health Effects:** Chaetomium can produce type I fungal hypersensitivity and has caused onychomycosis (nail infections).

References: Flannigan, Brian, Robert A. Samson, and J. David Miller, eds. Microorganisms in Home and Indoor Work Environments: Diversity, Health Impacts, Investigation, and Control. London and New York: Taylor & Francis, 2001.

CLADOSPORIUM SPECIES - The most commonly identified outdoor fungus. The outdoor numbers are reduced in the winter and are often high in the summer. Often found indoors in numbers less than outdoor numbers. It is commonly found on the surface of fiberglass duct liner in the interior of supply ducts. A wide variety of plants are food sources for this fungus. It is found on dead plants, woody plants, food, straw, soil, paint and textiles. Often found in dirty refrigerators and especially in reservoirs where condensation is collected, on moist window frames it can easily be seen covering the whole painted area with a velvety olive green layer. **Health Effects:** It is a common allergen. It can cause mycosis. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms, chronic cases may develop pulmonary emphysema. Illnesses caused by this genus can include phaeohyphomycosis, chromoblastomycosis, hay fever and common allergies.

References: Flannigan, Brian, Robert A. Samson, and J. David Miller, eds. Microorganisms in Home and Indoor Work Environments: Diversity, Health Impacts, Investigation, and Control. London and New York: Taylor & Francis, 2001.

CURVULARIA SPECIES - Curvularia is found on plant material and is considered a saprobe. It has also been isolated from dust samples and from wallpaper. **Health Effects:** It has been reported to cause type I hypersensitivity and to be a cause of allergic fungal sinusitis. It may cause corneal infections, mycetoma and infections in immune compromised hosts.

References: De Hoog, G.S., J. Guarro, J. Gene, and M.J. Figueras. Atlas of Clinical Fungi, 2nd Edition. The Netherlands: CBS, 2000.

EPICOCCUM SPECIES - It is found in plants, soil, grains, textiles, and paper products. Frequently isolated from air and occasionally occurs in house dust. Is a saprophyte and considered a weakly parasitic secondary invader of plants, moldy paper and textiles. Epicoccum is usually isolated with either Cladosporium species or Aureobasidium species. **Health Effects:** A common allergen. It also has the potential to produce type I fungal hypersensitivity reactions.

References: Flannigan, Brian, Robert A. Samson, and J. David Miller, eds. Microorganisms in Home and Indoor Work Environments: Diversity, Health Impacts, Investigation, and Control. London and New York: Taylor & Francis, 2001.

FUSICLADIUM SPECIES - Plant pathogen. Generally a parasite on various organs of many plants. (The Deuteromycetes, 1999 edition)

NIGROSPORA SPECIES - Has been isolated from air and soil samples. Usually found in plant material as a saprobe. **Health Effects:** It has been associated with type I allergic responses. No reported cases of infection.

References: St-Germain, Guy and Richard Summerbell. Identifying Filamentous Fungi: A Clinical Laboratory Handbook. California: Star Publishing Company., 1996.



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SanAir ID Number

16018985

FINAL REPORT

Name: Mystic Air Quality Consultants
Address: Linda Lastella
1204 North Road
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ORGANISM DESCRIPTIONS

The descriptions of the organisms presented are derived from various reference materials. The laboratory report is based on the data derived from the samples submitted and no interpretation of the data, as to potential, or actual, health effects resulting from exposure to the numbers of organisms found, can be made by laboratory personnel. Any interpretation of the potential health effects of the presence of this organism must be made by qualified professional personnel with first hand knowledge of the sample site, and the problems associated with that site.

OIDIUM SPECIES - This is an obligate plant pathogen causing a disease known as "powdery mildew." It is an anamorph of Erysiphe.

References: Kendrick, Bryce. The Fifth Kingdom, 3rd Edition. Newburyport, MA: Focus Publishing, 2000.

PERICONIA SPECIES - Members of this genus are typically parasitic plant pathogens. They are typically associated with plants and the outdoors. *Health Effects:* Can produce type I fungal hypersensitivity reactions. There are occasions where Periconia have been implicated in mycotic keratitis, but this is a rare event.

References: Ellis, Martin B., Ellis, Pamela, Microfungi on Land Plants: An Identification Handbook. England, The Richmond Publishing Co. Ltd., 1997.

PESTALOTIA- / PESTALOTIOPSIS-LIKE - This group consists of several genera. Mostly plant pathogens.

PITHOMYCES SPECIES - Grows on dead grass in pastures and decaying plant material. *Health Effects:* Causes facial eczema in ruminants.

References: St-Germain, Guy, and Richard Summerbell. Identifying Filamentous Fungi: A Clinical Laboratory Handbook. California: Star Publishing Co., 1996.

RUSTS - From the group Uredinales, called Rusts due to the color of the spores, which are known for causing disease in plants.

SMUTS/MYXOMYCETES - Smuts and Myxomycetes are parasitic plant pathogens. They are typically grouped together due to their association with plants, the outdoors and because they share similar microscopic morphology. *Health Effects:* Can produce type I fungal hypersensitivity reactions.

References: Martin, G.W., C.J. Alexopoulos, and M.L. Farr. The Genera of Myxomycetes. Iowa City, Iowa: University of Iowa Press, 1983.

SPEGAZZINIA SPECIES - The natural habitat for Spegazzinia is the soil, but it may also be found on plants. There is little information pertaining to health related risks and no studies on its allergenic properties.

References: Ellis, Martin B., Ellis, Pamela, Microfungi on Land Plants: An Identification Handbook. England, The Richmond Publishing Co. Ltd., 1997.

TETRAPLOA SPECIES - Tetraploa species is distributed worldwide on various plant materials. *Health Effects:* Tetraploa asistata has been reported as agent of keratitis and subcutaneous infection

References: Wang, C.J.K and R.A. Zabel The Identification Manual For Fungi From Utility Poles In the Eastern United States. Hoog, G.S. de, J. Guarro, J. Gene & M.J. Figueras "Atlas of Clinical Fungi"

TORULA SPECIES - Torula is a saprophyte and therefore often found on plant material. It may be found on wood-containing products/materials. *Health Effects:* Reported to produce type I fungal hypersensitivity.

References: Ellis, Martin B., Ellis, Pamela, Microfungi on Land Plants: An Identification Handbook. England, The Richmond Publishing Co. Ltd., 1997.

ULOCADIUM SPECIES - Isolated from soil, dead plants and cellulose materials. Found on textiles. It can be found on many types of materials, but mostly found on decaying materials. Has a greater water activity need for growth and is therefore considered a water indicator organism. *Health Effects:* Reported to be a major allergen. Rarely causes subcutaneous infections in humans. It has a high water requirement.

References: De Hoog, G.S., J. Guarro, J. Gene, and M.J. Figueras. Atlas of Clinical Fungi, 2nd Edition. The Netherlands: CBS, 2000.

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Microbiology Chain of Custody

SanAir ID Number

16018985

Mystic Air Quality Consultants		Project Number:	Phone #:
Linda Lastella		Project Name: <i>Center School</i>	Phone #: 860-449-8903
Groton, CT 06340		Date Collected: <i>6/2/16</i>	Fax #: 860-449-8860
Samples Collected By: <i>[Signature]</i>		P.O. Number:	Email:

Sample Types		Analysis Types	Turn Around Time
AC	Air Cassette	A1 - Identification and Enumeration of Fungal spores, plus total dander, fiber, and pollen count	Hours 3/6/24/48-Std
		A2 - Identification and Enumeration of Fungal spores only	Hours 3/6/24/48-Std
T B S*	Tape Bulk Swab*	D1 - Direct Identification of Fungi	Hours 3/6/24/48-Std
		D2 - Direct Identification of Mites, Insects, Pollen, etc.	Hours 3/6/24/48-Std
AP B S	Air Plate Bulk Swab	C1 - Culture Identification and Enumeration of Fungi only	5-10 Days
		C2 - Culture Identification and Enumeration of Bacteria only	2-4 Days
		C3 - Culture Identification and Enumeration of Fungi and Bacteria	5-10 Days
		C4 - Culture Identification and Enumeration of Thermophilic Bacteria with C2 or C3 analysis	2-4 or 5-10 Days
W	Water	L1 - Culture Identification and Enumeration of Legionella sp.	7-10 Days
D	Dust	M1 - Dust Mite Allergen Test	Hours 3/6/24/48-Std

SanAir Technologies Laboratory offers speciation by PCR. Please call for details and pricing.

Sample #	Sample Identification	Sample Type	Analysis Type(s)	Turn Around Time	Total Volume (L) or Area (in ²)	Time Start - Stop
1674862	Bldg 1 - Classroom 15	AC	A2	48	751	
1674856	Bldg 1 - Classroom 16					
1674841	Outside - Bldg 1					
1674860	Bldg 2 - Classroom 17					
1674845	Bldg 2 - Classroom 18					
1674863	Bldg 3 - Classroom 19					
1674832	Bldg 3 - Classroom 20					
1674821	Bldg 4 - Classroom 21					
1674835	Bldg 4 - Classroom 22					
1674829	Bldg 5 - Classroom 23					
1674823	Bldg 5 - Classroom 24					
1674830	Outside - Bldg 5					
1674825	Bldg 6 - Classroom 25					

Special Instructions	
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Relinquished by	Date	Time	Received by	Date	Time
<i>[Signature]</i>	6/2/16	1500	<i>[Signature]</i>	JUN 06 2016	8:55AM

Unless scheduled, the turn around time for all samples received after 3 pm Friday will begin at 8 am Monday morning.
Weekend or Holiday work must be scheduled ahead of time and is charged 150% of analytical rate.

*Although we allow Direct Identification from a swab sample, best results are received from tape samples.

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Microbiology Chain of Custody

SanAir ID Number

16018985

Mystic Air Quality Consultants		Project Number:	Phone #:
Linda Lastella		Project Name: <i>Cent. Jr. School</i>	Phone #: 860-449-8903
Groton, CT 06340		Date Collected: <i>6/2/16</i>	Fax #: 860-449-8860
Samples Collected By: <i>P. Wiseman</i>		P.O. Number:	Email:

Sample Types		Analysis Types	Turn Around Time
AC	Air Cassette	A1 - Identification and Enumeration of Fungal spores, plus total dander, fiber, and pollen count	Hours 3/6/24/48-Std
		A2 - Identification and Enumeration of Fungal spores only	Hours 3/6/24/48-Std
T B S*	Tape Bulk Swab*	D1 - Direct Identification of Fungi	Hours 3/6/24/48-Std
		D2 - Direct Identification of Mites, Insects, Pollen, etc.	Hours 3/6/24/48-Std
AP B S	Air Plate Bulk Swab	C1 - Culture Identification and Enumeration of Fungi only	5-10 Days
		C2 - Culture Identification and Enumeration of Bacteria only	2-4 Days
		C3 - Culture Identification and Enumeration of Fungi and Bacteria	5-10 Days
		C4 - Culture Identification and Enumeration of Thermophilic Bacteria with C2 or C3 analysis	2-4 or 5-10 Days
W	Water	L1 - Culture Identification and Enumeration of <i>Legionella</i> sp.	7-10 Days
D	Dust	M1 - Dust Mite Allergen Test	Hours 3/6/24/48-Std

SanAir Technologies Laboratory offers speciation by PCR. Please call for details and pricing.

Sample #	Sample Identification	Sample Type	Analysis Type(s)	Turn Around Time	Total Volume (L) or Area (in ²)	Time Start - Stop
1674827	Bldg 6 - Classroom 26	AC	A2	48	75	
1674833	Bldg 7 - Classroom 27					
1674844	Bldg 7 - Classroom 28					
1674836	Bldg 8 - Classroom 5					
1674824	Bldg 8 - Classroom 4					
1674842	Outside - Bldg 8					
1674837	Main Bldg - Classroom 11					
1674828	Main Bldg - Classroom 12					
1674840	" - Classroom 13					
1808584	" - Classroom 14					
1808580	" - Classroom 10					
1808589	" - Classroom 9					
1808585	" - Classroom 8B	✓	✓	✓	✓	

Special Instructions	
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Relinquished by	Date	Time	Received by	Date	Time
<i>[Signature]</i>	6/2/16	1500	<i>MC</i>	JUN 06 2016	8:55AM

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Microbiology Chain of Custody

SanAir ID Number

16018985

Mystic Air Quality Consultants		Project Number:	Phone #:
Linda Lastella	Project Name: <i>0210-01 Center School</i>	Phone #: 860-449-8903	
Groton, CT 06340	Date Collected: <i>6/2/16</i>	Fax #: 860-449-8860	
Samples Collected By: <i>W. Wiseman</i>	P.O. Number:	Email:	

Sample Types		Analysis Types	Turn Around Time
AC	Air Cassette	A1 - Identification and Enumeration of Fungal spores, plus total dander, fiber, and pollen count	Hours 3/6/24/48-Std
		A2 - Identification and Enumeration of Fungal spores only	Hours 3/6/24/48-Std
T B S*	Tape Bulk Swab*	D1 - Direct Identification of Fungi	Hours 3/6/24/48-Std
		D2 - Direct Identification of Mites, Insects, Pollen, etc.	Hours 3/6/24/48-Std
AP B S	Air Plate Bulk Swab	C1 - Culture Identification and Enumeration of Fungi only	5-10 Days
		C2 - Culture Identification and Enumeration of Bacteria only	2-4 Days
		C3 - Culture Identification and Enumeration of Fungi and Bacteria	5-10 Days
		C4 - Culture Identification and Enumeration of Thermophilic Bacteria with C2 or C3 analysis	2-4 or 5-10 Days
W	Water	L1 - Culture Identification and Enumeration of <i>Legionella</i> sp.	7-10 Days
D	Dust	M1 - Dust Mite Allergen Test	Hours 3/6/24/48-Std

SanAir Technologies Laboratory offers speciation by PCR. Please call for details and pricing.

Sample #	Sample Identification	Sample Type	Analysis Type(s)	Turn Around Time	Total Volume (L) or Area (in ²)	Time Start - Stop
1808579	Main Bldg. Classroom 8	AC	A2	48	751	
1808574	Main Bldg. Classroom 7					
1808575	Classroom 5 (Art Rm)					
1808570	Classroom 6 (Music Rm)					
1808569	L. Library					
1808576	Computer Lab					
1808571	Reading Room					
1808581	Classroom 3					
1808586	Classroom 4					
1808590	Gym					
1808584	Outside - Front of Bldg	↓	↓	↓	↓	

Special Instructions	
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Relinquished by	Date	Time	Received by	Date	Time
<i>[Signature]</i>	6/2/16	1500	ML	JUN 06 2016	8155AM

Unless scheduled, the turn around time for all samples received after 3 pm Friday will begin at 8 am Monday morning.
Weekend or Holiday work must be scheduled ahead of time and is charged 150% of analytical rate.

*Although we allow Direct Identification from a swab sample, best results are received from tape samples.

16018985

Maria E. Coker

From: Jordan L. Ridgeway
Sent: Monday, June 06, 2016 2:38 PM
To: Elisa Moore; Maria E. Coker
Subject: FW: Oxford Center School - Sample Issue

Jordan Ridgeway
Account Executive
SanAir Technologies Laboratory, Inc
1551 Oakbridge Drive, Suite B
Powhatan, Va 23139
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From: David Wiseman [mailto:dwmaqc@snet.net]
Sent: Monday, June 06, 2016 2:38 PM
To: Jordan L. Ridgeway <jridgeway@sanair.com>
Subject: Re: Oxford Center School - Sample Issue

Jordan

Yes please.

Sent from Yahoo Mail on Android

On Mon, Jun 6, 2016 at 2:31 PM, Jordan L. Ridgeway
<jridgeway@sanair.com> wrote:

RE: Oxford Center School SanAir #16018985

Hello,

AC

2240 pm

16018985

Sample 18085841 is listed twice on the COC. We did receive a sample (1808583) that is not listed on the COC. Would you like the extra sample to replace the duplicate? Thanks in advance.

Jordan Ridgeway

Account Executive

SanAir Technologies Laboratory, Inc

1551 Oakbridge Drive, Suite B

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46

Additional Information

Air Cassette Analyses

Air cassette reports indicate the genus and concentration of viable (living) and non-viable mold spores detected on the slide (A2 Analysis). Whether or not these spores are viable cannot be determined using this type of analysis. However, keep in mind that spores can remain allergenic even after cellular death. Other possible allergens include dander, pollen and fibers which are included in air cassette reports for the A1 Analysis. A1 and A2 analyses are performed on several types of air cassettes. Light microscopy at a 400 to 1000x magnification is used for air cassette sample analysis. SanAir always analyzes 100% of the impacted slide.

Explanation of Background Densities

The background density of an air cassette aids in the overall interpretation of results as it indicates the level of background debris present (e.g. dander, pollen, fibers, insect parts, soot, fly ash, etc.). Excessive background debris may mask the presence of fungal spores thereby reducing the accuracy of the count. It may also serve as an alert that the volume of air pulled was too high or too low. The following table explains background densities.

Air Cassette Density	Amount of Particulate on Slide	Explanation
1	Insignificant	Should not skew any counts
1+	Low	Should not skew any counts
2	Low to Moderate	Should not skew any counts
2+	Moderate to High	May cause occlusion of small spores
3	High	May cause occlusion of small to medium spores
3+	Very High	Will cause occlusion of spores
4	Overloaded	Level of particulate too high to perform analysis

A Note About the Fungal Spores

In some instances certain groups of fungi cannot be identified due to a lack of distinguishing characteristics. These fungi will be categorized as "unknown spores" on the final report.

The genera *Aspergillus* and *Penicillium* are typically composed of small, round spores that are difficult to distinguish from each other; therefore, they are grouped into the category *Aspergillus / Penicillium*. Other fungi that produce spores of similar characteristics may also be placed into this category, including *Paecilomyces*, *Gliocladium*, and *Trichoderma*, among others.

Stachybotrys and *Memnoniella* spores are coated with a sticky "slime" layer that may inhibit aerosolization.

Any genus of fungi detected on an air cassette with a high raw count (i.e. exceeding 500 spores) may be estimated. Any estimate higher than 12,000 spores will be reported as >12,000.

Understanding the Air Cassette Report

Each sample has 3 columns of information provided. The left is the raw count which is the number of spores for that fungal type detected on the trace. The middle column is the count per cubic meter (Count/m³) which is the raw count converted based on the total volume pulled for that sample. It represents the number of spores that should be expected in a cubic meter of air from the location in question *if* the spores were distributed evenly throughout the air. This column is helpful for interpreting results when the samples were pulled at different total volumes. In other words, the raw count of a cassette pulled at 75 liters should not be compared to the raw count of a cassette pulled at 150 liters because there may be higher counts associated with the higher volume. By comparing the "Count/m³" columns the difference in volumes are accounted for.

The limit of detection is the lowest spore count detectable with reasonable certainty, and it is calculated this way using a raw count of one. Keep in mind there are 1,000 liters in a cubic meter.

$$1 \times (1,000 / \text{Total Volume in Liters})$$

How to calculate the count per cubic meter:

$$\text{Raw Count} \times (1,000 / \text{Total Volume in Liters})$$

The last column on the right shows the percentage for which each spore type comprised the total spore count.

Understanding the Air Cassette Graph (If included in the final report)

The graph is a visual representation of the baseline sample (usually the outdoor air sample) compared individually against each indoor sample. Each spore type found on the indoor sample is compared to what was found outdoors per cubic meter.

The graph shows the percentile representation of each indoor spore count derived by dividing the indoor Count/m³ by the outdoor Count/m³. If the percentage is below 50% of the outside count, then the bar is below 50 on the chart, which corresponds to "No evidence of mold amplification." If the percentage is between 50 and 100%, then the bar on the chart will stop between 50 and 100, which corresponds to "Possible mold amplification." If the percentage is greater than 100%, then the bar will be above 100 on the chart, which corresponds to "Probable mold amplification."

Each organism is given a threshold level for the Count/m³. If this threshold level is not met in an inside sample, then the organism will not be graphed on the chart. This is used to prevent the graph from showing every spore type that is commonly found outside and doesn't typically indicate a possible moisture problem inside. For example, most common outdoor spores (e.g. ascospores, basidiospores, and *Cladosporium*) have a threshold level of 100. Therefore, in order to show up on the chart, the inside Count/m³ must be above 100. On the other hand, fungi that may indicate water damage (e.g. *Stachybotrys*, *Ulocladium*, *Chaetomium*, *Memnoniella*, etc.) are given lower threshold levels. These fungi have a higher water activity value and therefore require more moisture to grow. *Stachybotrys* and *Chaetomium* have threshold values of 14 and 30, respectively, as even a low count of those types of spores may indicate an issue with excess moisture.

Keep in mind that this graph is to be used only as a tool in the inspection of a building. Visual examination and knowledge of water damage, past remediation, and weather conditions, among other elements, is essential in the decision regarding the indoor air quality of a building.

Assistance with Remediation Projects

****more information pertaining to interpretation of results is available on our website www.sanair.com****

For assistance in a remediation project you may consult the Institute of Inspection, Cleaning and Restoration Certification's (IICRC) S500 and S520 protocols. The S500 is a reference guide for water-damage restoration and the S520 pertains specifically to mold remediation. Other standards and guidelines regarding Indoor Air Quality that may assist in remediation projects:

- AIHA (Recognition, Evaluation, and Control of Indoor Mold)
- AIHA (The Facts About Mold)
- NADCA (ACR 2006)
- IESO (Standards of Practice for the Assessment of Indoor Air Quality)
- EPA (Mold Remediation in Schools and Commercial Buildings)
- New York City Department of Health and Mental Hygiene (Guidelines on Assessment and Remediation of Fungi in Indoor Environments)

nor reports will be discussed with or released to any third party without our client's written permission. The information provided in this report applies only to the samples submitted and is relevant only for the date, time and location of sampling. SanAir assumes no responsibility for the method of sample procurement. Evaluation reports are based solely on the sample(s) in the condition in which they arrived at the laboratory and on the information provided by the client on the COC. SanAir will not provide any opinion on the safety of a building as visual inspection and knowledge of water damage, past remediation and weather conditions during sampling, among other elements, is essential in this decision. All samples are disposed of after 90 days unless otherwise requested by the client. SanAir is accredited by AIHA-LAP, LLC in the EMLAP program for Direct Examination of air samples.

This report does not constitute endorsement by AIHA-LAP/NVLAP and/or any other U.S. governmental agencies; and may not be certified by every local, state and federal regulatory agency.

Disclaimer

SanAir Technologies Laboratory does not make contamination corrections to reports based upon analysis of laboratory and/or field blanks.

This report is the sole property of the client named on the SanAir Technologies Laboratory chain-of-custody. Neither results

Enclosure (4)

Limitations

The Allergenco Cassette does not allow for the cultivation or speciation of spores. Slides containing greater than 500 fungal spores are difficult to count accurately due to overcrowding and are therefore estimations. Similarly, excessive non-microbial particulates can mask the presence of fungal spores, thereby reducing counting accuracies. All slides are graded with the following debris scale for data qualification as it pertains to this specific survey.

No results shall be used as a health risk exposure assessment. Sample results are for environmental purposes only and are used to assist in the determination of potential microbial reservoirs or amplifiers. Comparatively low results shall not be used to confirm the absence of microbial contamination.

Additional air sampling as well as source sampling may need to be conducted to assist in the evaluation of this limited data. Suspected contamination should be collected by source sampling to confirm the presence of fungal and/or bacteria. This approach identifies not only the source(s) of contamination but also facilitates eventual removal and control of fungal and bacteria growth.

Because fungal spores may include a mixture of various fungal taxa, their composition varies widely depending on spatial and temporal changes. Hence, sampling during the different seasons may produce varied results. There is also a lack of a dose response relationship, which makes defining standards and guidelines nearly impossible. A few proposed guidelines for fungi have been published; however, they should be used with care and only for screening purposes and not as a health standard.

Since there are no consensus health-based standards for bioaerosol levels, as recommended by the American Conference of Governmental Industrial Hygienists, (Bioaerosols, Assessment and Control, 1999) samples are interpreted in conjunction with a visual walkthrough of the facility that attempts to identify potential microbial sources and symptoms of building occupants that could potentially be linked to microbial growth. Note that the walkthrough is only attempting to identify accessible potential microbial sources. Inaccessible areas such as between walls, behind structural components, behind architectural components (wallpaper, cove molding), above suspended ceilings and the interior of ventilation units are not included unless specifically referenced in this report.

As a general note, medical personnel should play a key role in identifying any potential building related illness. It is always recommended that medical expertise be sought in any situation where the probability exists for a potential building related illness. As of this report no scientific studies have been performed that establish a direct relationship between mold contamination and health impacts.

The most effective way to prevent and treat for mold contamination is to correct the underlying causes of the moisture that is present, which allows the mold to grow and thrive.

Enclosure (5)



Mrs. Arnold	Boys
	Girls
	Mrs. Nichols

Portable Building #8

2000

MAIN BUILDING

CAMPUS BUILDINGS

1957

1955

2006

2006

Mr. PreF Gr 5 #25	Mr. Buncce Gr 5 #26	Mr. Ott Gr 5 #27	Mr. Wheeler Gr. 5 #28
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Building #6

Building #7

Ms. Barlow Gr. 5 #24	Battaglia/ Carter SPED #23
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Building #5

Mr. Lester Gr 4 #21	Mr. Reich Gr. 4 #22
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Building #4

Mrs. Peterson Gr. 5 #20	Mrs. Cersonsky Gr 5 #19
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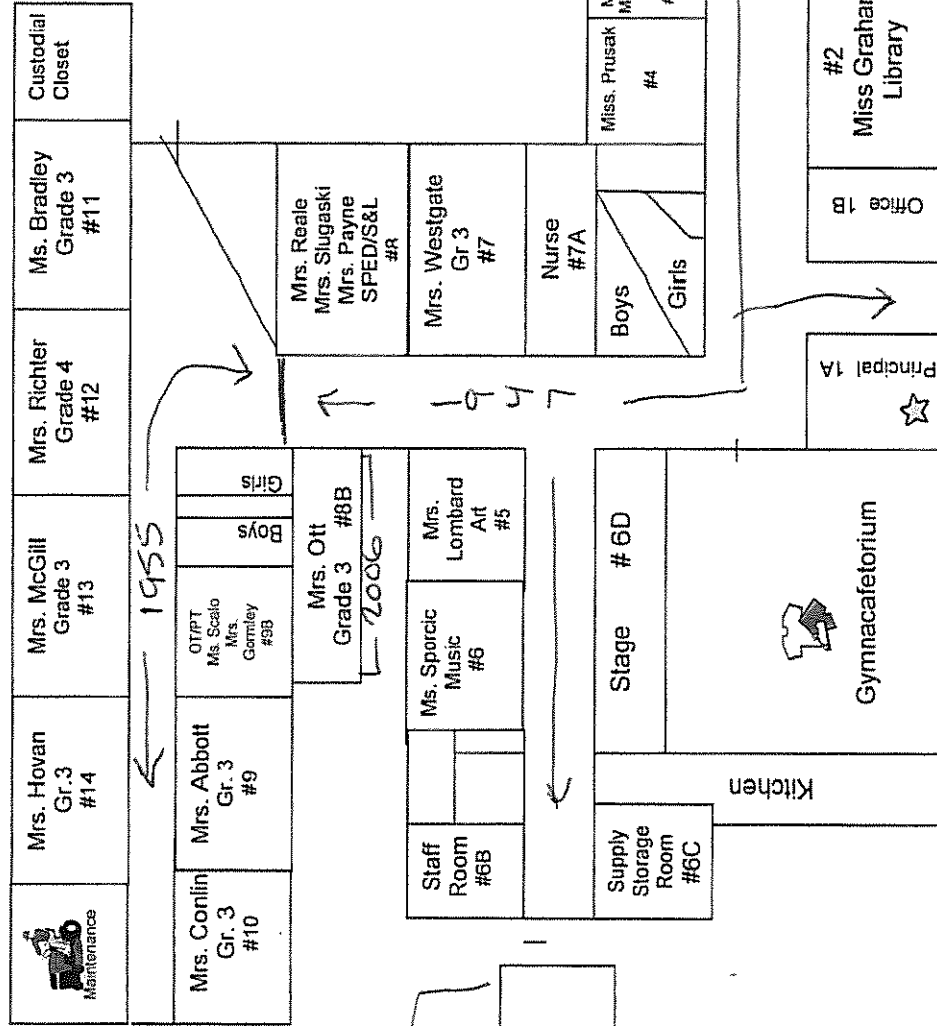
Building #3

Miss Corrigan Gr. 4 #18	Mrs. Driscoll Gr. 4 #17
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Building #2

Closed Building Gr 4 #16	Gr 4 #15
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Building #1



Main Entrance