Ms. Ayanna Harris
Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, Virginia 22314

ECS Project No. 47:11652-W

Reference: Mold and Moisture Assessment Results, 2024-2025, Alexandria, Virginia

Dear Ms. Harris:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with this collection of Mold and Moisture Assessments performed at Alexandria City Public Schools (ACPS) facilities in Alexandria, Virginia. These reports include the analytical results of sampling for mold performed by ECS in ACPS facilites.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC

Bobby L. Rhett
Environmental Project Manager
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703-471-8400

Christopher J. Chapman, CIH
Director of Industrial Hygiene
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703-471-8400

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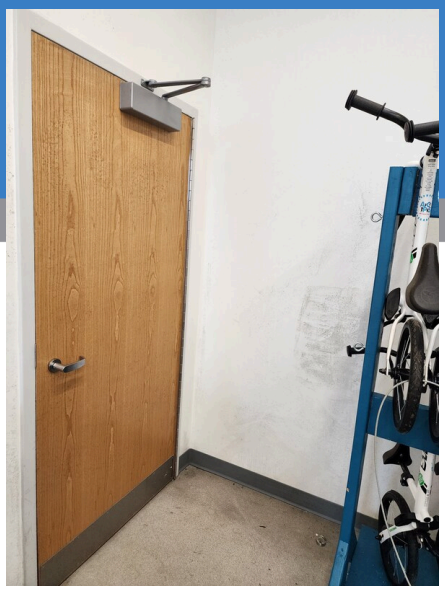
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# MOLD AND MOISTURE ASSESSMENT



JEFFERSON HOUSTON ELEMENTARY SCHOOL

1501 CAMERON STREET
ALEXANDRIA, VIRGINIA 22314

ECS PROJECT NO. 47:11652-V

FOR: ALEXANDRIA CITY PUBLIC SCHOOLS

AUGUST 21, 2024

August 21, 2024

Mr. John Contreras
Alexandria City Public Schools
1340 Braddock Place
Alexandria, Virginia 22314

ECS Project No. 47:11652-V

Reference: Mold and Moisture Assessment, Jefferson Houston Elementary School, 1501 Cameron Street, Alexandria, Virginia

Dear Mr. Contreras:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with the results of the above referenced Mold and Moisture Assessment performed at Jefferson Houston Elementary School located at 1501 Cameron Street in Alexandria, Virginia. This report summarizes our observations, analytical results, findings, and recommendations related to the work performed.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC

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804-353-6333

**EXECUTIVE SUMMARY**

The subject building consists of a three-story elementary school building. ECS was requested to assess the boys and girls locker rooms for mold.

ECS observed visible microbial growth within both locker rooms potentially attributed to poor airflow and moisture build-up from the HVAC system.

The executive summary is an integral portion of this report, however, ECS recommends the report be read in its entirety. Recommendations regarding the remediation of mold and moisture impacted materials identified by ECS can be found in Section 5.0 of this report.

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## 1.0 SITE DESCRIPTION

The subject building consists of a three-story elementary school building. ECS was requested to assess the boys and girls locker rooms for mold.

## 2.0 METHODOLOGY

The purpose of the Mold and Moisture Assessment was to conduct visual observations and air sampling for mold to identify evidence of moisture-affected building materials within the two locker rooms in the building, ???????/as well as assess improvement from previous remediation activities///////.

### 2.1 Mold and Moisture

The assessment included a non-invasive visual survey for evidence of mold and moisture within the building. The assessments focused on the boys and girls locker rooms only as directed by Alexandria City Public Schools. The ECS Certified Industrial Hygienist observed readily accessible areas and selected building materials to evaluate visible suspect fungal growth and/or moisture-impacted materials. ECS collected temperature and humidity readings with an Extech Hygrometer. A reasonable effort was made to identify water and mold-impacted areas; however, this does not imply a guarantee that all possible reservoirs of mold were identified because mold or water-impacted building materials may be hidden by walls, flooring, partitions, etc.

## 3.0 RESULTS

The following is a summary of laboratory results, findings and observations.

### 3.1 Mold and Moisture

**Before your data discussion, use this section to describe your observations, inaccessible areas, etc.**

Below is a summary of the sampling data collected as part of this evaluation.

#### 3.1.1 Observations and Findings

Based on the visual assessment, data collected during the site visit ECS presents a summary of observations, laboratory results and findings.

- ECS observed visible microbial growth on walls, ceilings, doors, lockers, shower curtains, and furniture within the locker rooms.
- No visible microbial growth was observed in either restroom associated with the locker rooms. The restrooms were in use at the time of the survey and separated from the locker rooms by a door.
- ECS observed water staining on the HVAC insulation around the ductwork and vents.
- The locker rooms had previously been used as storage areas and were not in use until recently.

- The locker rooms had signs of previous humidity buildup; however, the HVAC systems appeared to be running properly at the time of the assessment.

Representative photographs of the observed mold/moisture-impacted areas/materials are attached to this report. Approximate locations of the building materials and areas with visible mold are indicated on the site layout provided in the Appendix of this report.

### 3.1.2 Temperature and Relative Humidity

The key to understanding humidity is that warmer air can contain greater quantities of moisture than cooler air. Relative humidity is defined as the ratio of the amount of moisture contained in the air to the maximum amount of moisture the air can contain at that temperature. The dew point temperature is defined as the temperature at which the amount of moisture in the air reaches saturation. The dew point is a more accurate indication of the actual amount of moisture in the air, because it is independent of temperature.

The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) has published several standards for ventilated buildings. *ANSI/ASHRAE Standard 62.1-2019, Ventilation for Acceptable Air Quality* specifies that indoor humidity should be maintained below 60 degrees Fahrenheit (°F) dew point temperature. The EPA recommends that indoor relative humidity be maintained below 60%, ideally 30-50%, to prevent mold growth. The *OSHA Technical Manual,* Section III, Chapter 2 for Indoor Air Quality Investigations specifies a thermal comfort range of 68°F to 76°F and a relative humidity range of 20% to 60% to maximize comfort for all occupants.

The following table summarizes the indoor air temperature and relative humidity readings collected by ECS during the survey.

The temperature and humidity readings conformed with ANSI/ASHRAE standards at the time of the survey.

**Temperature and Relative Humidity**

| Location | Relative Humidity (%) | Temperature (°F) |
|---|---|---|
| Outdoors | 45 | 87 |
| Gym Hallway | 30 | 75 |
| Boys Locker Room | 25 | 74 |
| Girls Locker Room | 26 | 74 |

## 4.0 RECOMMENDATIONS AND REGULATORY REQUIREMENTS

Based on our understanding of the purpose of the Mold and Moisture Assessment, the results of laboratory analysis, and our findings and observations, ECS presents the following recommendations.

**4.1 Mold and Moisture**

ECS observed visible mold throughout both locker rooms.

ECS recommends remediation be performed for all water and mold impacted materials within the surveyed areas as soon as reasonably possible. This includes all materials that have visible mold and have been subjected to elevated moisture conditions for greater than 48 hours without proper drying efforts.

ECS recommends the following:

- All impacted drywall materials that have visible growth and/or have sustained water impacts should also be removed in excess of 2 feet beyond visible mold or water stains where feasible. Delineation of the wall and ceiling systems may be necessary during remedial efforts to determine if additional materials will need to be removed.
- The CMU block, lockers, floors, ceilings, and non-porous furniture should be cleaned.
- Discard the shower curtains; Inspect and clean other contents if possible. If porous items are impacted consider disposal.
- Remove the water and mold impacted duct and pipe insulation.
- A NADCA accredited contractor should clean the duct work servicing the locker rooms.
- Consult with a mechanical engineer or certified HVAC consultant to assess the HVAC system performance and verify that ventilation to the lockers if functioning properly in accordance with ANSI/ASHRAE.
- Verify the space is dry and clean before performing any post remediation testing.

ECS also recommends that a qualified mold remediation/drying contractor be retained to properly remove mold impacted materials. Remediation activities should be performed in general accordance with the guidelines described in EPA's March 2001 document "Mold Remediation in Schools and Commercial Buildings" and under the OSHA 2010 Guidelines for mold removal (see also attached reference page at the end of this report). Workers performing this work should wear proper personal protective equipment (PPE) including HEPA filtered respirators and disposable clothing (per OSHA standards for PPE).

In general accordance with the EPA and OSHA guidelines, ECS recommends containment within the southwest, southeast, and central areas using plastic barriers and tape to create negative pressure containment during removal of mold impacted materials. The contractor should seal HVAC vents in the work area(s), as well as all penetrations and openings. Pressure differential in the containment should be -0.02 inches of water gauge between the outside and inside of containment. A HEPA-filtered local exhaust ventilation (negative air machine) should be utilized directly adjacent to the area(s) being cleaned and should maintain negative pressure and HEPA filtration continuously inside the containment during remediation activities and prior to clearance sampling.

Following remediation/removal of mold-impacted materials, ECS recommends that the contained areas of the building undergo a thorough cleaning following guidelines described in EPA's March 2001 document "Mold Remediation in Schools and Commercial Buildings." Surface remediation should

include HEPA vacuuming of vertical and horizontal surfaces and a clean-wipe with a mild detergent. The surfaces should not be saturated and discard cleaning cloths. All areas (affected and unaffected) should be left dry, visibly free from contamination and debris prior to build back activities.

Post-remediation sampling should be performed to verify reduction in mold levels. Prior to final clearance observations and testing, the industrial hygienist will require that the negative air machines be turned off for a period of 24 - 48 hours.

Because of the nature of this environment, complete remediation of all microbial organisms within a building cannot be guaranteed. It is important to note that the reported mold levels are only reflective of conditions at the time of this test and that mold populations can vary over time, depending upon a number of conditions, including environmental factors (i.e., temperature and relative humidity). If significant mold growth reappears, or if the occupants experience prolonged allergic-type health complaints, they should seek further investigation of the problem.

Note: The purpose of this survey was to evaluate areas where visible or apparent mold growth and/or moisture intrusion has occurred and provide findings and recommendations for remedial work efforts. Identification and recommendation(s) for correction of all moisture intrusion concerns was outside of the scope of services for this work. As good practice all moisture intrusion concerns should be identified and corrected by a qualified contractor/engineer.

## 5.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

This survey is not intended to represent an exhaustive research of every potential hazard or condition that may exist, nor does it claim to represent indoor conditions or events that arise after the survey. This report has been prepared in accordance with generally accepted environmental practices. Our conclusions and findings are based, in part, upon information provided to us by others and our site observations. We have not verified the completeness or accuracy of the information provided by others. The scope of services performed was limited to those requested by the Client and does not constitute a full microbial assessment of the site or a comprehensive moisture survey of the site. The data provided in this study is only indicative of conditions sampled at the immediate time of the study. The work performed in conjunction with this assessment and the data developed is intended as a description of available information at the dates and locations given. This report does not warrant against future operations or conditions, nor does it warrant against extant, or future, conditions of a type or at a location not investigated. Because of the nature of this type of work and the difficulties involved in conducting remediation work, ECS cannot guarantee that the methods or recommendations described in this report will eliminate all potential indoor air quality issues. Since performance of the remediation work is also beyond ECS scope of services, ECS also cannot be held responsible for the execution of the remediation work. The reported microbial levels are only reflective of conditions at the time of this test and that microbial populations can vary over

time, depending upon a number of conditions, including environmental factors (i.e., temperature and relative humidity). The work performed in conjunction with this assessment and the data developed is intended as a description of available information at the dates and locations given.

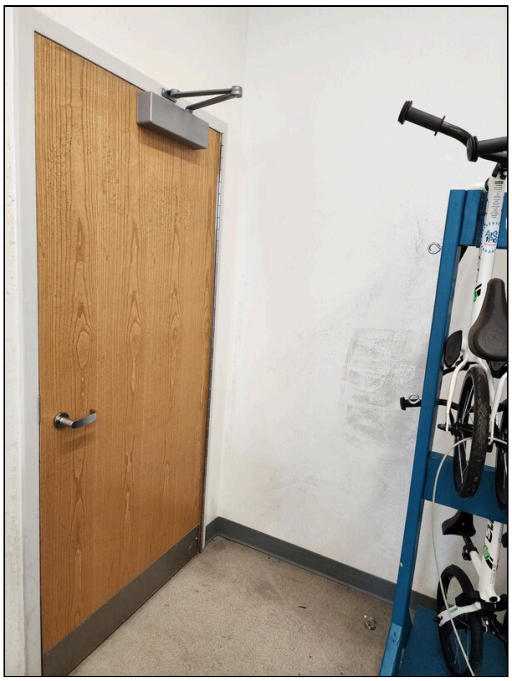
The observations, conclusions, and recommendations pertaining to environmental conditions at the subject site are necessarily limited to conditions observed, and/or materials reviewed at the time this study was undertaken. No warranty, expressed or implied, is made with regard to the conclusions and recommendations presented within this report. This report is provided for the exclusive use of the client. This report is not intended to be used or relied upon in connection with other projects or by other unidentified third parties without the written consent of ECS and the client.

Our recommendations are in part based on federal, state, and local regulations and guidelines. ECS does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to any local, state, or federal public agencies, any conditions at the site that may present a potential danger to public health, safety, or the environment. Under this scope of services, ECS assumes no responsibility regarding any response actions initiated as a result of these findings. General compliance with regulations and response actions are the sole responsibility of the Client and should be conducted in accordance with local, state, and/or federal requirements.

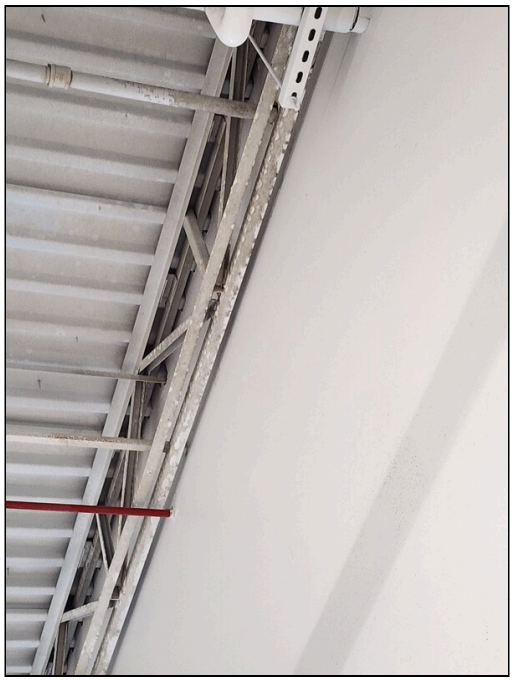
# Appendix I: Site Photographs



1 - View of apparent microbial growth on drywall wallboard



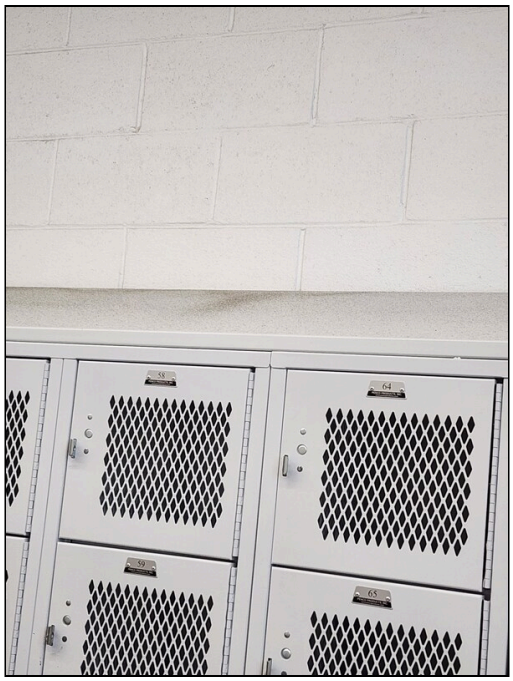
2 - View of apparent microbial growth on drywall wallboard



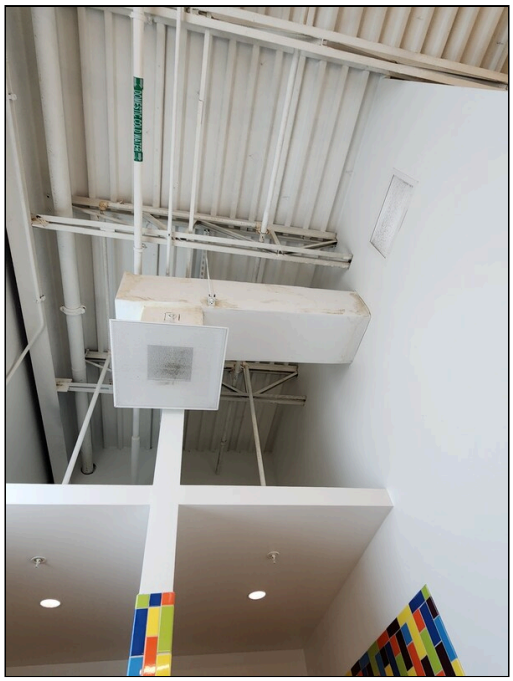
3 - View of apparent microbial growth on ceilings



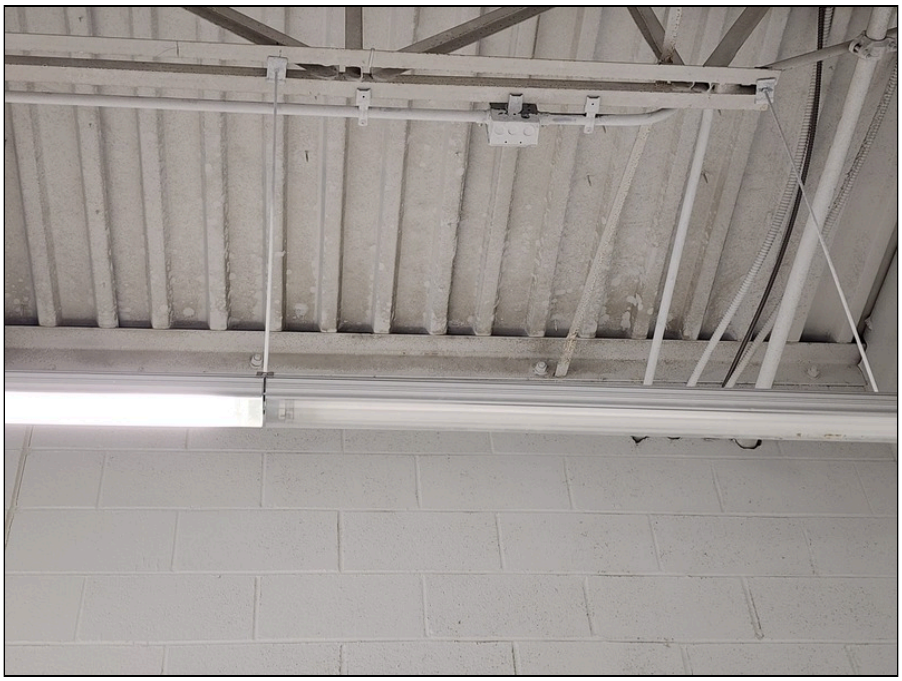
4 - View of apparent microbial growth on ceilings



5 - View of apparent microbial growth on lockers



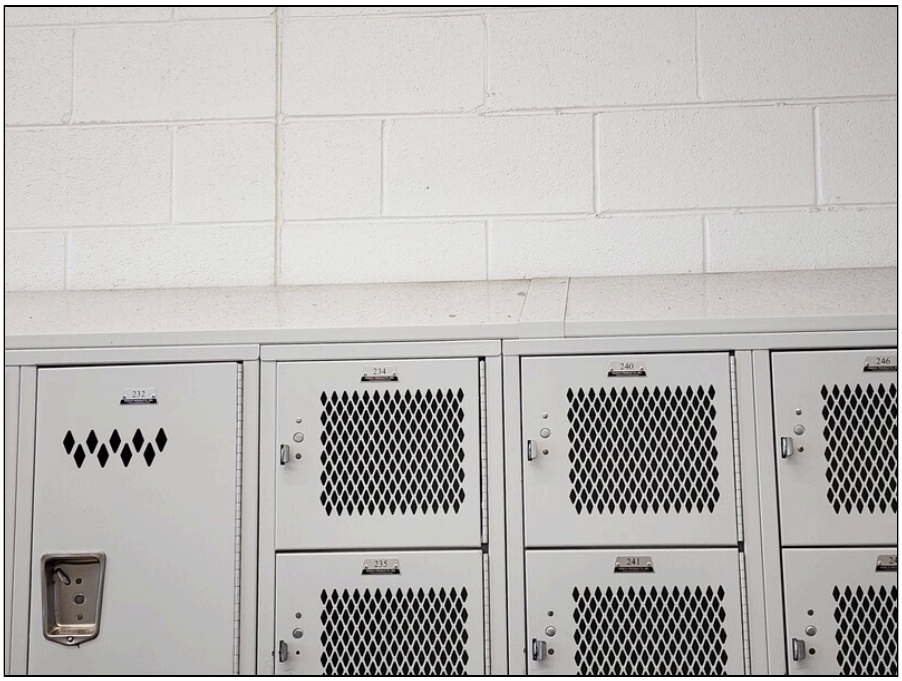
6 - View of apparent microbial growth on ductwork



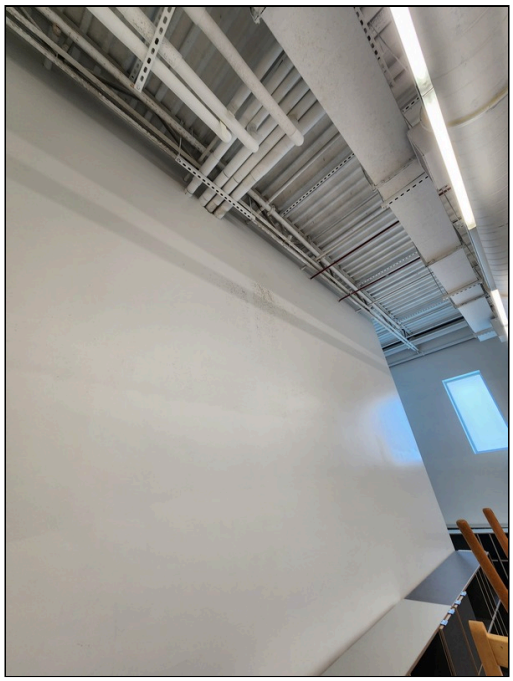
7 - View of apparent microbial growth on ceilings



8 - View of apparent microbial growth on walls




9 - View of apparent microbial growth on lockers



10 - View of apparent microbial growth



11 - View of apparent microbial growth



12 - View of apparent microbial growth on ceilings



13 - View of apparent microbial growth and moisture impact on ductwork



14 - View of apparent microbial growth on furniture

# Appendix II: John Adams Elementary School Report

# MOLD AND MOISTURE ASSESSMENT AND POST-REMEDIATION TESTING

JOHN ADAMS ELEMENTARY SCHOOL

5651 RAYBURN AVE
ALEXANDRIA, VIRGINIA 22311

ECS PROJECT NO. 47:11652-W

FOR: ALEXANDRIA CITY PUBLIC SCHOOLS

JANUARY 13, 2024

January 13, 2024

Mr. John Contreras
Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, Virginia 22314

ECS Project No. 47:11652-W

Reference: Mold and Moisture Assessment and Post-Remediation Testing, John Adams Elementary School, 5651 Rayburn Ave, Alexandria, Virginia

Dear Mr. Contreras:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with the results of the above referenced Mold and Moisture Assessment and Post-Remediation Testing performed at John Adams Elementary School located at 5651 Rayburn Ave in Alexandria, Virginia. This report summarizes our observations, analytical results, findings, and recommendations related to the work performed.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC

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703-471-8400

Christopher J. Chapman, CIH
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## 1.0 SITE DESCRIPTION

John Adams Elementary School is located at 5651 Rayburn Avenue in Alexandria, Virginia, and was reportedly constructed in 1966.

Based on information provided by Alexandria City Public Schools, teachers and other members of staff have stated that musty odors as well as visible mold growth on various classroom items like folders, have been observed in Room 144.

Alexandria City Public Schools requested ECS to conduct a Mold and Moisture Assessment and Post-Remediation Testing in Rooms 144 and 145 to evaluate concerns surrounding current and potential mold growth/concerns, as well as signs of water impacted materials. ECS was also requested to perform a limited asbestos-containing material (ACM) survey of flooring materials in Room 144 and 145 in case materials needed to be removed or disturbed during remediation. Following completion of remediation work, ECS was requested to conduct post-remediation sampling in the two impacted rooms.

## 2.0 PURPOSE

As noted previously, the purpose of the Mold and Moisture Assessment and Post-Remediation Testing was to perform visual observations and sampling for mold to identify possible mold growth within sampled areas of the building. ECS also performed a limited ACM survey to evaluate if asbestos-containing materials (ACM) may be present within the building materials scheduled to be impacted by the planned remediation activities. Once remediation was complete, ECS performed post-remediation sampling in the impacted rooms.

## 3.0 METHODOLOGY

ECS performed the authorized Scope of Services in general accordance with our proposal, standard industry practice(s) and methods specified by regulation(s) for the identification of ACMs and mold.

### 3.1 Asbestos-Containing Materials - Limited Testing

The limited non-invasive asbestos survey was performed on December 10, 2024 by asbestos inspector Mr. Zachary Harrell who has received EPA-accredited training and is licensed by the Commonwealth of Virginia. Samples of suspect ACMs were collected utilizing hand tools and placed into individual, labeled plastic bags. Unique bulk suspect ACM samples were submitted to AMA Analytical Services (AMA) in Lanham, Maryland for analysis via Polarized Light Microscopy (PLM) in accordance with current EPA-600 methodology. Materials consisting of additional layers were analyzed separately. AMA is listed as an accredited laboratory by the National Voluntary Laboratory Accreditation Plan (NVLAP) managed by the National Institute of Standards and Technology (NIST) for bulk sample analysis by currently approved EPA methodology by PLM.

During the survey, ECS attempted to identify suspect ACMs in readily accessible areas. However, due to the destructive means required to identify some materials, certain areas were deemed inaccessible (i.e. behind walls or sub grade materials) and were not surveyed for suspect ACMs. ECS did not check

behind drywall or above the ceiling tile, as sampling was limited to the floor. Unidentified suspect ACMs may be located in these and/or other inaccessible areas. ECS relied on the AHERA management plan to ascertain the presence (or absence) of asbestos for other materials within the room.

Samples were collected in general accordance with EPA Standard 40 CFR 763 Subpart E, Asbestos Hazard Emergency Response Act (AHERA) and OSHA Standard 29 CFR 1926.1101 Inspection Protocol. Multiple samples of each unique material were submitted. Samples were analyzed using the "Positive Stop" methodology. If one sample of a homogeneous material is reported to contain asbestos, the remaining samples of that material are not analyzed. EPA regulations stipulate that if one sample contains asbestos the entire quantity of that material contains asbestos, regardless of additional analysis.

**3.2 Mold and Moisture**

ECS performed multiple visual and olfactory assessments within the two rooms for signs of mold and moisture-impacted materials on different days. In addition, ECS collected measurements including temperature and relative humidity (RH) using a hygrometer. The purpose of these measurements was to evaluate if interior temperature and RH were sufficient to support mold growth and also to measure general indoor comfort parameters related to temperature/relative humidity. The relative humidity is the ratio of the amount of moisture contained in the air to the maximum amount of moisture the air can contain at a specific temperature.

The key to controlling mold growth is moisture control. The EPA recommends maintaining the relative humidity (RH) below 60%, ideally 30 to 50%, to prevent mold growth. ASHRAE recommends general temperature a range of 68 to 76°F (comfort range) assuming relative humidity is between 30 to 60% RH.

For air sample collection, a self-contained, battery-operated, high-volume sampling pump and Air-O-Cell® cassettes were utilized in sampling for airborne fungal spores. Samples were collected using a calibrated air sampling pump with an airflow of 15 liters/minute for 5 minutes for both interior and exterior samples. The intent of the air sampling is to profile the air in select locations within the school building with regard to fungal spore activity. With respect to air sampling for mold spores, the elevation of microbial spore counts within the building can be used as an indicator of the possible presence of microbial growth.

Samples collected were delivered to AMA Analytical Services (AMA) located in Lanham, Maryland, as well as Scientific Analytical Institute (SAI) located in Greensboro, North Carolina, for analysis. AMA and SAI are accredited by the Environmental Microbiology Laboratory Accreditation Program (EMLAP), administered by the American Industrial Hygiene Association. Air samples were reported to the genus or group level according to the laboratory standard quantification procedures.

The analytical results and chain of custody are provided in the Appendices of this report.

As is the case with many assessments of this nature, this evaluation was limited to the areas of the property deemed reasonably accessible by ECS. Reasonable effort was made to identify mold and moisture-impacted areas. However, mold/moisture-impacted areas may remain unidentified. The testing was limited as no moisture readings were collected.

## 4.0 RESULTS

The following is a summary of laboratory results, findings and observations.

### 4.1 Asbestos Sampling

In total, four (4) bulk samples from two (2) homogeneous areas were submitted to the laboratory, of which six (6) layers were analyzed.

An ACM is defined as any material containing more than one percent (>1%) asbestos as determined using the method specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, PLM.

AMA submitted a signed final laboratory report to ECS on December 11, 2024. None of the bulk samples submitted for analysis were reported to contain asbestos in detectable concentrations. A complete list of the sampled materials submitted for analysis and sample locations are included in the appendices of this report.

### 4.2 Suspect or Assumed Asbestos-Containing Materials

This is not a comprehensive survey of the school or indicative of all flooring within the school. Please refer to the AHERA survey reports and management plan for a complete list of suspect or assumed asbestos-containing materials, and identified asbestos-containing materials.

### 4.3 Mold and Moisture

Below is a summary of the sampling data collected as part of this evaluation.

#### 4.3.1 Observations and Findings

On December 2, 2024, ECS performed a visual and olfactory assessment in Room 144. A strong mold odor was present upon arrival. This was likely due to the carpeting, which was fastened to the center of the room. The room also appeared to have insufficient ventilation, and two dehumidifiers were being run continuously to reduce humidity buildup in the room. The area above the ceiling tiles was dusty, though no obvious mold growth was observed at the time of the survey. The analytical results from the mold air sampling conducted indicated that the total and/or individual concentrations of airborne fungal spores reported in the air samples collected in the room were low when compared to the concentrations from the outdoor samples. At the time of sampling, there was not an elevated level of mold spores in room 144. ECS was unable to access wall cavities and inside HVAC units during this assessment. No destructive testing behind drywall or within wall cavities was performed in the surveyed rooms.

Mold and moisture-impacted materials observed on the December 2, 2024 site visit were as follows:

- Visible mold growth was observed behind the cove base on the drywall adjacent to Room 145. This appeared to be historic growth.
- Drywall directly behind the toilet in the classroom bathroom appeared to have some historic water damage.

A second assessment was performed on December 16, 2024, and included both room 144, as well as a post-remediation assessment of Room 145. The drywall in room 145 had been removed up to roughly 16 inches from the floor by Belfour the prior week, although drywall in room 144 remained. Covebase was removed from the wall in room 144 adjacent to room 145, and was taped over temporarily. The bathroom did not seem to be altered on this date. Elevated spore levels were not observed, as indoor mold spore levels were low in comparison to outdoor levels again.

Mold was observed on December 16, 2024, in the following locations:

Rooms 144 and 145:

- Visible mold growth similar to that found on the previous survey date had been growing behind the cove base lining the bathroom walls, as well as the countertop.
- While not immediately visible, mold growth was observed behind studs and the baseboard growing on the drywall between rooms 144 and 145.

The third and final post-remediation visit for both rooms 144 and 145 occurred on December 31, 2024. At this time, it was evident that drywall and cove base previously identified as being mold impacted had been removed and replaced. The bathroom in room 144 had also been remediated, which included removing the drywall and cove base. Indoor mold spore levels were not observed to be elevated.

There are currently no accepted regulatory standards or guidelines with respect to acceptable fungal levels inside buildings. It is important to note however that spore trap measurements can fluctuate rapidly and the readings reported should not be used as a definitive indication that mold and or health hazards related to mold are present or absent.

Representative photographs of the observed mold/moisture-impacted areas/materials are attached in Appendix I of this report. Full results for the spore trap samples can be found in Appendix III of this report.

### 4.3.2 Temperature and Humidity

The key to understanding humidity is that warmer air can contain greater quantities of moisture than cooler air. Relative humidity is defined as the ratio of the amount of moisture contained in the air to the maximum amount of moisture the air can contain at that temperature. The dew point temperature is defined as the temperature at which the amount of moisture in the air reaches saturation. The dew point is a more accurate indication of the actual amount of moisture in the air, because it is independent of temperature.

The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) has published several standards for ventilated buildings. *ANSI/ASHRAE Standard 62.1-2019, Ventilation for Acceptable Air Quality* specifies that indoor humidity should be maintained below 60 degrees Fahrenheit (°F) dew point temperature. The EPA recommends that indoor relative humidity be maintained below 60%, ideally 30-50%, to prevent mold growth. The *OSHA Technical Manual,* Section III, Chapter 2 for Indoor Air Quality Investigations specifies a thermal comfort range of 68°F to 76°F and a relative humidity range of 20% to 60% to maximize comfort for all occupants.

The following table summarizes the indoor air temperature and relative humidity readings collected by ECS during the surveys. In general, temperature and RH readings were within acceptable ranges during all three site visits.

**Temperature and Relative Humidity**

| Location | Relative Humidity (%) | Temperature (°F) |
|---|---|---|
| December 2, 2024 | | |
| Outdoors | 25.44 | 31.22 |
| Room 144 | 24 | 68 |
| Outdoors 2 | 31.34 | 26.85 |
| December 16, 2024 | | |
| Outdoors | 54.1 | 53.2 |
| Room 144 | 34.2 | 70.8 |
| Room 145 | 35.1 | 70.3 |
| Outdoors 2 | 50.1 | 45.8 |
| December 31, 2024 | | |
| Outdoors | 32.2 | 61.1 |
| Room 144 | 27.5 | 75.3 |
| Room 145 | 26.1 | 73.7 |
| Outdoors 2 | 25.6 | 61.5 |

The temperature and relative humidity measured were consistent with applicable guidelines.

## 5.0 RECOMMENDATIONS AND REGULATORY REQUIREMENTS

Based on our understanding of the purpose of the Mold and Moisture Assessment and Post-Remediation Testing, the results of laboratory analysis, and our findings and observations, ECS presents the following recommendations.

### 5.1 Asbestos-Containing Materials

None of the bulk samples submitted to AMA Analytical Services were reported to contain detectable concentrations of asbestos. If additional suspect asbestos-containing materials are uncovered which were not accessible during this sampling event, it is recommended that these materials be sampled or tested immediately upon discovery for asbestos content by an asbestos inspector in accordance with 29 CFR 1926.1101.

### 5.2 Mold and Moisture

Based on our observations following a visual walk-through of Rooms 144 and 145, the previously identified mold/moisture-impacted areas within the building appeared to have been remediated. It should be noted that ECS was not present during the actual remediation activities onsite.

ECS cannot verify whether the source of the water intrusion has been completely fixed. Identifying the source of water intrusion is outside ECS' scope of work for this project. **ECS recommends that a building envelope specialist be retained to identify and correct any suspect moisture leaks or building envelope issues. Failure to identify and correct these issues will allow mold to re-occur in these two classrooms.**

Because of the nature of this environment, complete remediation of all microbial organisms within a building cannot be guaranteed. It is important to note that the reported mold levels are only reflective of conditions at the time of this test and that mold populations can vary over time, depending on a number of conditions, including environmental factors (i.e., temperature and relative humidity). If significant mold growth reappears, or if the occupants experience prolonged allergic-type health complaints, they should seek further investigation of the problem.

Note: The purpose of this survey was to evaluate areas where visible or apparent mold growth and/or moisture intrusion has occurred and provide findings and recommendations for remedial work efforts. Identification and recommendation(s) for correction of all moisture intrusion concerns was outside of the scope of services for this work. As good practice all moisture intrusion concerns should be identified and corrected by a qualified contractor/engineer.

## 6.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

This survey is not intended to represent an exhaustive research of every potential hazard or condition that may exist, nor does it claim to represent indoor conditions or events that arise after the survey. This report has been prepared in accordance with generally accepted environmental practices. Our conclusions and findings are based, in part, upon information provided to us by others and our site observations. We have not verified the completeness or accuracy of the information provided by others. The scope of services performed was limited to those requested by the Client and does not constitute a full microbial assessment of the site or a comprehensive moisture survey of the site. The data provided in this study is only indicative of conditions sampled at the immediate time of the study. The work performed in conjunction with this assessment and the data developed is intended as a description of available information at the dates and locations given. This report does not warrant against future operations or conditions, nor does it warrant against extant, or future, conditions of a type or at a location not investigated. Because of the nature of this type of work and the difficulties involved in conducting remediation work, ECS cannot guarantee that the methods or recommendations described in this report will eliminate all potential indoor air quality issues. Since performance of the remediation work is also beyond ECS scope of services, ECS also cannot

be held responsible for the execution of the remediation work. The reported microbial levels are only reflective of conditions at the time of this test and that microbial populations can vary over time, depending upon a number of conditions, including environmental factors (i.e., temperature and relative humidity). The work performed in conjunction with this assessment and the data developed is intended as a description of available information at the dates and locations given.

The observations, conclusions, and recommendations pertaining to environmental conditions at the subject site are necessarily limited to conditions observed, and/or materials reviewed at the time this study was undertaken. No warranty, expressed or implied, is made with regard to the conclusions and recommendations presented within this report. This report is provided for the exclusive use of the client. This report is not intended to be used or relied upon in connection with other projects or by other unidentified third parties without the written consent of ECS and the client.

During this study, samples were submitted for analysis at an accredited laboratory via polarized light microscopy. As with any similar survey of this nature, actual conditions exist only at the precise locations from which samples were collected. Certain inferences are based on the results of this sampling and related testing to form a professional opinion of conditions in areas beyond those from which the samples were collected. No warranty, expressed or implied, is made.

Our recommendations are in part based on federal, state, and local regulations and guidelines. ECS does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to any local, state, or federal public agencies, any conditions at the site that may present a potential danger to public health, safety, or the environment. Under this scope of services, ECS assumes no responsibility regarding any response actions initiated as a result of these findings. General compliance with regulations and response actions are the sole responsibility of the Client and should be conducted in accordance with local, state, and/or federal requirements.

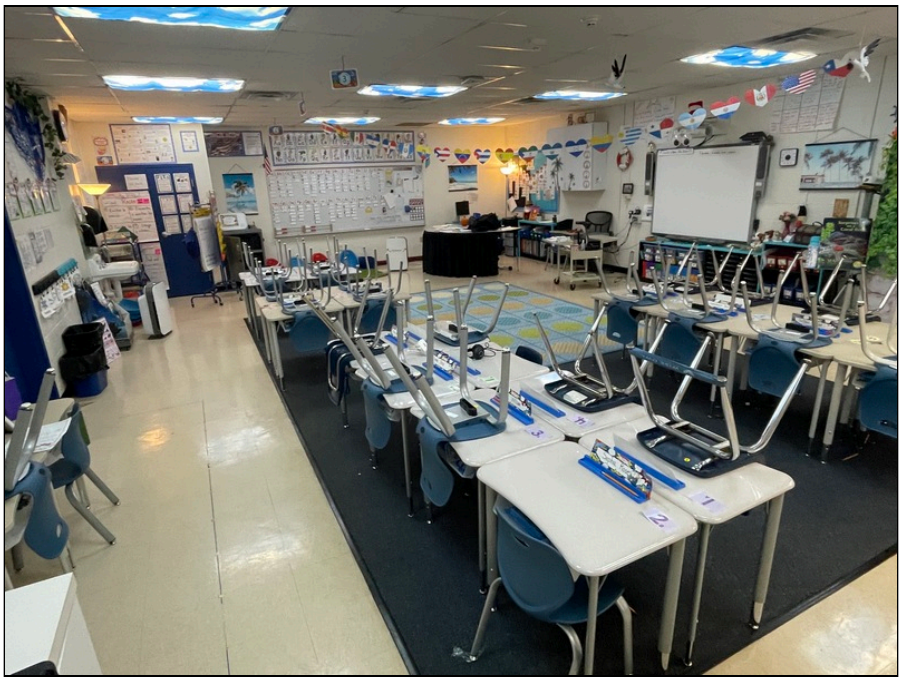
# Appendix I: Site Photographs



1 - Room 144 Bathroom on December 2, 2024



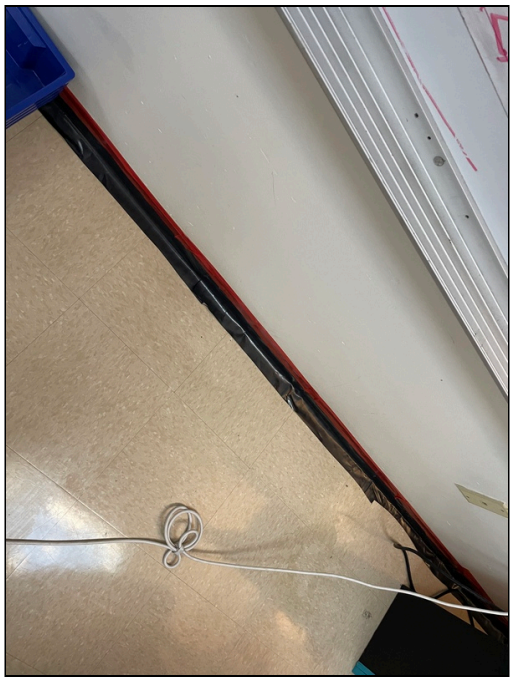
2 - Mold growth behind cove base on December 2, 2024



3 - Room 144 on December 16, 2024



4 - Mold growth behind cove base on December 16, 2024



5 - Room 144 cove base on December 16, 2024




6 - Room 145 on December 16, 2024



7 - Room 144 on December 31, 2024



8 - Room 145 on December 31, 2024



9 - Room 144 Bathroom on December 31, 2024

# Appendix II: Asbestos Bulk Sample Results

## SUSPECT ASBESTOS-CONTAINING MATERIALS BULK SAMPLING RESULTS

| Sample # | Sampling Location | Material/Description | Layer Analyzed | Analytical Results |
|---|---|---|---|---|
| 1 | Room 145 | 12"x12" Tan Vinyl Floor Tile and Black Mastic | *tile* | None Detected |
| 1 | Room 145 | 12"x12" Tan Vinyl Floor Tile and Black Mastic | *mastic* | None Detected |
| 2 | Room 145 | 12"x12" Tan Vinyl Floor Tile and Black Mastic | *tile* | None Detected |
| 2 | Room 145 | 12"x12" Tan Vinyl Floor Tile and Black Mastic | *mastic* | None Detected |
| 3 | Room 145 | Mixed Green/Yellow Carpet Mastic | | None Detected |
| 4 | Room 144 | Mixed Green/Yellow Carpet Mastic | | None Detected |

Table Notes:
**Bold** = Asbestos-Containing Materials
N/A = Not Analyzed
None Detected = No Asbestos Detected

# Appendix III: Mold Air Sample Results

John Adams Elementary School Rooms 144 and 145
5651 Rayburn Ave, Alexandria, VA 22311
ECS Project No. 47:11652-W
Surveyed: December 2024

# Fungal Spore Trap Air Sample Results

| Sample Number | Sample Location | Organisms Identified: Alternaria | Ascospores | Basidiospores | Cladosporium | Hyphae / Hyphal fragments | Penicillium/ Aspergillus | Pyricularia | Smuts/Periconia/ Myxomycetes | Unknown/Other | Total* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sampled December 2, 2024** | | | | | | | | | | | |
| 144 | Room 144 | | | 104 | 156 | 52 | | | 52 | 156 | 468 |
| OUT1 | Outdoors | | 104 | 208 | 624 | | 312 | | 104 | 312 | 1,664 |
| OUT2 | Outdoors | | 104 | 208 | 676 | | <52 | | <52 | | 988 |
| **Sampled December 16, 2024** | | | | | | | | | | | |
| 144 | Room 144 | | 208 | 208 | 52 | | | | | 104 | 572 |
| 145 | Room 145 | | 312 | 156 | 260 | | 364 | | 104 | 156 | 1,352 |
| OUT1 | Outdoors | | 2,760 | 3,489 | 104 | | | | 52.0 | | 6,405 |
| OUT2 | Outdoors | | 4,738 | 8,766 | 312 | | | | 104.0 | | 13,920 |
| **Sampled December 31, 2024** | | | | | | | | | | | |
| 144 | Room 144 | | 313 | 313 | 157 | | | | | | 783 |
| 145 | Room 145 | | 78.4 | 78.4 | 235 | | | | | | 392 |
| OUT1 | Outdoors | 78 | 5,250 | 3,060 | 1,250 | | | | | 78.4 | 9,717 |
| OUT2 | Outdoors | | 4,000 | 2,270 | 1,020 | | | | 78.4 | | 7,368 |

All results are in spores per cubic meter (spores/m3)
Blank = None detected
*Note: Total counts may not match laboratory reports due to rounding.

# Appendix IV: Laboratory Report(s)

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# CERTIFICATE OF ANALYSIS

NVLAP TESTING
Lab Code 101143-0

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 356172 | **Job Name:** | ACPS John Adams 144-145 | **Date Submitted:** | 12-10-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | VA | **Date Analyzed:** | 12-10-2024 |
| **Address:** | 6710 Oxon Hill Road Suite 101 National Harbor Maryland 20745 | **Job Number:** | 47.11652-W:84(LEK) | **Report Date:** | 12-10-2024 |
| **Attention:** | Zach Harrell | **P.O. Number:** | Not Provided | **Date Sampled:** | 12-10-2024 |
| | | | | **Person Submitting:** | Zach Harrell |

## Summary of Polarized Light Microscopy

| AMA Sample Number | Client Sample Number | Total Asbestos | Chrysotile Percent | Amosite Percent | Crocidolite Percent | Other Asbestos Percent | Mineral Wool Percent | Fiberglass Percent | Organic Percent | Synthetic Percent | Other Percent | Particulate Percent | Sample Type | Sample Color | Homogeneity | Analyst ID | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 356172-1 | 01 | NAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 100 | VFT | Gray | Homogenous | LB | |
| 356172-1A | 01 | NAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 100 | MS | Black | Homogenous | LB | |
| 356172-2 | 02 | NAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 100 | VFT | Gray | Homogenous | LB | |
| 356172-2A | 02 | NAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 100 | MS | Black | Homogenous | LB | |
| 356172-3 | 03 | NAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 100 | CM | Multi | Homogenous | LB | |
| 356172-4 | 04 | NAD | -- | -- | -- | -- | -- | -- | TR | -- | -- | 100 | CM | Multi | Homogenous | LB | |

The following footnotes only apply to those samples which the total asbestos result is flagged with a note number.

[1] TEM RECOMMENDATION - Please note, due to resolution limitations with optical microscopy and/or interference from matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos. It is recommended that the additional analytical technique of TEM be used to check for asbestos fibers below the resolution limits of optical microscopy.

[2] MATRIX REDUCTION RECOMMENDATION – Please note, due to interference from the matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos which is obscured from view. It is recommended that the additional preparation technique of gravimetric reduction be performed on this sample to minimize the obscuring effects of matrix components, followed by reanalysis by PLM and/or TEM.

Analysis Method – EPA/600/R-93/116 dated July 1993
NAD = "No Asbestos Detected" TR = "Trace equals less than 1% of this component"

Uncertainty: For samples containing asbestos in range of 1-10% the CV is 0.43, 11-35% CV = 0.55, >35 CV = 0.23. All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

**Analyst(s):** Lom Butruk,

AMA Analytical Services, Inc.
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# CERTIFICATE OF ANALYSIS

NVLAP TESTING
Lab Code 101143-0

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 356172 | **Job Name:** | ACPS John Adams 144-145 | **Date Submitted:** | 12-10-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | VA | **Date Analyzed:** | 12-10-2024 |
| **Address:** | 6710 Oxon Hill Road Suite 101 National Harbor Maryland 20745 | **Job Number:** | 47.11652-W:84(LEK) | **Report Date:** | 12-10-2024 |
| **Attention:** | Zach Harrell | **P.O. Number:** | Not Provided | **Date Sampled:** | 12-10-2024 |
| | | | | **Person Submitting:** | Zach Harrell |

## Summary of Polarized Light Microscopy

**Technical Director** Michael Greenberg

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA-LAP, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

**AMA Analytical Services, Inc.**
Focused on Results www.amalab.com
AIHA-LAP (#100470) NVLAP (#101143-0) NY ELAP (10920)
4475 Forbes Blvd. • Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

# CHAIN OF CUSTODY

(Please Refer To This Number For Inquires) 356172

**AMA Client Information:**
1. Client Name: ECS Mid-Atlantic
2. Address 1: National Harbor
3. Address 2:
4. Billing Email: LKess Ink@ecslimited
5. Phone #:

**Submittal Information:**
1. Job Name: ACPS John Adams 144-145
2. Job Location: VA
3. Job #: 47.11652-WJ:84(1Elr) P.O. #:
4. Contact Person: Zach Hurrell Cell: 571-334-3750
5. Collected by: Cell:

**If a TAT is not selected, AMA will assign 5-Day+ by default.** **Reports and Invoices provided by Email only.**

(After Hours TATs must be prescheduled and may not be technically feasible for some analytical methods)
**AFTER HOURS** ❑4 Hours ❑24 Hours ❑Immediate (6-8 Hours) ❑Late Night
Date Due: Time Due:

**NORMAL BUSINESS HOURS** ❑4 Hours ❑Same Day (6-8 Hours) ❑1 Day ❑2 Day ❑3 Day ❑5 Day + Date Due: 12/10 ❑Results Required By Noon (addlt fees may apply)
(Rush TATs must be prescheduled may not be technically feasible for some analytical methods)

**REPORT TO:** ☑Email 1: zhurrell@ecslimited.com ☑Email 2 LKess Ink ❑Email 3:

**Asbestos Analysis**
*PCM Air – Please Indicate Filter Type: ❑NIOSH 7400 (QTY)
*TEM Air – Please Indicate Filter Type: ❑AHERA (QTY) ❑NIOSH 7402 (QTY) ❑Other (specify) (QTY)
PLM Bulk ❑EPA 600 – Visual Estimate 4 (QTY) ❑Pos Stop ❑EPA Point Count (QTY) ❑NY State Friable 198.1 (QTY) ❑Grav. Reduction ELAP 198.6 (QTY) ❑Other (specify) (QTY)
Asbestos Soil ASTM D7521 ❑Qualitative PLM (Qty.) ❑Quantitative PLM (Qty.) ❑Qualitative PLM/TEM (Qty.) ❑Quantitative PLM/TEM (Qty.)

**TEM Bulk** ❑ELAP 198.4/Chatfield (QTY) ❑NY State PLM/TEM (QTY) ❑Residual Ash (QTY) ❑Vermiculite (QTY)
**TEM Dust*** ❑Qual. (pres/abs) Vacuum/Dust (QTY) ❑Quan. (s/area) Vacuum D5755-95 (QTY) ❑Quan. (s/area)Dust D6480-99 (QTY)
**TEM Water** ❑Qual. (pres/abs) (QTY) ❑ELAP 198.2/EPA 100.2 (QTY) ❑EPA 100.1 (QTY)

☑All samples received in good condition unless otherwise noted. (TEM Water samples °C) **(For Lab Use Only)**

If field data sheets are submitted, there is no need to complete bottom section.
*It is recommended that blank samples be submitted with all air and surface samples

**Metals Analysis** ❑Pb Paint Chip ❑% by Weight (QTY) ❑mg/kg (QTY) ❑*Pb Dust Wipe (QTY) (By submitting samples, you are certifying ASTM E1792 approved wipes were used) ❑*Pb Air (QTY) ❑Pb Soil/Solid (QTY) ❑Pb TCLP (QTY) ❑Drinking Water ❑Pb (QTY) ❑Cu (QTY) ❑Waste Water ❑Pb (QTY) ❑Cu (QTY) ❑Pb Furnace (Media ) (QTY)

**Fungal Analysis** ❑*Spore-Trap (QTY) ❑*Surface Swab (QTY) ❑*Surface Tape (QTY) ❑Other (Specify) (QTY) ❑Surface Vacuum Dust (QTY)
Collection Apparatus for Spore Traps/Air Samples:
Collection Media

**SAMPLE INFORMATION**

| SAMPLE # | MATERIAL and/or LOCATION DESCRIPTION | DATE | TIME | VOL (L) (Air Samples) | Wipe Area (Dust Samples) | TEM | PCM | PLM | LEAD | MOLD | COMMENTS/SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01-02 | 12x12" Tan VFM Floor Tile and Black Mastic | 12-10-24 | | | | | | / | | | 145 |
| 03-04 | Mixed Green/Yellow Carpet Mastic | " | | | | | | / | | | 145-144 |
| | | | | | | | | | | | POSITIVE STOP FOR 01-02 ONLY |

| | Print Name | Signature | Date | Time |
|---|---|---|---|---|
| Relinquished by: | Zach Hurrell | | 12-10-24 | 10:55 |
| Received by: (For Lab Use Only) | | | 12/10 | 10:55 |

**Delivery Information (For Lab Use Only)** ❑UPS ❑FedEx ❑USPS ☑In-Person ❑Drop Box ❑Courrier ❑Other

*by submitting samples to AMA, you agree to abide by all of our terms & conditions. Please contact the laboratory at infor@amalab.com for a copy of our Terms & Conditions.

AMA Analytical Services, Inc.
Focused On Results.

# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 664086 | **Job Name:** | John Adams Room 144 | **Date Submitted:** | 12-03-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Not Provided | **Date Analyzed:** | 12-04-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | 47:11652:84 | **Report Date:** | 12-05-2024 |
| **Attention:** | Lauren Kesslak | **P.O. Number:** | Not Provided | **Date Sampled:** | 12/02/2024 |
| | | | | **Person Submitting:** | William Sargent |

| | |
|---|---|
| **AMA Sample #** | 664086-1 |
| **Client ID** | OUT1 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | Outdoors |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 2 | 15 | 52 | 104 | 6.3% |
| Basidiospores | 4 | 15 | 52 | 208 | 12.5% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | 1 | 15 | 52 | 52 | 3.1% |
| (~) Cladosporium | 12 | 15 | 52 | 624 | 37.5% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 6 | 15 | 52 | 312 | 18.8% |
| Smuts / Periconia / Myxomycetes | 2 | 15 | 52 | 104 | 6.3% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Other Colorless | 4 | 15 | 52 | 208 | 12.5% |
| Pestalotia | 1 | 15 | 52 | 52 | 3.1% |
| Hyphal Fragments* | Present | 15 | 52 | | |

**Total Raw Ct:** 32 **Total spm/m³:** 1664

**Comments**

| | |
|---|---|
| **AMA Sample #** | 664086-2 |
| **Client ID** | R144 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | RM 144 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | | | | | |
| Basidiospores | 2 | 15 | 52 | 104 | 22.2% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | 1 | 15 | 52 | 52 | 11.1% |
| (~) Cladosporium | 3 | 15 | 52 | 156 | 33.3% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | | | | | |
| Smuts / Periconia / Myxomycetes | 1 | 15 | 52 | 52 | 11.1% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | 2 | 15 | 52 | 104 | 22.2% |
| Other Colorless | | | | | |
| Pestalotia | | | | | |
| Hyphal Fragments* | 1 | 15 | 52 | 52 | |

**Total Raw Ct:** 9 **Total spm/m³:** 468

**Comments**

| | |
|---|---|
| **AMA Sample #** | 664086-3 |
| **Client ID** | OUT2 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | Outdoors |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 2 | 15 | 52 | 104 | 10.5% |
| Basidiospores | 4 | 15 | 52 | 208 | 21.1% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 13 | 15 | 52 | 676 | 68.4% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | Present | 15 | 52 | < 52 | |
| Smuts / Periconia / Myxomycetes | Present | 15 | 52 | < 52 | |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Other Colorless | | | | | |
| Pestalotia | | | | | |
| Hyphal Fragments* | Present | 15 | 52 | | |

**Total Raw Ct:** 19 **Total spm/m³:** 988

**Comments**

AMA Analytical Services, Inc.
Focused On Results.

# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 664086 | **Job Name:** | John Adams Room 144 | **Date Submitted:** | 12-03-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Not Provided | **Date Analyzed:** | 12-04-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | 47:11652:84 | **Report Date:** | 12-05-2024 |
| **Attention:** | Lauren Kesslak | **P.O. Number:** | Not Provided | **Date Sampled:** | 12-02-2024 |
| | | | | **Person Submitting:** | William Sargent |

## General Comments, Disclaimers, and Footnotes

**Analytical Method:** Sample are analyzed following the instructions and guidelines outlined in ASTM 7391-09.

**Sample Condition:** Acceptable: The sample was collected and delivered to the our location without disturbing the material on the sampling media. Unacceptable: 1. The sample trace (TR) has been disturbed. 2. The sample was damaged or otherwise unsuitable for analysis. 0 = No particulate matter detected; 1= >nd-~5% Particulate Loading; 2 = ~5%-25% Particulate Loading; 3 = ~25%- 75% Particulate Loading; 4 = ~75%-90% Particulate Loading; 5 = >90% Particulate Loading

**Spore Notes:** Based on their small size and very few distinguishing characteristics, Aspergillus and Penicillium cannot be differentiated by non-viable sampling methods. There are other types of spores whose morphology is similar to Aspergillus and Penicillium and cannot be differentiated by non-viable sampling methods. Examples of these similar spores are Acremonium, Paecilomyces, Wallemia, Trichoderma, Scopulariopsis, and Gliocladium. Smuts, Periconia and Myxomycetes are three different types of genera that have similar morphological characteristics. Bipolaris/Dreschlera/Helm: Bipolaris / Dreschlera / Helminthosporium are three different types of genera that have similar morphological characteristics. Other Colorless represents all colorless spores that are non-distinctive and unidentifiable. Hyphal Fragments: A portion of the mycelium that becomes separated from the remainder of the thallus (vegetative body), each of which has the capacity to grow and form new individuals. Results for hyphal fragments are in fragments/$m^3$ and are not incorporated in the total spore concentration.
The tilde symbol (~) refers to water-intrusion indicator spores. These fungal spores, when found on indoor air samples, can be an indication of moisture sources and resultant fungal growth that may be problematic.

**Quantification**: Analytical Sensitivity (A.S.): This is dependent on the volume of air collected, size of the trace, ocular diameter, and the amount of the trace that was analyzed. The value of "Present" indicated in the Raw Count column represents the presence of this spore type during the preliminary exam at 400x. The Raw Count converts to a whole number if the spore type is encountered again during the 600x-1,000x enumeration. The sp/$m^3$ concentration will be reported as less than the analytical sensitivity if "Present" is reported in the Raw Count. Results are reported to 3 significant figures. sp/$m^3$: Spores per cubic meter. Uncertainty: for raw count in the range of 0-50 the SR is 0.266, 51-100 SR=0.325, 101-200 SR=0.193, >200 SR=0.125 All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.
**Analyst(s):** Tristan Ward

**Technical Director** _____
Tristan Ward

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# MOLD SPORE DESCRIPTIONS

## Ascospores

Ascospores are spores formed inside an ascus (asci-plural) or sac-like cell which is contained inside a fruiting body called an ascocarp or an ascoma (ascomata-plural). An ascus typically contains a definite nuimber of ascospores, usually eight. Ascospores are unique in shape, size, and color as to the Genus/species they represent. These spores are specific to fungi classified as Ascomycetes. They are ubiquitous in nature. Many decay organic matter, others are plant or animal pathogens. They can grow indoors on damp materials. Release of ascospores are released by forcible ejection and dispersed by wind, water, animals and other agents. Health Effects: Depending on the Genera, Ascospores may be allergenic.

## Basidiospores

Basidiospores are reproductive spores produced by a group of fungi called basidiomycetes. This group includes the mushrooms, shelf fungi and various other macrofungi. Basidipspores serve as the main air (wind) dispersal units for the fungi and their release is dependent upon moisture. The structure of the spore complex can develop in various manners resulting in different appearances. It is often found growing in soil, decaying plant debris, compost piles and fruit rot. Indoors, it can be found on water damaged building materials (chipboard /OSB, plywood, wallpaper, and glue) as well as on food items (dried foods, cheeses, fruits, herbs, spices, cereals). Health effects: Some basidiospores may produce toxins and can act as allergens. They have not been reported to be pathogens.

## Chaetomium

Chaetomium is a genus of ascomycete fungi. It is a cosmopolitan, dark colored fungus (grayish-green to brown) commonly isolated from soil, seeds, dung, wood, and straw materials. Indoors, it is very commonly found on damp sheetrock and paper or cellulose-containing materials. There are certain characteristics such as color, shape, and size of the Chaetomium ascopores, asci, and ascomata that are unique in identification of the different species. Wind, insects, and water aid dispersal of spores. Due to their large size, they settle out of the air after just a few minutes. As a consequence, airborne mold levels are usually low even in infested environments. Due to this, exposure levels are likely to be low as well. Health Effects: Chaetomium does produce a variety of mycotoxins called chaetoglobsins, whose health effects on humans are unknown. Due to its toxigenic nature, special precautions may be required during remediation.

## Cladosporium

Cladosporium is the most common indoor and outdoor mold. The spores are wind dispersed and are often extremely abundant in outdoor air. Many species are commonly found on living and dead plant material. Indoors, they may grow on surfaces with high moisture or high humidity levels such as damp window sills, poorly ventilated bathrooms and soiled refrigerators. It produces powdery or velvety olive-green to brown or black colonies. The conidia (spores) vary depending on the species and are formed in simple or branching chains with multi-attachment points. Health Effects: Cladosporium species are rarely pathogenic to humans, but have been reported to occassionally cause sinusitis and pulmonary infections as well as infections of the skin and toenails. The airborne spores are significant allergens, and in large amounts they may severely affect asthmatics and people with respiratory diseases.

# MOLD SPORE DESCRIPTIONS

## Hyphal Fragments

Hyphal Fragments are segments or pieces of hyphae or mycelium that may have broken off during sampling (air, tape, dust). The mycelium is the entire mass of hyphae that makes up the vegetative body of a fungus. The presence of hyphal fragments may indicate the presence of viable mold.

## Other Colorless

“Other Colorless” are all non-distinctive, unidentifiable, colorless spores seen on spore trap samples and include all the genera that do not have distinguishing morphology to belong to any of the other defined categories.

## Pen / Asp Like

Penicillium and Aspergillus are ubiquitous, filamentous fungi that are found in soil, decaying plant debris, compost piles, and in the air. Indoors, spores are commonly found in house dust, in water-damaged buildings (wallpaper, wallpaper glue, decaying fabrics, moist chipboards, and behind paint) as well as fruit and grains. They are the most common fungal genera, worldwide. Both produce chains of spores that are small, round to oval, colorless or slightly pigmented, and smooth to rough walled. These spores are indistinguishable between the two as well as other genera, such as Gliocladium, Trichoderma, Paecilomyces, and Scopulariopsis. They differ as to their conidiophores or fruiting bodies. While, Aspergillus spores are produced from phialides supported on conidia heads or swollen vesicles, Penicillium spores are produced on finger-like projections. Depending on species, typical colonies of Aspergillus are initially white and later turn to either shades of green, yellow, orange, brown or black. Texture is usually velvety to cottony. Typical colonies of Penicillium, other than Penicillium marneffei (yeast-like at 37oC), grow rapidly, white in color at first, later becoming bluish green with white borders with velvety to powdery textures depending on species. Some species produce radial patterns. Health Effects: Both Aspergillus and Penicillium are potential allergens. Several species of Aspergillus (A. flavus and A. parasiticus) produce aflatoxins or natually occurring mycotoxins that are toxic and carcinogenic. These are found in contaminated foodstuff and are hazardous to consumers. Penicillium has only one known species that is pathogenic to humans (P. marneffei) that causes lethal systemic infection (Penicilliosis) in immunocompromised individuals.

## Pestalotia

Pestalotia is considered a secondary plant pathogen. It is saprophytic or lives on dead and dying tissues. It is considered a weak parasite and infects wounds under moist conditions. The spores are multi-celled with usually three darkly pigmented center cells and clear pointed end cells. Its distinguishing feature is the two or more clear, whisker-like appendages arising from the end cell. Health Effects: No information is available regarding health effects or toxicity.

## Smuts / Periconia / Myxomycetes

Smuts, Periconia, and Myxomycetes spores are grouped together due to their similar round, brown morphology. Smuts are outdoor parasitic plant pathogens. They rarely grow indoors but may grow on host plants if appropriate conditions are present. They are parasitic plant pathogens. They can be found on cereal crops, grasses, flowing plants, weed, and other fungi. They can cause allergies. Periconia are found in soils, dead herbaceous stems and leaf spots, and grasses. They have wind dispersed dry spores. Their spores are abundant in the air but it is not known if they are allergenic. Myxomycetes are found on decaying logs, stumps and dead leaves. They have wind-dispersed dry spores and wet motile (amoebic phase) spores. During favorable conditions they move about like amoebae. They form dry airborne spores when conditions are unfavorable. They are rarely found indoors. Health Effects: They may cause Type 1 allergies (hay fever, asthma). No human infections have been reported.

# MOLD SPORE DESCRIPTIONS

4475 Forbes Blvd. · Lanham, MD, 20706 · (301) 459-2640 · Toll Free (800) 346-0961 · Fax (301) 459-2643

**AMA Analytical Services, Inc.**
Focused on Results www.amalab.com
AIHA-LAP (#100470) NVLAP (#101143-0) NY ELAP (10920)
4475 Forbes Blvd. • Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

# CHAIN OF CUSTODY

(Please Refer To This Number For Inquires)

Pg 1 of 1

6 C 4086

**AMA Client Information:**
1. Client Name: ECS Mid-Atlantic LLC
2. Address 1:
3. Address 2:
4. Billing Email:
5. Phone #:

**Submittal Information:**
1. Job Name: John Adams Room 144
2. Job Location:
3. Job #: 47 11652:84 PO#:
4. Contact Person: Lauren Kesslak Cell: (202) 494-7849
5. Collected by: William Sargent Cell: (202) 570-0898

**If a TAT is not provided, AMA will assign a default of 5-Day.** **Reports and Invoices provided by Email only.**

**AFTER HOURS (must be pre-scheduled)**
☐ 4 Hours ☐ Late Night
☐ Immediate Date Due:
☐ 24 Hours Time Due:
Comments:

**NORMAL BUSINESS HOURS**
☐ 4 Hours ~~☐ Same Day (6 & 8 Hours)~~ ☐ 1 Day ☐ 2 Day ☐ 3 Day ☐ 5 Day + Date Due: 12/4 12/3/24 ☐ Results Required By Noon

**REPORT TO:**
☒ Email 1: lkesslak@ecslimited.com
☐ Email 2:
☐ Email 3:

**Asbestos Analysis**
*PCM Air – Please Indicate Filter Type:
☐ NIOSH 7400 (QTY)
*TEM Air – Please Indicate Filter Type:
☐ AHERA (QTY)
☐ NIOSH 7402 (QTY)
☐ Other (specify) (QTY)
PLM Bulk
☐ EPA 600 – Visual Estimate (QTY) ☐ Pos Stop
☐ EPA Point Count (QTY)
☐ NY State Friable 198.1 (QTY)
☐ Grav. Reduction ELAP 198.6 (QTY)
☐ Other (specify) (QTY)
MISC
☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

**TEM Bulk**
☐ ELAP 198.4/Chatfield (QTY)
☐ NY State PLM/TEM (QTY)
☐ Residual Ash (QTY)
☐ Vermiculite (QTY)
**TEM Dust***
☐ Qual. (pres/abs) Vacuum/Dust (QTY)
☐ Quan. (s/area) Vacuum D5755-95 (QTY)
☐ Quan. (s/area)Dust D6480-99 (QTY)
**TEM Water**
☐ Qual. (pres/abs) (QTY)
☐ ELAP 198.2/EPA 100.2 (QTY)
☐ EPA 100.1 (QTY)

☐ All samples received in good condition unless otherwise noted.
(TEM Water samples °C) **(For Lab Use Only)**

If field data sheets are submitted, there is no need to complete bottom section.
*It is recommended that blank samples be submitted with all air and surface samples

**Metals Analysis**
☐ Pb Paint Chip ☐ % by Weight (QTY) ☐ mg/kg (QTY)
☐ *Pb Dust Wipe (QTY) (Samples collected using ASTM approved media ☐)
☐ *Pb Air (QTY)
☐ Pb Soil/Solid (QTY)
☐ Pb TCLP (QTY)
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY)
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY)
☐ Pb Furnace (Media ) (QTY)

**Fungal Analysis**
☒ *Spore-Trap 3 (QTY)
☐ *Surface Swab (QTY)
☐ *Surface Tape (QTY)
☐ Other (Specify) (QTY)
☐ Surface Vacuum Dust (QTY)
Collection Apparatus for Spore Traps/Air Samples: Allergenco-D
Collection Media Air

**SAMPLE INFORMATION**

| SAMPLE # | MATERIAL and/or LOCATION DESCRIPTION | DATE (m/d/yyyy) | TIME (hh:mm) AM ↓ | VOL (L) (Air Samples) | Wipe Area (Dust Samples) | TEM | PCM | PLM | LEAD | MOLD | COMMENTS/SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OUT 1 | Outdoors | 12/2/24 | 9:50 | 75 | | | | | | X | |
| R144 | Room 144 | ↓ | 10:08 | ↓ | | | | | | X | |
| OUT 2 | outdoors | ↓ | 10:35 | ↓ | | | | | | X | |
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| | Print Name | Signature | Date: m/d/yyyy | Time: hh:mm |
|---|---|---|---|---|
| *Relinquished by: | William Sargent | | 12/2/2024 | 6:30 PM |
| Received by: | | | 12/3 | 8:00 |

**Delivery Information (For Lab Use Only)**
☐ UPS ☐ In-Person ☐ Other
☐ FedEx ☒ Drop Box
☐ USPS ☐ Courrier

# Direct Exam: Spore Trap Analysis

**SAI Method B-SOP-003**

**Customer:** ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Chantilly, VA 20151

**Attn:** Lauren Kesslak

**Project:** John Adams ES Mold Survey

**Lab Order ID:** **10071818**
**Analysis:** STA
**Date Received:** 01/02/2025
**Date Reported:** 01/02/2025

| **Sample ID** | OUT1 | | | 144 | | | 145 | | | **EXTERIOR** | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID** | 10071818_0001 | | | 10071818_0002 | | | 10071818_0003 | | | **AVERAGE** | | |
| **Description** | Outdoors | | | Room 144 | | | Room 145 | | | **N/A** | | |
| **Lab Notes** | | | | | | | | | | **N/A** | | |
| **Volume (L)** | 75 | | | 75 | | | 75 | | | **N/A** | | |
| **Analytical Sensitivity (counts/m³)** | 78 | | | 78 | | | 78 | | | **N/A** | | |
| **IDENTIFICATION** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** |
| *Alternaria* | 1 | 78.4 | 0.806% | | | | | | | <1 | 39.2 | N/A |
| Ascospores | 67 | 5250 | 54.0% | 4 | 313 | 40.0% | 1 | 78.4 | 20.0% | 59 | 4630 | 54.6% |
| Basidiospores | 39 | 3060 | 31.5% | 4 | 313 | 40.0% | 1 | 78.4 | 20.0% | 34 | 2670 | 31.5% |
| *Cladosporium* | 16 | 1250 | 12.9% | 2 | 157 | 20.0% | 3 | 235 | 60.0% | 15 | 1140 | 13.9% |
| Myxomycete/Rust/Smut-like | | | | | | | | | | <1 | 39.2 | N/A |
| Unknown/Other | 1 | 78.4 | 0.806% | | | | | | | <1 | 39.2 | N/A |
| **TOTAL** | **124** | **9720** | **100.%** | **10** | **784** | **100.%** | **5** | **392** | **100.%** | **108** | **8560** | **100.%** |
| Non-Cellulosic Fibers | - | - | - | - | - | - | - | - | - | - | - | - |
| Hyphal Fragments | 2 | 157 | - | 1 | 78.4 | - | 1 | 78.4 | - | 2 | 117.7 | - |
| Insect Parts | - | - | - | - | - | - | - | - | - | - | - | - |
| Pollen | - | - | - | - | - | - | - | - | - | - | - | - |
| **Skin Cell % of Total Debris** | | **0-20%** | | | **20-40%** | | | **40-60%** | | | **N/A** | |
| **Total Debris in Background** | | **60-80%** | | | **60-80%** | | | **20-40%** | | | **N/A** | |

Disclaimer: This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. Unless otherwise noted blank sample correction was not performed on analytical results. Scientific Analytical Institute participates in the AIHA EMPAT program for fungi. EMPAT Laboratory ID: 173190. Reporting Limit equals Analytical Sensitivity. Unless indicated, areas and volumes were provided by the customer.

Darrin Parrick (4)
**Analyst**

**Approved Signatory**



**Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888**

# Direct Exam: Spore Trap Analysis

**SAI Method B-SOP-003**

**Customer:** ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Chantilly, VA 20151

**Attn:** Lauren Kesslak

**Project:** John Adams ES Mold Survey

**Lab Order ID:** **10071818**
**Analysis:** STA
**Date Received:** 01/02/2025
**Date Reported:** 01/02/2025

| **Sample ID** | OUT2 | | | | | | | | | **EXTERIOR** | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID** | 10071818_0004 | | | | | | | | | **AVERAGE** | | |
| **Description** | Outdoors | | | | | | | | | **N/A** | | |
| **Lab Notes** | | | | | | | | | | **N/A** | | |
| **Volume (L)** | 75 | | | | | | | | | **N/A** | | |
| **Analytical Sensitivity (counts/m³)** | 78 | | | | | | | | | **N/A** | | |
| **IDENTIFICATION** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** |
| *Alternaria* | | | | | | | | | | <1 | 39.2 | N/A |
| Ascospores | 51 | 4000 | 54.3% | | | | | | | 59 | 4630 | 54.6% |
| Basidiospores | 29 | 2270 | 30.9% | | | | | | | 34 | 2670 | 31.5% |
| *Cladosporium* | 13 | 1020 | 13.8% | | | | | | | 15 | 1140 | 13.9% |
| Myxomycete/Rust/Smut-like | 1 | 78.4 | 1.06% | | | | | | | <1 | 39.2 | N/A |
| Unknown/Other | | | | | | | | | | <1 | 39.2 | N/A |
| **TOTAL** | **94** | **7370** | **100.%** | **-** | **-** | **-** | **-** | **-** | **-** | **108** | **8560** | **100.%** |
| Non-Cellulosic Fibers | - | - | - | - | - | - | - | - | - | - | - | - |
| Hyphal Fragments | 1 | 78.4 | - | - | - | - | - | - | - | 2 | 117.7 | - |
| Insect Parts | - | - | - | - | - | - | - | - | - | - | - | - |
| Pollen | - | - | - | - | - | - | - | - | - | - | - | - |
| **Skin Cell % of Total Debris** | | **0-20%** | | | **N/A** | | | **N/A** | | | **N/A** | |
| **Total Debris in Background** | | **40-60%** | | | **N/A** | | | **N/A** | | | **N/A** | |

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Darrin Parrick (4)
**Analyst**

**Approved Signatory**



**Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888**

100 11019

**Scientific Analytical Institute**
**4604 Dundas Dr. Greensboro, NC 27407**
**Phone: 336.292.3888 Fax: 336.292.3313**
**www.sailab.com lab@sailab.com**

*Lab Use Only*
Lab Order ID: _____
Client Code: _____

| Company Contact Information | |
|---|---|
| Company: ECS Mid-Atlantic LLC | Contact: Lauren Kesslak |
| Address: 14026 Thunderbolt Pl Suite 100 | Phone ☐: 202-494-7649 |
| Chantilly, VA 20151 | Fax ☐: |
| | Email ☐: lkesslak@ecslimited.com |

| Billing/Invoice Information | Turn Around Times | |
|---|---|---|
| Company: ECS Mid-Atlantic LLC | 90 Min. ☐ | 48 Hours ☐ |
| Contact: Lauren Kesslak | 3 Hours ☐ | 72 Hours ☐ |
| Address: 14026 Thunderbolt Pl Suite 100 | 6 Hours ■ | 96 Hours ☐ |
| Chantilly, VA 20151 | 12 Hours ☐ | 120 Hours ☐ |
| | 24 Hours ☐ | 144+Hours ☐ |

**PO Number:** 47:11652-W:84

**Project Name/Number:** John Adams ES Mold Survey

| Microbiology Test Types | |
|---|---|
| Spore Trap - Slit Impact, ie, AOC/Allergenco (STA) | ■ |
| Spore Trap Other, ie. Micro-5 (STO) | ☐ |
| Direct Exam Tape (DET) | ☐ |
| Direct Exam Swab (DES) | ☐ |
| Direct Exam Bulk (DEB) | ☐ |
| Fungal Culture Air (FCA) | ☐ |
| Fungal Culture Swab (FCS) | ☐ |
| Fungal Culture Bulk (FCB) | ☐ |
| Bacteria Culture Air (BCA) | ☐ |
| Bacteria Culture Bulk (BCB) | ☐ |
| Bacteria Culture Swab (BCS) | ☐ |
| Biolog (BLG) | ☐ |
| Drinking Water (BCC) (Coliform/E.coli) | ☐ |
| Other: | ☐ |

| Sample ID # | Description/Location | Volume/Area | Comments |
|---|---|---|---|
| OUT1 | Outdoors | 75 L | |
| 144 | Room 144 | 75 L | |
| 145 | Room 145 | 75 L | |
| OUT2 | Outdoors | 75 L | |
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Accepted ☒
Rejected ☐

Total # of Samples 4

| Relinquished by | Date/Time | Received by | Date/Time |
|---|---|---|---|
| william Sargent | | | |
| [illegible] | 12/31/24 1:00 PM | [signature] | 1/2 10:38 am |

AMA Analytical Services, Inc.
Focused On Results.

# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 664422 | **Job Name:** | John Adams Elementary School | **Date Submitted:** | 12-17-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Not Provided | **Date Analyzed:** | 12-18-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | 47:11652-W:84 | **Report Date:** | 12-18-2024 |
| **Attention:** | Lauren Kesslak | **P.O. Number:** | Not Provided | **Date Sampled:** | 12/16/2024 |
| | | | | **Person Submitting:** | William Sargent |

| | |
|---|---|
| **AMA Sample #** | 664422-1 |
| **Client ID** | OUT1 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | Outdoors |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 53 | 15 | 52 | 2760 | 43.1% |
| Basidiospores | 67 | 15 | 52 | 3489 | 54.5% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 2 | 15 | 52 | 104 | 1.6% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | | | | | |
| Smuts / Periconia / Myxomycetes | 1 | 15 | 52 | 52 | .8% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Hyphal Fragments* | | | | | |

**Total Raw Ct:** 123 **Total spm/m³:** 6405

**Comments**

| | |
|---|---|
| **AMA Sample #** | 664422-2 |
| **Client ID** | R144 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | RM 144 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 4 | 15 | 52 | 208 | 50% |
| Basidiospores | 4 | 15 | 52 | 208 | 50% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | Present | 15 | 52 | < 52 | |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | | | | | |
| Smuts / Periconia / Myxomycetes | | | | | |
| (~) Stachybotrys/Memnoniella | Present | 15 | 52 | < 52 | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Nigrospora | Present | 15 | 52 | < 52 | |
| Hyphal Fragments* | | | | | |

**Total Raw Ct:** 8 **Total spm/m³:** 416

**Comments**

| | |
|---|---|
| **AMA Sample #** | 664422-3 |
| **Client ID** | R145 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 3 |
| **Location** | RM 145 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 6 | 15 | 52 | 312 | 23.1% |
| Basidiospores | 3 | 15 | 52 | 156 | 11.5% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | 2 | 15 | 52 | 104 | 7.7% |
| (~) Cladosporium | 5 | 15 | 52 | 260 | 19.2% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 7 | 15 | 52 | 364 | 26.9% |
| Smuts / Periconia / Myxomycetes | 2 | 15 | 52 | 104 | 7.7% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Nigrospora | | | | | |
| Sporidesmium | Present | 15 | 52 | < 52 | |
| Other Colorless | 1 | 15 | 52 | 52 | 3.8% |
| Hyphal Fragments* | 2 | 15 | 52 | 104 | |

**Total Raw Ct:** 26 **Total spm/m³:** 1352

**Comments**

AMA Analytical Services, Inc.
Focused On Results.

# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 664422 | **Job Name:** | John Adams Elementary School | **Date Submitted:** | 12-17-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Not Provided | **Date Analyzed:** | 12-18-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | 47:11652-W:84 | **Report Date:** | 12-18-2024 |
| **Attention:** | Lauren Kesslak | **P.O. Number:** | Not Provided | **Date Sampled:** | 12/16/2024 |
| | | | | **Person Submitting:** | William Sargent |

| | |
|---|---|
| **AMA Sample #** | 664422-4 |
| **Client ID** | OUT2 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | Outdoors |

| | Raw Ct. | Trav/Fids | A.S | sp/m$^3$ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 91 | 15 | 52 | 4738 | 45.5% |
| Basidiospores | 101 | 9 | 86 | 8766 | 50.5% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 6 | 15 | 52 | 312 | 3% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | | | | | |
| Smuts / Periconia / Myxomycetes | 2 | 15 | 52 | 104 | 1% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Nigrospora | | | | | |
| Sporidesmium | | | | | |
| Other Colorless | | | | | |
| Hyphal Fragments* | Present | 15 | 52 | | |
| **Total Raw Ct:** | **200** | | **Total spm/m$^3$: 13920** | | |

**Comments**

AMA Analytical Services, Inc.
Focused On Results.

# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 664422 | **Job Name:** | John Adams Elementary School | **Date Submitted:** | 12-17-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Not Provided | **Date Analyzed:** | 12-18-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | 47:11652-W:84 | **Report Date:** | 12-18-2024 |
| **Attention:** | Lauren Kesslak | **P.O. Number:** | Not Provided | **Date Sampled:** | 12-16-2024 |
| | | | | **Person Submitting:** | William Sargent |

## General Comments, Disclaimers, and Footnotes

**Analytical Method:** Sample are analyzed following the instructions and guidelines outlined in ASTM 7391-09.

**Sample Condition:** Acceptable: The sample was collected and delivered to the our location without disturbing the material on the sampling media. Unacceptable: 1. The sample trace (TR) has been disturbed. 2. The sample was damaged or otherwise unsuitable for analysis. 0 = No particulate matter detected; 1= >nd-~5% Particulate Loading; 2 = ~5%-25% Particulate Loading; 3 = ~25%- 75% Particulate Loading; 4 = ~75%-90% Particulate Loading; 5 = >90% Particulate Loading

**Spore Notes:** Based on their small size and very few distinguishing characteristics, Aspergillus and Penicillium cannot be differentiated by non-viable sampling methods. There are other types of spores whose morphology is similar to Aspergillus and Penicillium and cannot be differentiated by non-viable sampling methods. Examples of these similar spores are Acremonium, Paecilomyces, Wallemia, Trichoderma, Scopulariopsis, and Gliocladium. Smuts, Periconia and Myxomycetes are three different types of genera that have similar morphological characteristics. Bipolaris/Dreschlera/Helm: Bipolaris / Dreschlera / Helminthosporium are three different types of genera that have similar morphological characteristics. Other Colorless represents all colorless spores that are non-distinctive and unidentifiable. Hyphal Fragments: A portion of the mycelium that becomes separated from the remainder of the thallus (vegetative body), each of which has the capacity to grow and form new individuals. Results for hyphal fragments are in fragments/$m^3$ and are not incorporated in the total spore concentration.
The tilde symbol (~) refers to water-intrusion indicator spores. These fungal spores, when found on indoor air samples, can be an indication of moisture sources and resultant fungal growth that may be problematic.

**Quantification**: Analytical Sensitivity (A.S.): This is dependent on the volume of air collected, size of the trace, ocular diameter, and the amount of the trace that was analyzed. The value of "Present" indicated in the Raw Count column represents the presence of this spore type during the preliminary exam at 400x. The Raw Count converts to a whole number if the spore type is encountered again during the 600x-1,000x enumeration. The sp/$m^3$ concentration will be reported as less than the analytical sensitivity if "Present" is reported in the Raw Count. Results are reported to 3 significant figures. sp/$m^3$: Spores per cubic meter. Uncertainty: for raw count in the range of 0-50 the SR is 0.266, 51-100 SR=0.325, 101-200 SR=0.193, >200 SR=0.125 All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

**Analyst(s):** Tristan Ward

**Technical Director** _____
Tristan Ward

This report applies only to the sample(s) analyzed as received and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter, nor shall it be reproduced, except it full, without prior written authorization from us. Sample types, locations, collection protocols, air volumes and/or surface wipe area measurements are based upon information provided by the person(s) submitting them, and unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information and for analytical results calculated based on this information. Residual sample material will be discarded in accordance wit the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement, by NY ELAP, MDE, AIHA-LAP, NVLAP, NIST, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

# MOLD SPORE DESCRIPTIONS

## Ascospores

Ascospores are spores formed inside an ascus (asci-plural) or sac-like cell which is contained inside a fruiting body called an ascocarp or an ascoma (ascomata-plural). An ascus typically contains a definite nuimber of ascospores, usually eight. Ascospores are unique in shape, size, and color as to the Genus/species they represent. These spores are specific to fungi classified as Ascomycetes. They are ubiquitous in nature. Many decay organic matter, others are plant or animal pathogens. They can grow indoors on damp materials. Release of ascospores are released by forcible ejection and dispersed by wind, water, animals and other agents. Health Effects: Depending on the Genera, Ascospores may be allergenic.

## Basidiospores

Basidiospores are reproductive spores produced by a group of fungi called basidiomycetes. This group includes the mushrooms, shelf fungi and various other macrofungi. Basidipspores serve as the main air (wind) dispersal units for the fungi and their release is dependent upon moisture. The structure of the spore complex can develop in various manners resulting in different appearances. It is often found growing in soil, decaying plant debris, compost piles and fruit rot. Indoors, it can be found on water damaged building materials (chipboard /OSB, plywood, wallpaper, and glue) as well as on food items (dried foods, cheeses, fruits, herbs, spices, cereals). Health effects: Some basidiospores may produce toxins and can act as allergens. They have not been reported to be pathogens.

## Chaetomium

Chaetomium is a genus of ascomycete fungi. It is a cosmopolitan, dark colored fungus (grayish-green to brown) commonly isolated from soil, seeds, dung, wood, and straw materials. Indoors, it is very commonly found on damp sheetrock and paper or cellulose-containing materials. There are certain characteristics such as color, shape, and size of the Chaetomium ascopores, asci, and ascomata that are unique in identification of the different species. Wind, insects, and water aid dispersal of spores. Due to their large size, they settle out of the air after just a few minutes. As a consequence, airborne mold levels are usually low even in infested environments. Due to this, exposure levels are likely to be low as well. Health Effects: Chaetomium does produce a variety of mycotoxins called chaetoglobsins, whose health effects on humans are unknown. Due to its toxigenic nature, special precautions may be required during remediation.

## Cladosporium

Cladosporium is the most common indoor and outdoor mold. The spores are wind dispersed and are often extremely abundant in outdoor air. Many species are commonly found on living and dead plant material. Indoors, they may grow on surfaces with high moisture or high humidity levels such as damp window sills, poorly ventilated bathrooms and soiled refrigerators. It produces powdery or velvety olive-green to brown or black colonies. The conidia (spores) vary depending on the species and are formed in simple or branching chains with multi-attachment points. Health Effects: Cladosporium species are rarely pathogenic to humans, but have been reported to occassionally cause sinusitis and pulmonary infections as well as infections of the skin and toenails. The airborne spores are significant allergens, and in large amounts they may severely affect asthmatics and people with respiratory diseases.

# MOLD SPORE DESCRIPTIONS

## Hyphal Fragments

Hyphal Fragments are segments or pieces of hyphae or mycelium that may have broken off during sampling (air, tape, dust). The mycelium is the entire mass of hyphae that makes up the vegetative body of a fungus. The presence of hyphal fragments may indicate the presence of viable mold.

## Nigrospora

Nigrospora is a ubiquitous, filamentous, dark colored fungus commonly isolated from soil, decaying plants, and seeds outdoors but seldom found growing indoors. It is especially abundant in warm climates and is dispersed through an active discharge mechanism, which does not require wind or rain. Nigrospora initially forms woolly, white colonies, becomes gray with black areas over time, and eventually turns black. Its conidia are black, solitary, unicellular, slightly flattened horizontally, and have a thin equatorial germ slit. Health Effects: This mold is a potential allergen. Some people may experience hay fever or asthma. Nigrospora has a very rare report of human infection and does not produce any known toxins.

## Other Colorless

“Other Colorless” are all non-distinctive, unidentifiable, colorless spores seen on spore trap samples and include all the genera that do not have distinguishing morphology to belong to any of the other defined categories.

## Pen / Asp Like

Penicillium and Aspergillus are ubiquitous, filamentous fungi that are found in soil, decaying plant debris, compost piles, and in the air. Indoors, spores are commonly found in house dust, in water-damaged buildings (wallpaper, wallpaper glue, decaying fabrics, moist chipboards, and behind paint) as well as fruit and grains. They are the most common fungal genera, worldwide. Both produce chains of spores that are small, round to oval, colorless or slightly pigmented, and smooth to rough walled. These spores are indistinguishable between the two as well as other genera, such as Gliocladium, Trichoderma, Paecilomyces, and Scopulariopsis. They differ as to their conidiophores or fruiting bodies. While, Aspergillus spores are produced from phialides supported on conidia heads or swollen vesicles, Penicillium spores are produced on finger-like projections. Depending on species, typical colonies of Aspergillus are initially white and later turn to either shades of green, yellow, orange, brown or black. Texture is usually velvety to cottony. Typical colonies of Penicillium, other than Penicillium marneffei (yeast-like at 37oC), grow rapidly, white in color at first, later becoming bluish green with white borders with velvety to powdery textures depending on species. Some species produce radial patterns. Health Effects: Both Aspergillus and Penicillium are potential allergens. Several species of Aspergillus (A. flavus and A. parasiticus) produce aflatoxins or natually occurring mycotoxins that are toxic and carcinogenic. These are found in contaminated foodstuff and are hazardous to consumers. Penicillium has only one known species that is pathogenic to humans (P. marneffei) that causes lethal systemic infection (Penicilliosis) in immunocompromised individuals.

## Smuts / Periconia / Myxomycetes

Smuts, Periconia, and Myxomycetes spores are grouped together due to their similar round, brown morphology. Smuts are outdoor parasitic plant pathogens. They rarely grow indoors but may grow on host plants if appropriate conditions are present. They are parasitic plant pathogens. They can be found on cereal crops, grasses, flowing plants, weed, and other fungi. They can cause allergies. Periconia are found in soils, dead herbaceous stems and leaf spots, and grasses. They have wind dispersed dry spores. Their spores are abundant in the air but it is not known if they are allergenic. Myxomycetes are found on decaying logs, stumps and dead leaves. They have wind-dispersed dry

# MOLD SPORE DESCRIPTIONS

spores and wet motile (amoebic phase) spores. During favorable conditions they move about like amoebae. They form dry airborne spores when conditions are unfavorable. They are rarely found indoors. Health Effects: They may cause Type 1 allergies (hay fever, asthma). No human infections have been reported.

## Stachybotrys / Memnoniella

Stachybotrys is a cosmopolitan, filamentous fungus that is commonly isolated from soil and decaying plant material. Stachybotrys is highly cellulolytic, so it's commonly found indoors on wet materials containing cellulose, such as wallboard, jute, wicker, straw baskets, and other paper materials. Stachybotrys conidia are ellipsoidal, black, and smooth to roughened. Its' spores are dispersed by insects, water slash and wind, when dried out. Stachybotrys colonies have a powdery texture and are generally black but may also appear white, pink, or orange in color. Health Effects: Stachybotrys can cause allergic and asthmatic reactions in sensitive individuals. Stachybotrys species produce a number of mycotoxins that may be harmful to human and animal health. These mycotoxins include the trichothecenes roridan E, satratoxins F, G, and H, and verrucarin J.

**AMA Analytical Services, Inc.**
Focused on Results www.amalab.com
AIHA-LAP (#100470) NVLAP (#101143-0) NY ELAP (10920)
4475 Forbes Blvd. • Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

# CHAIN OF CUSTODY

(Please Refer To This Number For Inquires) 664422

**AMA Client Information:**
1. Client Name: ECS Mid-Atlantic LLC
2. Address 1:
3. Address 2:
4. Billing Email:
5. Phone #:

**Submittal Information:**
1. Job Name: John Adams Elementary School
2. Job Location:
3. Job #: 47:11652-IW:84 PO#:
4. Contact Person: Lauren Kresslak Cell: (202) 494-7649
5. Collected by: William Sargent Cell: (202) 570-0898

**If a TAT is not provided, AMA will assign a default of 5-Day.** **Reports and Invoices provided by Email only.**

**AFTER HOURS (must be pre-scheduled)**
☐ 4 Hours ☐ Late Night
☐ Immediate Date Due:
☐ 24 Hours Time Due:
Comments:

**NORMAL BUSINESS HOURS**
☐ 4 Hours ☐ 3 Day ☐ Results Required By Noon
☐ Same Day (6-8 Hours) ☐ 5 Day +
☒ 1 Day Date Due: 12/18/24
☐ 2 Day

**REPORT TO:**
☒ Email 1: LKresslak@ecslimited.com
☐ Email 2:
☐ Email 3:

**Asbestos Analysis**
*PCM Air – Please Indicate Filter Type:
☐ NIOSH 7400 (QTY)
*TEM Air – Please Indicate Filter Type:
☐ AHERA (QTY)
☐ NIOSH 7402 (QTY)
☐ Other (specify) (QTY)
PLM Bulk
☐ EPA 600 – Visual Estimate (QTY) ☐ Pos Stop
☐ EPA Point Count (QTY)
☐ NY State Friable 198.1 (QTY)
☐ Grav. Reduction ELAP 198.6 (QTY)
☐ Other (specify) (QTY)
MISC
☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

**TEM Bulk**
☐ ELAP 198.4/Chatfield (QTY)
☐ NY State PLM/TEM (QTY)
☐ Residual Ash (QTY)
☐ Vermiculite (QTY)
**TEM Dust***
☐ Qual. (pres/abs) Vacuum/Dust (QTY)
☐ Quan. (s/area) Vacuum D5755-95 (QTY)
☐ Quan. (s/area)Dust D6480-99 (QTY)
**TEM Water**
☐ Qual. (pres/abs) (QTY)
☐ ELAP 198.2/EPA 100.2 (QTY)
☐ EPA 100.1 (QTY)

☒ All samples received in good condition unless otherwise noted.
TEM Water samples °C) **(For Lab Use Only)**

If field data sheets are submitted, there is no need to complete bottom section.
*It is recommended that blank samples be submitted with all air and surface samples

**Metals Analysis**
☐ Pb Paint Chip ☐ % by Weight (QTY) ☐ mg/kg (QTY)
☐ *Pb Dust Wipe (QTY) (Samples collected using ASTM approved media ☐)
☐ *Pb Air (QTY)
☐ Pb Soil/Solid (QTY)
☐ Pb TCLP (QTY)
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY)
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY)
☐ Pb Furnace (Media ) (QTY)

**Fungal Analysis**
☒ *Spore-Trap 4 (QTY)
☐ *Surface Swab (QTY)
☐ *Surface Tape (QTY)
☐ Other (Specify) (QTY)
☐ Surface Vacuum Dust (QTY)
Collection Apparatus for Spore Traps/Air Samples: Allergenco-D
Collection Media

**SAMPLE INFORMATION**

| SAMPLE # | MATERIAL and/or LOCATION DESCRIPTION | DATE (m/d/yyyy) | TIME (hh:mm) | VOL (L) (Air Samples) | Wipe Area (Dust Samples) | TEM | PCM | PLM | LEAD | MOLD | COMMENTS/SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OUT1 | Outdoors | 12/16/24 | 14:44 | 75 | | | | | | X | |
| R144 | Room 144 | ↓ | 14:56 | ↓ | | | | | | X | |
| R145 | Room 145 | | 15:09 | | | | | | | X | |
| OUT2 | Outdoors | ↓ | 15:38 | ↓ | | | | | | X | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |

| | Print Name | Signature | Date: m/d/yyyy | Time: hh:mm |
|---|---|---|---|---|
| *Relinquished by: | William Sargent | | 12/16/2024 | 17:45 |
| Received by: | JV | | 12/17 | 6:10 |

**Delivery Information (For Lab Use Only)**
☐ UPS ☐ In-Person ☐ Other
☐ FedEx ☒ Drop Box
☐ USPS ☐ Courrier

# Appendix V: Certifications/ Licenses

# COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

**EXPIRES ON**
12-31-2024

**NUMBER**
3303004832

BOARD FOR ASBESTOS, LEAD, AND HOME INSPECTORS
ASBESTOS INSPECTOR LICENSE

ZACHARY DAVID HARRELL
3822 EIGHTH ST S
ARLINGTON, VA 22204

DPOR

Kishore S. Thota, Director

*Status can be verified at http://www.dpor.virginia.gov*

(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)

DPOR-LIC (02/2017)

(DETACH HERE)

DPOR COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

BOARD FOR ASBESTOS, LEAD, AND HOME INSPECTORS
ASBESTOS INSPECTOR LICENSE
NUMBER: 3303004832 EXPIRES: 12-31-2024

ZACHARY DAVID HARRELL
3822 EIGHTH ST S
ARLINGTON, VA 22204

(FOLD)

*Status can be verified at http://www.dpor.virginia.gov*

DPOR-PC (02/2017)

# Appendix VI: Mold Reference and Guidance Documents

## REFERENCE AND GUIDANCE DOCUMENTS


A Brief Guide to Mold in the Workplace, Occupational Safety Health Administration (OSHA), SHIB 03-10-10, updated 11-08-13

ANSI/IICRC S520 Standard and Reference Guide for Professional Mold Remediation, Institute of Inspection, Cleaning, and Restoration Certification, 2015.

ANSI/IICRC S500 Standard and Reference Guide for Professional Water Damage Restoration, Institute of Inspection, Cleaning, and Restoration Certification, 2015.

Bioaerosols: Assessment and Controls, American Conference of Governmental Industrial Hygienists, 1999.

Building Air Quality: A Guide for Building Owners and Facility Managers, EPA, EPA 402-F-91-102, December 1991

Centers for Disease Control and Prevention (CDC), https://www.cdc.gov/mold/faqs.htm

Department of Energy and the Environment (DOEE), Mold Assessment and Remediation Licensure Regulations.

EPA – Mold Resources, https://www.epa.gov/mold

Guidelines on Assessment and Remediation of Fungi in Indoor Environments, New York City Department of Health and Mental Hygiene, November 2008.

Mold Moisture and Your Home, EPA, EPA-402-K-02-003, September 2012

Mold Remediation in Schools and Commercial Buildings, EPA, EPA 402-K-01-001, September 2008

# Appendix III: Mount Vernon Community School Reports

# MOLD AND MOISTURE ASSESSMENT

MOUNT VERNON COMMUNITY SCHOOL

2601 COMMONWEALTH AVE
ALEXANDRIA, VIRGINIA 22305

ECS PROJECT NO. 47:11652-W

FOR: ALEXANDRIA CITY PUBLIC SCHOOLS

DECEMBER 11, 2024

December 11, 2024

Ms. Ayanna Harris
Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, Virginia 22314

ECS Project No. 47:11652-W

Reference: Mold and Moisture Assessment, Mount Vernon Community School, 2601 Commonwealth Ave, Alexandria, Virginia

Dear Ms. Harris:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with the results of the Mold and Moisture Assessment performed at Mount Vernon Community School located at 2601 Commonwealth Ave in Alexandria, Virginia. This report summarizes our observations, analytical results, findings, and recommendations related to the work performed. The work described in this report was performed by ECS in general accordance with the Scope of Services described in ECS Proposal Number 47:35758-EP and the terms and conditions of the agreement authorizing those services.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC

Lauren E. Kesslak, CIH, CSP
Environmental Senior Project Manager
lkesslak@ecslimited.com
703-471-8400

Christopher J. Chapman, CIH
Director of Industrial Hygiene
cchapman@ecslimited.com
703-471-8400

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## 1.0 PROJECT DESCRIPTION

Mount Vernon Community School is located at 2601 Commonwealth Ave in Alexandria, Virginia. The school was reportedly originally constructed in 1923, with various renovations throughout the building's operational history.

ECS understands that occupants have expressed concerns about potential mold growth in rooms 118, 119, and 120. In addition to these three rooms, Rooms 116, 117, 121, 122, 123, 222, 229, 318, 319, 320, 321, and 323 have received complaints of odors of visible mold growth or odors and were also surveyed as part of this assessment.

Alexandria City Public Schools has requested ECS to conduct a Mold and Moisture Assessment to evaluate these concerns.

## 2.0 PURPOSE

The purpose of the Mold and Moisture Assessment was to conduct visual observations and sampling for mold to identify possible mold growth within the above referenced classrooms of the subject building. Considering the building's age, ECS also performed a limited lead-based paint (LBP) assessment in the referenced classrooms in the building.

## 3.0 METHODOLOGY

ECS performed the authorized Scope of Services in general accordance with our proposal, standard industry practice(s) and methods specified by guidelines and industry standards for the identification of mold and moisture-affected building materials and lead-based paint.

### 3.1 Mold and Moisture

The first assessment, performed on November 14, 2024, included a non-invasive visual and olfactory survey for mold and moisture within client-selected areas of the building. The second assessment, performed on November 19, 2024, included a limited lead-based paint screening of the impacted areas in addition to a non-invasive visual and olfactory survey for evidence of mold and moisture. The assessments focused on the previously referenced client-selected areas indicated by Alexandria City Public Schools. The ECS site personnel observed readily accessible areas and selected building materials to evaluate visible suspect fungal growth and/or moisture-impacted materials. A reasonable effort was made to identify water and mold-impacted areas; however, this does not imply a guarantee that all possible reservoirs of mold were identified because mold or water-impacted building materials may be hidden by walls, flooring, partitions, etc.

Ambient temperature, relative humidity, and dewpoint temperature were measured during the survey using a thermo-hygrometer. The purpose of these measurements was to identify elevated interior humidity levels, which could potentially support indoor mold growth or indicate ongoing moisture problems.

Fungal spore air samples were collected by means of a high-volume pump and Air-O-Cell® cassettes. Samples were transported to AMA Analytical Inc. located in Lanham, Maryland for analysis. AMA Analytical Inc. is accredited by the Environmental Microbiology Laboratory Accreditation

Program, administered by the American Industrial Hygiene Association. Air samples were reported to the genus or group level according to the laboratory standard quantification procedures. These samples were taken on the first site visit.

It is important to note that fungal spore samples represent a snapshot in time of a constantly changing microbiome. Environmental conditions such as temperature and humidity may influence sample results. The goal of the sampling performed was not to establish precise numerical concentrations over time but rather to generally identify the dominant fungi in the sampled locations and the general significance of their relative concentrations as compared to outdoor concentrations or unaffected locations.

### 3.2 Limited Lead-Based Paint Screening

The survey was conducted utilizing the EPA definition of LBP. Under this definition, painted surfaces that contain lead in concentrations greater than or equal to 1.0 milligrams per square centimeter (1.0 $mg/cm^2$) are classified as coated with LBP. Paints with concentrations of lead detectable by the XRF are considered lead-containing paints. Additionally, fixtures or components manufactured with factory-applied glazing (i.e., sinks, toilets, ceramic tiles, etc.) are tested as these factory-applied finishes often contain lead. Activities that disturb lead-containing paints and glazing (while not lead-based paints by the U.S. EPA definition) are regulated by OSHA (29 CFR 1926.62). The survey was not a surface-by-surface investigation but rather focused on selected surfaces that would be impacted by mold remediation.

## 4.0 RESULTS

The following is a summary of laboratory results, measurements, findings and observations.

### 4.1 Mold and Moisture

On November 14, 2024, ECS performed a visual and olfactory post-remediation assessment in Rooms 118, 119, and 120. The client relayed the areas of concern, and with the exception of one wall, these areas appeared to have been cleaned prior to ECS's arrival. Accessible floors and walls also appeared to be free of visible mold growth. ECS was unable to access wall cavities and inside HVAC units during this assessment. No destructive testing behind drywall or within wall cavities was performed on November 14. ECS was also requested to perform air testing within the three classrooms. Note: ECS did not assess the classrooms prior to the cleaning performed by ACPS.

After elevated levels of mold spores were detected in the collected air samples in the three classrooms, ECS returned to the site on November 19, 2024. In addition to the original three rooms, ECS was requested to assess additional rooms - specifically Rooms 121, 122, 123, 222, 229, 318, 319, 320, 321, and 323. Visible mold was found in these rooms, particularly behind the cove base in Rooms 118, 119, and 120, in the closet initially inaccessible on the first visit in 118, on wood instruments in 120, and found sporadically throughout the rest of the rooms except for rooms 122, 229, and 318.

Mold and moisture-impacted materials observed on the November 19, 2024 site visit were as follows:

Room 118:

- Behind cove base on drywall
- Door frame to the elevator closet
- Drywall in the elevator closet where the cove base used to be
- Under chairs on the paper stickers adhered to the chair
- Small amounts of growth on walls
- Inside the closet on the wall
- Also floor tile was separating from the floor, which appears to be glued to cement tile and was de-laminating, apparently from moisture impact to the slab floor

Room 119:

- Behind cove base on drywall in bathroom
- Above the drop ceiling on lights
- Apparent historical mold staining on the whiteboard cork-board strip

Room 120:

- Wooden instruments
- Clipboards near the windows
- Backpack in the cabinet underneath the sink
- Some growth underneath the sink

Peeling paint and other signs of long-term elevated humidity were present above the ceilings in 118, 119, and 120.

Room 121:

- Underneath floor tile
- Fibrous art supplies
- Some growth underneath the sink

Room 122:

- No visible mold growth observed

Room 123:

- Underneath the sink on the cabinet

Room 222:

- No visible mold growth observed

Room 229:

- Mold growth on the HVAC unit

Room 318:

- No visible mold growth observed

Room 319:

- Mold on science projects

Room 320:

- Possible growth behind a large bookcase in the corner of the room.

Room 321:

- Mold on science projects, same as in 319

Room 323:

- Underneath sink
- Between particleboard sink pieces

The third visit occurred on November 25, 2024, and included air testing inside rooms 118, 119, and 120 after remediation was completed by Waco; and in rooms 121, 123, 229, and 320. ECS was also requested to assess the wall behind the water cooler in the 2nd-floor hallway next to rooms 203 and 204. During the visit, ECS observed that the water cooler had separated from the plumbing, which was causing a leak in the hallway. The water-impacted materials included the floor tile and CMU wall block. These materials are not porous and no visible mold growth was observed. ECS observed a leaking oil-water separator for hydraulic fluid in the elevator closet in 118 and recommended closing of the room and adjacent 119 until the spill was cleaned and the tank remediated. Air samples were also collected in this area by ECS; After the air samples returned elevated for mold spores, ECS recommended further assessment, including invasive testing.

The fourth site visit occurred on December 2, 2024, and included air testing in rooms 116, 117, and 122. Visible mold growth was now observed on ceiling tile and ceiling tile frames in rooms 118, 119, and 120, as well as on the drywall dividing rooms 119 and 118. Mold was still visible growing behind the cove base of rooms 118 and 119, and mold was now observed growing inside the closet door in room 119. Although wood instruments had been cleaned before this site visit, a small amount of mold was still visible on the insides of the instruments.

Mold was observed on December 2, 2024, in the following locations:

Room 118:

- Ceiling tile grid
- Old ceiling tiles that were previously painted over
- Behind cove base on the drywall
- Drywall adjacent to Room 119 above the ceiling tile
- Wall behind the pipe cover connected to the HVAC

Room 119:

- Ceiling tile and tile frames
- Cove base and drywall
- Drywall adjacent to Room 118 above ceiling tile
- Small amount of growth on top of pipe insulation in the plenum above the HVAC unit
- Room 119's hallway side closet door

Room 120:

- Ceiling tile and tile grids
- Insides of wooden instruments
- Behind cove base on drywall

Below is a summary of the sampling data collected during the assessments.

### 4.1.1 Spore-Trap Air Samples

Fungal spore-trap air samples were collected from Rooms 116, 117, 118, 119, 120, 121, 122, 123, 229, and 320. Representative exterior samples were collected for comparison on each sampling event. ECS has provided a table in the appendices with ECS's sampling results.

The first round of air sample laboratory results taken on November 14, 2024 indicated that total indoor fungal spore concentrations were less than the concentrations identified outdoors, but spore counts of *Penicillium/Aspergillus spp.* in Room 119 were higher than outdoor counts, and spore counts of *Cladosporium sp.* in Room 120 were also elevated. These results suggest that the source of the indoor fungal spores was likely indoor reservoirs of mold.

The second round of air sample laboratory results from samples taken on November 25, 2024 indicated that total indoor fungal spore concentrations were still elevated in rooms 119 and 120 for *Penicillium/Aspergillus spp.*, and this time also in rooms 118 and 123. Elevated levels of Basidiospores and *Cladosporium sp.* were also observed in room 121, though this may have been an outlier due to these results matching outdoor levels.

The third round of laboratory results from samples taken on December 2, 2024 indicated that rooms 117 and 122 contained elevated levels of *Cladosporium sp*, suggesting that hidden microbial growth may be present in these rooms also.

### 4.1.2 Temperature and Humidity

The key to understanding humidity is that warmer air can contain greater quantities of moisture than cooler air. Relative humidity is defined as the ratio of the amount of moisture contained in the air to the maximum amount of moisture the air can contain at that temperature. The dew point temperature is defined as the temperature at which the amount of moisture in the air reaches saturation. The dew point is a more accurate indication of the actual amount of moisture in the air, because it is independent of temperature.

The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) has published several standards for ventilated buildings. *ANSI/ASHRAE Standard 62.1-2019, Ventilation for Acceptable Air Quality* specifies that indoor humidity should be maintained below 60 degrees

Fahrenheit (°F) dew point temperature. The EPA recommends that indoor relative humidity be maintained below 60%, ideally 30-50%, to prevent mold growth. The *OSHA Technical Manual,* Section III, Chapter 2 for Indoor Air Quality Investigations specifies a thermal comfort range of 68°F to 76°F and a relative humidity range of 20% to 60% to maximize comfort for all occupants.

The following table summarizes the indoor air temperature and relative humidity readings collected by ECS during the surveys.

**Temperature and Relative Humidity**

| Location | Temperature (°F) | Relative Humidity (%) |
|---|---|---|
| November 14, 2024 | | |
| Outdoors - Side Entrance | 53.2 | 61 |
| Room 118 Indoors | 63.3 | 43.99 |
| Room 119 Indoors | 65.35 | 47.5 |
| Room 120 Indoors | 69.06 | 44.87 |
| Outdoors - Main Entrance | 52.9 | 59.7 |
| November 19, 2024 | | |
| Room 118 | 68.54 | 45.89 |
| Room 119 | 69.0 | 47.22 |
| Room 120 | 67.93 | 39.43 |
| Room 121 | 67.36 | 45.68 |
| Room 122 | 68.26 | 45.99 |
| Room 123 | 68.43 | 44.87 |
| Room 222 | 66.32 | 48.5 |
| Room 229 | 66.59 | 46.70 |
| Room 318 | 66.21 | 47.11 |
| Room 319 | 66.34 | 46.57 |
| Room 320 | 65.96 | 46.15 |
| Room 321 | 65.99 | 49.25 |
| Room 323 | 66.65 | 43.72 |
| December 2, 2024 | | |
| Outdoors - Main Entrance | 40.02 | 31.89 |
| Room 116 | 70.39 | 32.88 |

| Location | Temperature (°F) | Relative Humidity (%) |
|---|---|---|
| Room 117 | 70.44 | 28.56 |
| Room 122 | 69.38 | 23.9 |
| Outdoors - Main Entrance | 35.67 | 28.76 |

The temperature and relative humidity measured were consistent with applicable guidelines.

### 4.2 Lead-Based Paint

The EPA defines lead-based paint as any paint or other surface coating containing lead greater than or equal to 1.0 mg/cm$^2$ or 0.5% by weight. A limited lead paint survey was also conducted in rooms 118, 119, 120, 320, and 321 on materials impacted by mold and/or moisture only. None of the painted surfaces sampled were classified as lead-based paint and are not subject to the US EPA LBP regulations. However detectable levels of lead were detected in most of the samples and are classified as lead containing paint (LCP).

A total of 25 readings were collected during the survey, including calibration readings. A list of the XRF readings from this survey is included in the appendices.

Paint and surface coatings that contain detectable concentrations of lead (LCP), even if less than 1.0 mg/cm$^2$ or 0.5% by weight, are considered lead-containing paints. Considering OSHA has no specific action level for lead in paint, all paint on the site found to have a measurable concentration of lead should be assumed to be lead-containing. Work performed that may disturb lead-containing paint is regulated under OSHA as referenced under 29 CFR 1926.62.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on our understanding of the purpose of the Mold and Moisture Assessment, the results of laboratory analysis, and our findings and observations, ECS presents the following recommendations.

### 5.1 Mold and Moisture

ECS recommends that a contractor qualified mold remediation/drying be retained to properly remove mold impacted materials. Remediation activities should be performed in general accordance with the guidelines described in the EPA document “Mold Remediation in Schools and Commercial Buildings” and under the OSHA 2010 Guidelines for mold removal. Additional remediation guidance documents are also referenced in the Appendix at the end of this report. Workers performing this work should wear proper personal protective equipment (PPE), including High Efficiency Particulate Air (HEPA) filtered respirators and disposable clothing (per OSHA standards for PPE).

In general accordance with the EPA and OSHA guidelines, ECS recommends containment of the remediation areas using plastic barriers and tape to create negative pressure containment during removal of mold-impacted materials. The contractor should seal HVAC vents in the work area(s), as well as all other penetrations and openings. A HEPA-filtered local exhaust ventilation (negative air machine) should be utilized within the work area directly adjacent to the area(s) being cleaned

and should maintain negative pressure and HEPA filtration continuously inside the containment during remediation activities and prior to post-remediation sampling. A manometer should be used to measure the pressure difference between the remediation area and adjacent areas. The target pressure differential in the containment should be -0.02 inches of water gauge.

Scope of Work

Due to the complexity of this project, ECS recommends that representatives of APS, the remediation contractor, and ECS walk through all of the impacted classroom areas to be remediated and prepare a specific work plan for remediation.

In generally all contents will need to be removed and cleaned from each of the classrooms prior to performing remediation. Perform mold remediation on remaining finishes as needed. Selected exploratory demolition maybe required to look for concealed mold. Review the AHERA O&M plan to verify no ACM materials will be impacted. Further testing of painted surfaces for lead and asbestos may be required depending upon the extent of remediation required.

ECS recommends that all mold and moisture impacted drywall, ceiling tile, carpet, and other porous materials such as corkboard in classrooms be removed and discarded. Mold can be cleaned from non-porous surfaces such as CMU block, brick, and cabinets with veneer. Asbestos-containing floor tile that has been delaminated should be properly removed (if necessary) and disposed of by an appropriately trained contractor.

All impacted ceiling and plenum materials that have visible growth and/or have sustained water impacts should be removed in excess of 2 feet beyond the visible extent of mold where feasible. Further observation of the wall and ceiling systems may be necessary during remediation efforts to determine if additional materials will need to be removed.

Following remediation/removal of mold-impacted materials, ECS recommends that the contained areas of the building undergo a thorough cleaning following guidelines described in EPA's March 2001 document “Mold Remediation in Schools and Commercial Buildings.” Surface remediation should include HEPA vacuuming of vertical and horizontal surfaces and a clean-wipe with a mild detergent. The surfaces should not be saturated and discard cleaning cloths. All areas (affected and unaffected) should be left dry, visibly free from contamination and debris prior to build back activities.

Although not accessible during the survey, ECS is concerned that underlying structural materials (CMU walls, wood framing, poured concrete, etc…) contain excess moisture which will need to be thoroughly dried prior to installation of new materials. Where elevated moisture is still present in building materials, mechanical drying efforts should be performed. The use of portable dehumidifiers should be implemented immediately. Following removal of mold-affected materials and fine cleaning, the fans should also be utilized to accelerate drying efforts. For large areas with significant moisture load, the use of desiccant dehumidification systems maybe needed.

Follow-up

Prior to removal of the containment barriers, a post-remediation survey and sampling should be performed to assess the remediation efforts. Visible suspect mold and moisture-affected porous materials should not be present in the work area (although ECS recognizes that some semi-porous

materials may still have stains present following cleaning). The average moisture content of materials within the work area should be below 0.8% for gypsum, 15% for wood, and 60% for plaster and cement-based materials following remediation efforts. The indoor relative humidity in and around the work area should be below 60%. If the temperature in the work area is above 80°F, the indoor dew point should be below 65°F.

Air sampling should be performed by fungal spore trap method to document mold levels following remediation efforts. Surface sampling may also be performed to assess visible debris or staining remaining in the work area. The results of air sampling should find air samples in and adjacent to the work area to be less than concurrent outdoor samples, and the indoor samples will not find a prevalence of certain fungi considered likely indoor contaminants as determined by rank-order analysis. ECS notes that outdoor concentrations may be suppressed during the winter, and may utilize other references to compare with the indoor sample results on the day of the sampling.

Because of the nature of the environment, complete elimination of all microbial organisms within a building cannot be expected and is not the goal of remediation. The goal of remediation is to restore the affected materials to at least the condition of unaffected materials. It is important to note that the reported mold levels are only reflective of conditions at the time of the test. Mold populations can vary over time, depending upon a number of conditions, including environmental factors (i.e., temperature and relative humidity). If significant mold growth reappears, or if the occupants experience prolonged allergic-type health complaints, they should seek further investigation of the problem.

Note: The purpose of this survey was to evaluate areas where moisture intrusion or suspected visible mold growth has occurred and provide findings and recommendations for corrective action. Positive identification of sources of moisture and specific recommendations for correction of sources of moisture should be performed by a qualified engineer.

**5.2 Lead-Based Paint and Asbestos**

Based on the findings of the lead survey, detectable concentrations of lead were identified on some paints and surface coatings. No lead-based paint was observed within the assessed areas although further testing maybe require depending on the extent of remediation.

The presence of lead is a concern primarily when conditions exist where it may be inhaled or ingested. Regardless of the analytical results of a material, all painted and/or glazed surfaces may still contain concentrations of lead in the paint, which when disturbed, may generate lead dust greater than the Permissible Exposure Limit (PEL) of 50 micrograms per cubic meter ($\mu g/m^3$) as an 8-hour Time Weighted Average (TWA) established by the OSHA "Lead Exposure in Construction Rule (29 CFR 1926.62)."

The OSHA standard gives no guidance on acceptable levels of lead in paint at which no exposure to airborne lead (above the action level) would be expected. Rather, OSHA defines airborne concentrations, and references specific types of work practices and operations from which a lead hazard may be generated (reference 29 CFR 1926.62, section d). Environmental and personnel monitoring should be conducted during any removal/demolition process (as appropriate) to verify

that actual personal exposures are below the PEL of 50 µg/$m^3$ as an 8-hour TWA. Under OSHA requirements, the contractor performing renovation work will be required to conduct this monitoring and follow applicable requirements under 29 CFR 1926.62 if disturbing lead-containing paint.

For asbestos, review the AHERA O&M plan to verify no ACM materials will be impacted. Further testing of asbestos may be required depending upon the extent of remediation required. If ACM materials are to be disturbed use a licensed asbestos abatement contractor to perform this work following US EPA and OSHA regulations.

## 6.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

This survey is not intended to represent an exhaustive research of every potential hazard or condition that may exist, nor does it claim to represent indoor conditions or events that arise after the survey. This report has been prepared in accordance with generally accepted environmental practices. Our conclusions and findings are based, in part, upon information provided to us by others and our site observations. We have not verified the completeness or accuracy of the information provided by others. The scope of services performed was limited to those requested by the Client and does not constitute a full microbial assessment of the site or a comprehensive moisture survey of the site. The data provided in this study is only indicative of conditions sampled at the immediate time of the study. The work performed in conjunction with this assessment and the data developed is intended as a description of available information at the dates and locations given. This report does not warrant against future operations or conditions, nor does it warrant against extant, or future, conditions of a type or at a location not investigated. Because of the nature of this type of work and the difficulties involved in conducting remediation work, ECS cannot guarantee that the methods or recommendations described in this report will eliminate all potential indoor air quality issues. Since performance of the remediation work is also beyond ECS scope of services, ECS also cannot be held responsible for the execution of the remediation work. The reported microbial levels are only reflective of conditions at the time of this test and that microbial populations can vary over time, depending upon a number of conditions, including environmental factors (i.e., temperature and relative humidity). The work performed in conjunction with this assessment and the data developed is intended as a description of available information at the dates and locations given.

The observations, conclusions, and recommendations pertaining to environmental conditions at the subject site are necessarily limited to conditions observed, and/or materials reviewed at the time this study was undertaken. No warranty, expressed or implied, is made with regard to the conclusions and recommendations presented within this report. This report is provided for the exclusive use of the client. This report is not intended to be used or relied upon in connection with other projects or by other unidentified third parties without the written consent of ECS and the client.

Our recommendations are in part based on federal, state, and local regulations and guidelines. ECS does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to any local, state, or federal public agencies, any conditions at the site

that may present a potential danger to public health, safety, or the environment. Under this scope of services, ECS assumes no responsibility regarding any response actions initiated as a result of these findings. General compliance with regulations and response actions are the sole responsibility of the Client and should be conducted in accordance with local, state, and/or federal requirements.

# Appendix I: Site Photographs



1 - 11/14/24: View of Room 118



2 - 11/14/24: Area of concern in Room 118



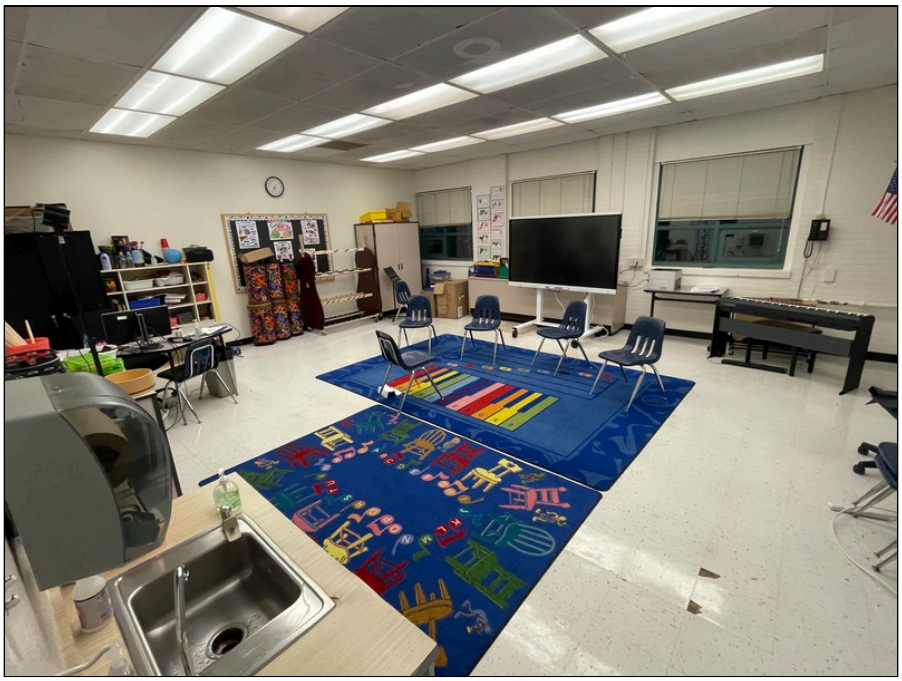
3 - 11/14/24: View of Room 119



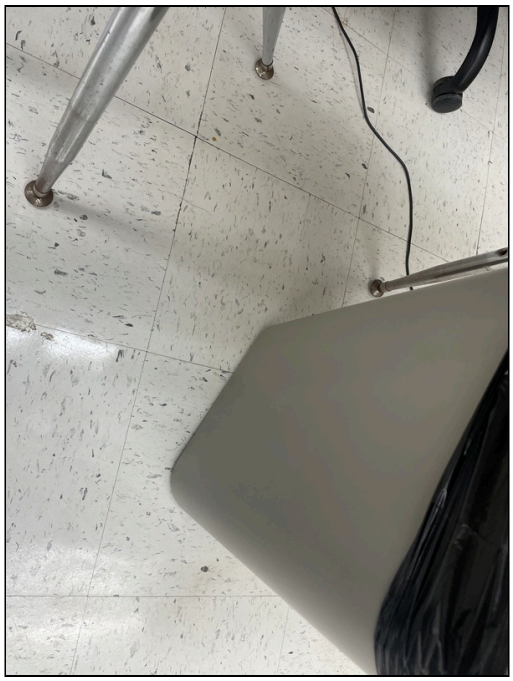
4 - 11/14/24: Area of concern in Room 119



5 - 11/14/24: Room 119 Plenum w/ visible growth atop ceiling light ballast



6 - 11/14/24: View of Room 120



7 - 11/14/24: Area of concern in Room 120



8 - 11/19/24: Lead Containing Paint in plenum of Room 118



9 - 11/19/24: Mold growth in elevator closet behind cove base in Room 118



10 - 11/19/24: Mold growth in Room 118 closet on wall.



11 - 11/19/24: Mold growth behind cove base in Room 118



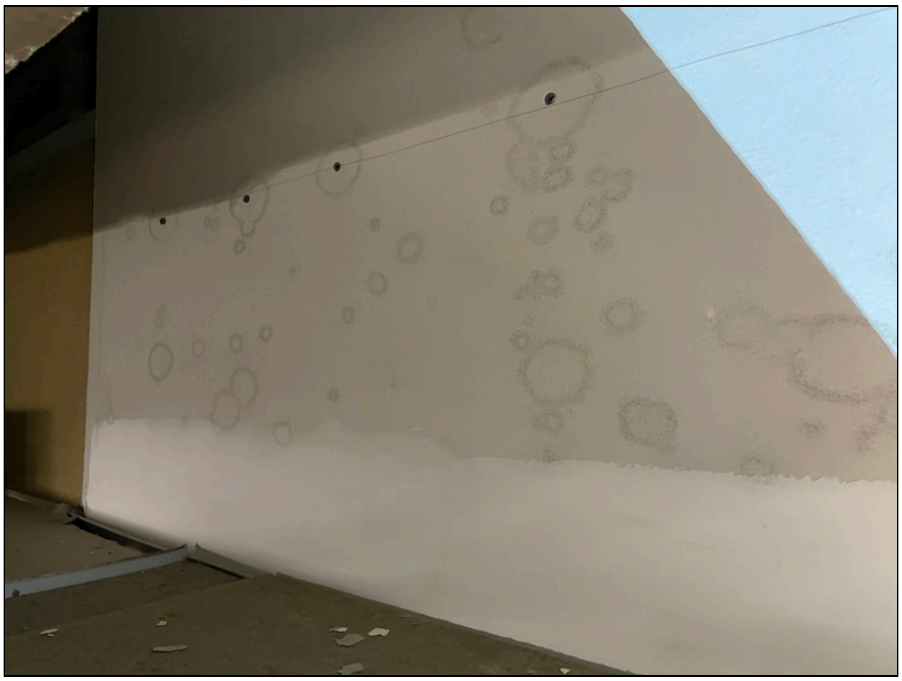
12 - 11/19/24: Mold growth on door frame in Room 118



13 - 11/19/24: Mold growth on clipboard in Room 120



14 - 11/19/24: Mold growth under tile in Room 121



15 - 12/2/24: Mold growth on drywall between Rooms 118 and 119



16 - 12/2/24: Mold observed on ceiling tile frame in Room 118



17 - 12/2/24: Mold observed on ceiling tile in Room 119



18 - 12/2/24: Mold observed on ceiling tile in Room 120

# Appendix II: XRF Readings

**TABLE**
**XRF LEAD PAINT RESULTS**

Mount Vernon Community School
2601 Commonwealth Ave, Alexandria, VA 22305
ECS Project Number: 47:11652-W
Site Visit: November 19, 2024

| Date | XRF Serial No. | Reading | Building/Unit | Room/Location | Side | Color | Substrate | Component | Pb | Pb+/- | Result |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11/19/2024 | X- 1801 | 1 | *Calibration NIST 2573* | | | | | | 1.1 | 0.2 | |
| 11/19/2024 | X- 1801 | 2 | *Calibration NIST 2573* | | | | | | 1.1 | 0.2 | *Valid* |
| 11/19/2024 | X- 1801 | 3 | *Calibration NIST 2573* | | | | | | 0.9 | 0.2 | |
| 11/19/2024 | X- 1801 | 4 | *Calibration Blank* | | | | | | 0 | 0.3 | |
| 11/19/2024 | X- 1801 | 5 | *Calibration Blank* | | | | | | 0 | 0.3 | *Valid* |
| 11/19/2024 | X- 1801 | 6 | *Calibration Blank* | | | | | | 0 | 0.3 | |
| 11/19/2024 | X- 1801 | 7 | Indoors | Room 119 | - | Ivory | Concrete | Ceiling | 0.4 | 0.3 | *Lead-Containing* |
| 11/19/2024 | X- 1801 | 8 | Indoors | Room 120 | - | Ivory | Concrete | Ceiling | 0.4 | 0.3 | *Lead-Containing* |
| 11/19/2024 | X- 1801 | 9 | Indoors | Room 118 | B | White | Gypsum | Wall | 0.3 | 0.2 | *Lead-Containing* |
| 11/19/2024 | X- 1801 | 10 | Indoors | Room 118 | B | White | CMU | Wall | 0 | 0.2 | BDL |
| 11/19/2024 | X- 1801 | 11 | Indoors | Room 118 | B | White | Gypsum | Wall | 0.1 | 0.2 | *Lead-Containing* |
| 11/19/2024 | X- 1801 | 12 | Indoors | Room 123 | - | Olive | Concrete | Ceiling | 0 | 0.2 | BDL |
| 11/19/2024 | X- 1801 | 13 | Indoors | Room 123 | C | Gray | Metal | Door Frame | 0.3 | 0.2 | *Lead-Containing* |
| 11/19/2024 | X- 1801 | 14 | Indoors | Room 229 | - | White | Concrete | Ceiling | 0.4 | 0.2 | *Lead-Containing* |
| 11/19/2024 | X- 1801 | 15 | Indoors | Room 318 | - | White | Concrete | Ceiling | 0 | 0.2 | BDL |
| 11/19/2024 | X- 1801 | 16 | Indoors | Room 318 | A | Teal | Wood | Window Frame | 0.1 | 0.2 | *Lead-Containing* |
| 11/19/2024 | X- 1801 | 17 | Indoors | Room 318 | A | White | Brick | Window Sill | 0.1 | 0.2 | *Lead-Containing* |
| 11/19/2024 | X- 1801 | 18 | Indoors | Room 321 | - | White | Concrete | Ceiling | 0 | 0.2 | BDL |
| 11/19/2024 | X- 1801 | 19 | Indoors | Room 323 | C | Gray | Metal | Door Frame | 0.1 | 0.2 | *Lead-Containing* |
| 11/19/2024 | X- 1801 | 20 | *Calibration NIST 2573* | | | | | | 0.9 | 0.2 | |
| 11/19/2024 | X- 1801 | 21 | *Calibration NIST 2573* | | | | | | 0.9 | 0.2 | *Valid* |
| 11/19/2024 | X- 1801 | 22 | *Calibration NIST 2573* | | | | | | 1 | 0.2 | |
| 11/19/2024 | X- 1801 | 23 | *Calibration Blank* | | | | | | 0 | 0.3 | |
| 11/19/2024 | X- 1801 | 24 | *Calibration Blank* | | | | | | 0 | 0.3 | *Valid* |
| 11/19/2024 | X- 1801 | 25 | *Calibration Blank* | | | | | | 0 | 0.3 | |

Notes: **Bold = Lead Based Paint**
BDL = Below Detection Limit
Pb - Lead per mg/cm2

# Appendix III: Air Sample Results

Mount Vernon Community School, Rooms 118, 119, and 120
2601 Commonwealth Avenue, Alexandria, Virginia 22305
ECS Project No. 47:11652-W
Survey Dates: November 14, 2024 to December 2, 2024

# Fungal Spore Trap Air Sample Results

| Sample Number | Sample Location | Organisms Identified: Alternaria | Ascospores | Basidiospores | Cladosporium | Hyphae / Hyphal fragments | Penicillium/ Aspergillus | Pyricularia | Smuts/Periconia/ Myxomycetes | Unknown/Other | Total* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Survey Date: November 14, 2024** | | | | | | | | | | | |
| 118 | Indoors - Room 118 | | 156 | 156 | 260 | 312 | 156 | | 104 | 156 | 988 |
| 119 | Indoors - Room 119 | | 208 | 468 | 520 | 364 | 2,395 | | 52 | 156 | 3,799 |
| 120 | Indoors - Room 120 | | 208 | 416 | 3,072 | 312 | 416 | | 520 | 156 | 4,788 |
| OUT01 | Outside 1 | | 156 | 8,094 | 2,808 | 104 | 156 | | 260 | 52 | 11,526 |
| OUT02 | Outside 2 | 104 | 21,286 | 624 | 3,124 | 52 | 312 | | 729 | 104 | 26,283 |
| **Survey Date: November 25, 2024** | | | | | | | | | | | |
| 2 | Indoors - Room 121 | | 624 | 2,187 | 1,093 | 52 | 52 | | <52 | | 3,956 |
| 3 | Indoors - Room 123 | | 885 | 1,041 | 1,458 | 52 | 3,176 | | 104 | <52 | 6,664 |
| 4 | Indoors - Room 229 | | | 52 | 156 | 156 | 52 | | 52 | | 312 |
| 5 | Indoors - Room 320 | | 208 | 260 | 208 | 416 | 52 | | 260 | 260 | 1,248 |
| 6 | Indoors - Room 118 | 52 | 52 | 468 | 468 | 104 | | | 2,083 | | 6,872 |
| 7 | Indoors - Room 119 | | 52 | 104 | 104 | 52 | 1,145 | | 52 | 104 | 1,561 |
| 8 | Indoors - Room 120 | | 52 | 156 | 937 | | 885 | | 104 | 52 | 2,186 |
| 1 | Outside 1 | | 885 | 2,551 | 1,874 | | 208 | | 156 | 52 | 5,726 |
| 9 | Outside 2 | | 1,145 | 2,864 | 572 | | | | 260 | | 4,841 |
| **Survey Date: December 2, 2024** | | | | | | | | | | | |
| R116 | Indoors - Room 116 | | | 155 | 206 | 310 | 155 | | 362 | 102 | 980 |
| R117 | Indoors - Room 117 | 51 | 155 | 413 | 1,603 | 362 | 51 | | 465 | 102 | 2,840 |
| R122 | Indoors - Room 122 | | 51 | 155 | 8,115 | 362 | 930 | | <51 | | 9,251 |
| OUT1 | Outside 1 | | | 104 | 468 | | | | 104 | 52 | 728 |
| OUT2 | Outside 2 | | 103 | 465 | 1,292 | 51 | 1,344 | | 206 | 153 | 3,563 |

All results are in spores per cubic meter (spores/m3)
Blank = None detected
*Note: Total counts may not match laboratory reports due to rounding.

# Appendix IV: Certifications/ Licenses

# DPOR License Lookup License Number 3355001148

## License Details

| | |
|---|---|
| **Name** | SARGENT, WILLIAM TAIGA |
| **License Number** | 3355001148 |
| **License Description** | Lead Inspector License |
| **Rank** | Lead Abatement Inspector |
| **Address** | ROCKVILLE, MD 20851 |
| **Initial Certification Date** | 2023-12-11 |
| **Expiration Date** | 2025-12-31 |

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DPOR License Lookup build 1,480 (built 2024-04-05 04:28:10).

# Appendix V: Laboratory Reports

AMA Analytical Services, Inc.
Focused On Results.

# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 663667 | **Job Name:** | Mount Vernon Community Mold Assessment | **Date Submitted:** | 11-15-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Not Provided | **Date Analyzed:** | 11-15-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | 47:11652-W | **Report Date:** | 11-15-2024 |
| **Attention:** | William Sargent | **P.O. Number:** | Not Provided | **Date Sampled:** | 11/14/2024 |
| | | | | **Person Submitting:** | William Sargent |

| | |
|---|---|
| **AMA Sample #** | 663667-1 |
| **Client ID** | OUT1 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | Outdoors |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 3 | 15 | 52 | 156 | 1.7% |
| Basidiospores | 114 | 11 | 71 | 8094 | 63.3% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 54 | 15 | 52 | 2808 | 30% |
| Curvularia | 1 | 15 | 52 | 52 | .6% |
| (~) Penicillium/Aspergillus | 3 | 15 | 52 | 156 | 1.7% |
| Smuts / Periconia / Myxomycetes | 5 | 15 | 52 | 260 | 2.8% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Bispora | Present | 15 | 52 | < 52 | |
| Hyphal Fragments* | 2 | 15 | 52 | 104 | |

**Total Raw Ct:** 180 **Total spm/m³:** 11526

**Comments**

| | |
|---|---|
| **AMA Sample #** | 663667-2 |
| **Client ID** | 118 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | RM 118 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 3 | 15 | 52 | 156 | 15.8% |
| Basidiospores | 3 | 15 | 52 | 156 | 15.8% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 5 | 15 | 52 | 260 | 26.3% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 3 | 15 | 52 | 156 | 15.8% |
| Smuts / Periconia / Myxomycetes | 2 | 15 | 52 | 104 | 10.5% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | 1 | 15 | 52 | 52 | 5.3% |
| Bispora | | | | | |
| Epicoccum | 2 | 15 | 52 | 104 | 10.5% |
| Hyphal Fragments* | 6 | 15 | 52 | 312 | |

**Total Raw Ct:** 19 **Total spm/m³:** 988

**Comments**

| | |
|---|---|
| **AMA Sample #** | 663667-3 |
| **Client ID** | 119 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | RM 119 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 4 | 15 | 52 | 208 | 5.5% |
| Basidiospores | 9 | 15 | 52 | 468 | 12.3% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 10 | 15 | 52 | 520 | 13.7% |
| Curvularia | 1 | 15 | 52 | 52 | 1.4% |
| (~) Penicillium/Aspergillus | 46 | 15 | 52 | 2395 | 63% |
| Smuts / Periconia / Myxomycetes | 1 | 15 | 52 | 52 | 1.4% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | 1 | 15 | 52 | 52 | 1.4% |
| Bispora | 1 | 15 | 52 | 52 | 1.4% |
| Epicoccum | | | | | |
| Hyphal Fragments* | 7 | 15 | 52 | 364 | |

**Total Raw Ct:** 73 **Total spm/m³:** 3799

**Comments**

AMA Analytical Services, Inc.
Focused On Results.

# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 663667 | **Job Name:** | Mount Vernon Community Mold Assessment | **Date Submitted:** | 11-15-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Not Provided | **Date Analyzed:** | 11-15-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | 47:11652-W | **Report Date:** | 11-15-2024 |
| **Attention:** | William Sargent | **P.O. Number:** | Not Provided | **Date Sampled:** | 11/14/2024 |
| | | | | **Person Submitting:** | William Sargent |

| | |
|---|---|
| **AMA Sample #** | 663667-4 |
| **Client ID** | 120 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 4 |
| **Location** | RM 120 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 4 | 15 | 52 | 208 | 4.3% |
| Basidiospores | 8 | 15 | 52 | 416 | 8.7% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 59 | 15 | 52 | 3072 | 64.1% |
| Curvularia | 1 | 15 | 52 | 52 | 1.1% |
| (~) Penicillium/Aspergillus | 8 | 15 | 52 | 416 | 8.7% |
| Smuts / Periconia / Myxomycetes | 10 | 15 | 52 | 520 | 10.9% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Bispora | | | | | |
| Epicoccum | 1 | 15 | 52 | 52 | 1.1% |
| Torula | 1 | 15 | 52 | 52 | 1.1% |
| Hyphal Fragments* | 6 | 15 | 52 | 312 | |

**Total Raw Ct:** 92 **Total spm/m³:** 4788

**Comments** Heavy particulate; negative bias expected.

| | |
|---|---|
| **AMA Sample #** | 663667-5 |
| **Client ID** | OUT2 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | Outdoors |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | 2 | 15 | 52 | 104 | 1% |
| Ascospores | 109 | 4 | 195 | 21286 | 53.2% |
| Basidiospores | 12 | 15 | 52 | 624 | 5.9% |
| Bipol / Dresch / Helm | 1 | 15 | 52 | 52 | .5% |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 60 | 15 | 52 | 3124 | 29.3% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 6 | 15 | 52 | 312 | 2.9% |
| Smuts / Periconia / Myxomycetes | 14 | 15 | 52 | 729 | 6.8% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Bispora | | | | | |
| Epicoccum | | | | | |
| Pithomyces | 1 | 15 | 52 | 52 | .5% |
| Torula | | | | | |
| Hyphal Fragments* | 1 | 15 | 52 | 52 | |

**Total Raw Ct:** 205 **Total spm/m³:** 26283

**Comments**

AMA Analytical Services, Inc.
Focused On Results.

# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 663667 | **Job Name:** | Mount Vernon Community Mold Assessment | **Date Submitted:** | 11-15-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Not Provided | **Date Analyzed:** | 11-15-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | 47:11652-W | **Report Date:** | 11-15-2024 |
| **Attention:** | William Sargent | **P.O. Number:** | Not Provided | **Date Sampled:** | 11-14-2024 |
| | | | | **Person Submitting:** | William Sargent |

## General Comments, Disclaimers, and Footnotes

**Analytical Method:** Sample are analyzed following the instructions and guidelines outlined in ASTM 7391-09.

**Sample Condition:** Acceptable: The sample was collected and delivered to the our location without disturbing the material on the sampling media. Unacceptable: 1. The sample trace (TR) has been disturbed. 2. The sample was damaged or otherwise unsuitable for analysis. 0 = No particulate matter detected; 1= >nd-~5% Particulate Loading; 2 = ~5%-25% Particulate Loading; 3 = ~25%- 75% Particulate Loading; 4 = ~75%-90% Particulate Loading; 5 = >90% Particulate Loading

**Spore Notes:** Based on their small size and very few distinguishing characteristics, Aspergillus and Penicillium cannot be differentiated by non-viable sampling methods. There are other types of spores whose morphology is similar to Aspergillus and Penicillium and cannot be differentiated by non-viable sampling methods. Examples of these similar spores are Acremonium, Paecilomyces, Wallemia, Trichoderma, Scopulariopsis, and Gliocladium. Smuts, Periconia and Myxomycetes are three different types of genera that have similar morphological characteristics. Bipolaris/Dreschlera/Helm: Bipolaris / Dreschlera / Helminthosporium are three different types of genera that have similar morphological characteristics. Other Colorless represents all colorless spores that are non-distinctive and unidentifiable. Hyphal Fragments: A portion of the mycelium that becomes separated from the remainder of the thallus (vegetative body), each of which has the capacity to grow and form new individuals. Results for hyphal fragments are in fragments/$m^3$ and are not incorporated in the total spore concentration.
The tilde symbol (~) refers to water-intrusion indicator spores. These fungal spores, when found on indoor air samples, can be an indication of moisture sources and resultant fungal growth that may be problematic.

**Quantification**: Analytical Sensitivity (A.S.): This is dependent on the volume of air collected, size of the trace, ocular diameter, and the amount of the trace that was analyzed. The value of "Present" indicated in the Raw Count column represents the presence of this spore type during the preliminary exam at 400x. The Raw Count converts to a whole number if the spore type is encountered again during the 600x-1,000x enumeration. The sp/$m^3$ concentration will be reported as less than the analytical sensitivity if "Present" is reported in the Raw Count. Results are reported to 3 significant figures. sp/$m^3$: Spores per cubic meter. Uncertainty: for raw count in the range of 0-50 the SR is 0.266, 51-100 SR=0.325, 101-200 SR=0.193, >200 SR=0.125 All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

**Analyst(s):** Tristan Ward

**Technical Director** _____
Tristan Ward

This report applies only to the sample(s) analyzed as received and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter, nor shall it be reproduced, except it full, without prior written authorization from us. Sample types, locations, collection protocols, air volumes and/or surface wipe area measurements are based upon information provided by the person(s) submitting them, and unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information and for analytical results calculated based on this information. Residual sample material will be discarded in accordance wit the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement, by NY ELAP, MDE, AIHA-LAP, NVLAP, NIST, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

# MOLD SPORE DESCRIPTIONS

## Alternaria

Alternaria is ubiquitous in the environment and are normal agents of decay and decomposition. The spores are airborne and common outdoors than indoors isolated from plants, soil, and food. Indoors, the spores are found in house dust, carpets, textiles, wallboard and window frames. The production of melanin-like pigment is one of its major identifying characteristics. The club-shaped spores (conidia) are single or in long chains. They can grow thick colonies with grayish-white surfaces at the beginning which later darken to greenish black or olive brown colors. Health Effects: Allergies are common, but serious infections are rare, except in people with compromised immune systems. Certain species of this genus are often prolific producers of a variety of toxic compounds whose effects on human health are not well known.

## Ascospores

Ascospores are spores formed inside an ascus (asci-plural) or sac-like cell which is contained inside a fruiting body called an ascocarp or an ascoma (ascomata-plural). An ascus typically contains a definite nuimber of ascospores, usually eight. Ascospores are unique in shape, size, and color as to the Genus/species they represent. These spores are specific to fungi classified as Ascomycetes. They are ubiquitous in nature. Many decay organic matter, others are plant or animal pathogens. They can grow indoors on damp materials. Release of ascospores are released by forcible ejection and dispersed by wind, water, animals and other agents. Health Effects: Depending on the Genera, Ascospores may be allergenic.

## Basidiospores

Basidiospores are reproductive spores produced by a group of fungi called basidiomycetes. This group includes the mushrooms, shelf fungi and various other macrofungi. Basidipspores serve as the main air (wind) dispersal units for the fungi and their release is dependent upon moisture. The structure of the spore complex can develop in various manners resulting in different appearances. It is often found growing in soil, decaying plant debris, compost piles and fruit rot. Indoors, it can be found on water damaged building materials (chipboard /OSB, plywood, wallpaper, and glue) as well as on food items (dried foods, cheeses, fruits, herbs, spices, cereals). Health effects: Some basidiospores may produce toxins and can act as allergens. They have not been reported to be pathogens.

## Bipol / Dresch / Helm

Bipolaris, Drechslera, and Helminthosporium are found on grasses, grains, various plants, and decaying food. They tend to grow in semi-dry environments and some species can be found indoors. Because of their microscopic similarities, these three genera are grouped together on both viable and non-viable analysis. Microscopically, the spores are cylindrical, fusiform, or club-shaped with protrusions, Health Effects: Can cause hay fever and asthma, allergic fungal sinusitis, and pathogenic sinusitis.

## Cladosporium

Cladosporium is the most common indoor and outdoor mold. The spores are wind dispersed and are often extremely abundant in outdoor air. Many species are commonly found on living and dead plant material. Indoors, they may grow on surfaces with high moisture or high humidity levels such as damp window sills, poorly ventilated bathrooms and soiled refrigerators. It produces powdery or velvety olive-green to brown or black colonies. The conidia (spores) vary depending on the species and are formed in simple or branching chains with multi-attachment points. Health Effects: Cladosporium species are rarely pathogenic to humans, but have been reported to occassionally

# MOLD SPORE DESCRIPTIONS

cause sinusitis and pulmonary infections as well as infections of the skin and toenails. The airborne spores are significant allergens, and in large amounts they may severely affect asthmatics and people with respiratory diseases.

## Curvularia

Curvularia is a ubiquitous, wind dispersed hyphomycete (mold) fungus more commonly found in tropical, subtropical regions. It is often found outside growing in soil, seeds, plant litter, and decaying plants as well as on leaves. Indoors, it is found on a variety of building materials, especially those with cellulose surfaces. Colonies are olive-green to brown or black, with pinkish gray woolly surfaces. The conidia (spores) are large and appear curved due to expanded central cells. This feature and the presence of edge to edge septations on the conidia walls distinguishes Curvularia from Bipolaris. Health Effects: This mold is a potential allergen. Some people may experience hay fever, asthma and or allergic fungal sinusitis.

## Epicoccum

Epicoccum is a cosmopolitan fungus that is often found growing outside in soil, plant litter, decaying plants, and damaged plant tissue. Indoors, it can be found growing on a variety of building materials including paper and textiles. Colonies have a rapid growth rate with cottony texture, initially yellow or orange becoming brown to black in color. Conidiophores or fruiting bodies produce dense masses where conidia (spores) arise. Spores are round to pear-shaped, smooth to warty, brown to black in color and muriform (partitioned in both directions, like a soccer ball). Health Effects: This mold can act as a potential allergen. Some people may experience hay fever and or asthma. This mold has not been linked to any human or animal infection.

## Hyphal Fragments

Hyphal Fragments are segments or pieces of hyphae or mycelium that may have broken off during sampling (air, tape, dust). The mycelium is the entire mass of hyphae that makes up the vegetative body of a fungus. The presence of hyphal fragments may indicate the presence of viable mold.

## Pen / Asp Like

Penicillium and Aspergillus are ubiquitous, filamentous fungi that are found in soil, decaying plant debris, compost piles, and in the air. Indoors, spores are commonly found in house dust, in water-damaged buildings (wallpaper, wallpaper glue, decaying fabrics, moist chipboards, and behind paint) as well as fruit and grains. They are the most common fungal genera, worldwide. Both produce chains of spores that are small, round to oval, colorless or slightly pigmented, and smooth to rough walled. These spores are indistinguishable between the two as well as other genera, such as Gliocladium, Trichoderma, Paecilomyces, and Scopulariopsis. They differ as to their conidiophores or fruiting bodies. While, Aspergillus spores are produced from phialides supported on conidia heads or swollen vesicles, Penicillium spores are produced on finger-like projections. Depending on species, typical colonies of Aspergillus are initially white and later turn to either shades of green, yellow, orange, brown or black. Texture is usually velvety to cottony. Typical colonies of Penicillium, other than Penicillium marneffei (yeast-like at 37oC), grow rapidly, white in color at first, later becoming bluish green with white borders with velvety to powdery textures depending on species. Some species produce radial patterns. Health Effects: Both Aspergillus and Penicillium are potential allergens. Several species of Aspergillus (A. flavus and A. parasiticus) produce aflatoxins or natually occurring mycotoxins that are toxic and carcinogenic. These are found in contaminated foodstuff and are hazardous to consumers. Penicillium has only one known species that is pathogenic to humans (P. marneffei) that causes lethal systemic infection (Penicilliosis) in immunocompromised individuals.

# MOLD SPORE DESCRIPTIONS

## Pithomyces

Pithomyces is a cosmopolitan, dark-walled, wind dispersed fungus often found growing outside in soil, decaying leaves and grasses. It's rarely found growing indoors, but will grow on paper given the right conditions. Pithomyces colonies are shades of tan to brown and its spores are dark brown and multi-celled. Pithomyces chartarum spores are the most commonly found species and are identified by distinctive tranverse septa. Health Effects: It is a potential but not well-studied allergen or human pathogen. Toxins produced by this mold include Sporidesmin.

## Smuts / Periconia / Myxomycetes

Smuts, Periconia, and Myxomycetes spores are grouped together due to their similar round, brown morphology. Smuts are outdoor parasitic plant pathogens. They rarely grow indoors but may grow on host plants if appropriate conditions are present. They are parasitic plant pathogens. They can be found on cereal crops, grasses, flowing plants, weed, and other fungi. They can cause allergies. Periconia are found in soils, dead herbaceous stems and leaf spots, and grasses. They have wind dispersed dry spores. Their spores are abundant in the air but it is not known if they are allergenic. Myxomycetes are found on decaying logs, stumps and dead leaves. They have wind-dispersed dry spores and wet motile (amoebic phase) spores. During favorable conditions they move about like amoebae. They form dry airborne spores when conditions are unfavorable. They are rarely found indoors. Health Effects: They may cause Type 1 allergies (hay fever, asthma). No human infections have been reported.

## Torula

Torula is a cosmopolitan, dark-walled, wind dispersed fungus often found growing outside in soil, dead herbaceous stems, wood, grasses, sugar beet root, groundnuts and oats. It grows indoors on cellulose containing materials such as jute, old sacking, wicker, straw baskets, wood, and paper. Torula is found most frequently in temperate regions. Its conidia are 1-to several-celled, round, dark, and in chains. Health Effects: Torula is an allergen, which may cause hay fever and asthma. It is not known whether this mold presents a pathogenic risk to humans or if it produces toxins.

**AMA Analytical Services, Inc.**
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(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

# CHAIN OF CUSTODY

(Please Refer To This Number For Inquires) 663667

**AMA Client Information:**
1. Client Name: ECS Mid-Atlantic
2. Address 1: Chantilly
3. Address 2:
4. Billing Email:
5. Phone #:

**Submittal Information:**
1. Job Name: Mount Vernon Community Mold Assessment
2. Job Location:
3. Job #: 47:11652-W PO#:
4. Contact Person: William Sargent Cell: 202-570-0898
5. Collected by: William Sargent Cell:

**If a TAT is not provided, AMA will assign a default of 5-Day.** **Reports and Invoices provided by Email only.**

**AFTER HOURS (must be pre-scheduled)**
☐ 4 Hours ☐ Late Night
☐ Immediate Date Due: 11/15/24
☒ 24 Hours Time Due: 4:00 PM
Comments:

**NORMAL BUSINESS HOURS**
☐ 4 Hours ☐ 3 Day
☒ Same Day (6-8 Hours) ☐ 5 Day + 11/15 ☐ Results Required By Noon
☐ 1 Day Date Due:
☐ 2 Day

**REPORT TO:**
☒ Email 1: wsargent@ecslimited.com
☐ Email 2:
☐ Email 3:

**Asbestos Analysis**
*PCM Air – Please Indicate Filter Type:
☐ NIOSH 7400 (QTY)
*TEM Air – Please Indicate Filter Type:
☐ AHERA (QTY)
☐ NIOSH 7402 (QTY)
☐ Other (specify) (QTY)
PLM Bulk
☐ EPA 600 – Visual Estimate (QTY) ☐ Pos Stop
☐ EPA Point Count (QTY)
☐ NY State Friable 198.1 (QTY)
☐ Grav. Reduction ELAP 198.6 (QTY)
☐ Other (specify) (QTY)
MISC
☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

**TEM Bulk**
☐ ELAP 198.4/Chatfield (QTY)
☐ NY State PLM/TEM (QTY)
☐ Residual Ash (QTY)
☐ Vermiculite (QTY)
**TEM Dust***
☐ Qual. (pres/abs) Vacuum/Dust (QTY)
☐ Quan. (s/area) Vacuum D5755-95 (QTY)
☐ Quan. (s/area)Dust D6480-99 (QTY)
**TEM Water**
☐ Qual. (pres/abs) (QTY)
☐ ELAP 198.2/EPA 100.2 (QTY)
☐ EPA 100.1 (QTY)

☒ All samples received in good condition unless otherwise noted.
(TEM Water samples °C) **(For Lab Use Only)**

If field data sheets are submitted, there is no need to complete bottom section.
*It is recommended that blank samples be submitted with all air and surface samples

**Metals Analysis**
☐ Pb Paint Chip ☐ % by Weight (QTY) ☐ mg/kg (QTY)
☐ *Pb Dust Wipe (QTY) (Samples collected using ASTM approved media ☐)
☐ *Pb Air (QTY)
☐ Pb Soil/Solid (QTY)
☐ Pb TCLP (QTY)
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY)
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY)
☐ Pb Furnace (Media ) (QTY)

**Fungal Analysis**
☒ *Spore-Trap 5 (QTY)
☐ *Surface Swab (QTY)
☐ *Surface Tape (QTY)
☐ Other (Specify) (QTY)
☐ Surface Vacuum Dust (QTY)
Collection Apparatus for Spore Traps/Air Samples: Allergenco-D
Collection Media

**SAMPLE INFORMATION**

| SAMPLE # | MATERIAL and/or LOCATION DESCRIPTION | DATE (m/d/yyyy) | TIME (hh:mm) PM | VOL (L) (Air Samples) | Wipe Area (Dust Samples) | TEM | PCM | PLM | LEAD | MOLD | COMMENTS/SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OUT1 | Outdoors | 11/14/24 | 3:57 | 75L | | | | | | X | All PM |
| 118 | Room 118 | ↓ | 4:04 | ↓ | | | | | | X | ↓ |
| 119 | Room 119 | | 4:10 | | | | | | | X | |
| 120 | Room 120 | | 4:30 | | | | | | | X | |
| OUT2 | Outdoors | ↓ | 4:48 | ↓ | | | | | | X | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |

| | Print Name | Signature | Date: m/d/yyyy | Time: hh:mm |
|---|---|---|---|---|
| *Relinquished by: | William Sargent | | 11/14/2024 | 7:00 PM |
| Received by: | JV | | 11/15 | 8:00 |

**Delivery Information (For Lab Use Only)**
☐ UPS ☐ In-Person ☐ Other
☐ FedEx ☐ Drop Box
☐ USPS ☐ Courrier

AMA Analytical Services, Inc.
Focused On Results.

# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 355955 | **Job Name:** | Mount Vernon Community School | **Date Submitted:** | 11-25-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Classroom | **Date Analyzed:** | 11-26-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | Not Provided | **Report Date:** | 11-26-2024 |
| **Attention:** | Lauren Kesslak | **P.O. Number:** | 11652-W | **Date Sampled:** | 11/25/2024 |
| | | | | **Person Submitting:** | Lauren Kesslak |

| | |
|---|---|
| **AMA Sample #** | 355955-1 |
| **Client ID** | 1 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | Outside 1 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 17 | 15 | 52 | 885 | 15.5% |
| Basidiospores | 49 | 15 | 52 | 2551 | 44.5% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 36 | 15 | 52 | 1874 | 32.7% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 4 | 15 | 52 | 208 | 3.6% |
| Smuts / Periconia / Myxomycetes | 3 | 15 | 52 | 156 | 2.7% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Pestalotia | Present | 15 | 52 | < 52 | |
| Rusts | 1 | 15 | 52 | 52 | .9% |
| Hyphal Fragments* | | | | | |

**Total Raw Ct:** 110 **Total spm/m³:** 5726

**Comments**

| | |
|---|---|
| **AMA Sample #** | 355955-2 |
| **Client ID** | 2 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | 121 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 12 | 15 | 52 | 624 | 15.8% |
| Basidiospores | 42 | 15 | 52 | 2187 | 55.3% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 21 | 15 | 52 | 1093 | 27.6% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 1 | 15 | 52 | 52 | 1.3% |
| Smuts / Periconia / Myxomycetes | Present | 15 | 52 | < 52 | |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Epicoccum | | | | | |
| Pestalotia | | | | | |
| Rusts | | | | | |
| Hyphal Fragments* | 1 | 15 | 52 | 52 | |

**Total Raw Ct:** 76 **Total spm/m³:** 3956

**Comments**

| | |
|---|---|
| **AMA Sample #** | 355955-3 |
| **Client ID** | 3 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 3 |
| **Location** | 123 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 17 | 15 | 52 | 885 | 13.3% |
| Basidiospores | 20 | 15 | 52 | 1041 | 15.6% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 28 | 15 | 52 | 1458 | 21.9% |
| Curvularia | Present | 15 | 52 | < 52 | |
| (~) Penicillium/Aspergillus | 61 | 15 | 52 | 3176 | 47.7% |
| Smuts / Periconia / Myxomycetes | 2 | 15 | 52 | 104 | 1.6% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Epicoccum | Present | 15 | 52 | < 52 | |
| Pestalotia | | | | | |
| Rusts | | | | | |
| Hyphal Fragments* | 1 | 15 | 52 | 52 | |

**Total Raw Ct:** 128 **Total spm/m³:** 6664

**Comments**

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# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 355955 | **Job Name:** | Mount Vernon Community School | **Date Submitted:** | 11-25-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Classroom | **Date Analyzed:** | 11-26-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | Not Provided | **Report Date:** | 11-26-2024 |
| **Attention:** | Lauren Kesslak | **P.O. Number:** | 11652-W | **Date Sampled:** | 11/25/2024 |
| | | | | **Person Submitting:** | Lauren Kesslak |

| | |
|---|---|
| **AMA Sample #** | 355955-4 |
| **Client ID** | 4 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | 229 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | | | | | |
| Basidiospores | 1 | 15 | 52 | 52 | 16.7% |
| Bipol / Dresch / Helm | Present | 15 | 52 | < 52 | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 3 | 15 | 52 | 156 | 50% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 1 | 15 | 52 | 52 | 16.7% |
| Smuts / Periconia / Myxomycetes | 1 | 15 | 52 | 52 | 16.7% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Epicoccum | | | | | |
| Pestalotia | | | | | |
| Rusts | | | | | |
| Hyphal Fragments* | 3 | 15 | 52 | 156 | |

**Total Raw Ct:** 6 **Total spm/m³:** 312

**Comments**

| | |
|---|---|
| **AMA Sample #** | 355955-5 |
| **Client ID** | 5 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 3 |
| **Location** | 320 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 4 | 15 | 52 | 208 | 16.7% |
| Basidiospores | 5 | 15 | 52 | 260 | 20.8% |
| Bipol / Dresch / Helm | 1 | 15 | 52 | 52 | 4.2% |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 4 | 15 | 52 | 208 | 16.7% |
| Curvularia | 1 | 15 | 52 | 52 | 4.2% |
| (~) Penicillium/Aspergillus | 1 | 15 | 52 | 52 | 4.2% |
| Smuts / Periconia / Myxomycetes | 5 | 15 | 52 | 260 | 20.8% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | 1 | 15 | 52 | 52 | 4.2% |
| Bispora | 1 | 15 | 52 | 52 | 4.2% |
| Epicoccum | | | | | |
| Nigrospora | 1 | 15 | 52 | 52 | 4.2% |
| Pestalotia | | | | | |
| Rusts | | | | | |
| Hyphal Fragments* | 8 | 15 | 52 | 416 | |

**Total Raw Ct:** 24 **Total spm/m³:** 1248

**Comments**

| | |
|---|---|
| **AMA Sample #** | 355955-6 |
| **Client ID** | 6 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | 118 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | 1 | 15 | 52 | 52 | .8% |
| Ascospores | 1 | 15 | 52 | 52 | .8% |
| Basidiospores | 9 | 15 | 52 | 468 | 6.8% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 9 | 15 | 52 | 468 | 6.8% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 72 | 15 | 52 | 3749 | 54.5% |
| Smuts / Periconia / Myxomycetes | 40 | 15 | 52 | 2083 | 30.3% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Bispora | | | | | |
| Epicoccum | | | | | |
| Nigrospora | | | | | |
| Pestalotia | | | | | |
| Rusts | | | | | |
| Hyphal Fragments* | 2 | 15 | 52 | 104 | |

**Total Raw Ct:** 132 **Total spm/m³:** 6872

**Comments**

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# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 355955 | **Job Name:** | Mount Vernon Community School | **Date Submitted:** | 11-25-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Classroom | **Date Analyzed:** | 11-26-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | Not Provided | **Report Date:** | 11-26-2024 |
| **Attention:** | Lauren Kesslak | **P.O. Number:** | 11652-W | **Date Sampled:** | 11/25/2024 |
| | | | | **Person Submitting:** | Lauren Kesslak |

| | |
|---|---|
| **AMA Sample #** | 355955-7 |
| **Client ID** | 7 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | 119 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 1 | 15 | 52 | 52 | 3.3% |
| Basidiospores | 2 | 15 | 52 | 104 | 6.7% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | 1 | 15 | 52 | 52 | 3.3% |
| (~) Cladosporium | 2 | 15 | 52 | 104 | 6.7% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 22 | 15 | 52 | 1145 | 73.3% |
| Smuts / Periconia / Myxomycetes | 1 | 15 | 52 | 52 | 3.3% |
| (~) Stachybotrys/Memnoniella | 1 | 15 | 52 | 52 | 3.3% |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Bispora | | | | | |
| Epicoccum | | | | | |
| Nigrospora | | | | | |
| Pestalotia | | | | | |
| Rusts | | | | | |
| Hyphal Fragments* | 1 | 15 | 52 | 52 | |

**Total Raw Ct:** 30 **Total spm/m³:** 1561

**Comments**

| | |
|---|---|
| **AMA Sample #** | 355955-8 |
| **Client ID** | 8 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | 120 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 1 | 15 | 52 | 52 | 2.4% |
| Basidiospores | 3 | 15 | 52 | 156 | 7.1% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 18 | 15 | 52 | 937 | 42.9% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 17 | 15 | 52 | 885 | 40.5% |
| Smuts / Periconia / Myxomycetes | 2 | 15 | 52 | 104 | 4.8% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | 1 | 15 | 52 | 52 | 2.4% |
| Bispora | | | | | |
| Epicoccum | | | | | |
| Nigrospora | | | | | |
| Pestalotia | | | | | |
| Rusts | | | | | |
| Hyphal Fragments* | Present | 15 | 52 | | |

**Total Raw Ct:** 42 **Total spm/m³:** 2186

**Comments**

| | |
|---|---|
| **AMA Sample #** | 355955-9 |
| **Client ID** | 9 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | Outside 2 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 22 | 15 | 52 | 1145 | 23.7% |
| Basidiospores | 55 | 15 | 52 | 2864 | 59.1% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 11 | 15 | 52 | 572 | 11.8% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | | | | | |
| Smuts / Periconia / Myxomycetes | 5 | 15 | 52 | 260 | 5.4% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Bispora | | | | | |
| Epicoccum | | | | | |
| Nigrospora | | | | | |
| Pestalotia | | | | | |
| Rusts | | | | | |
| Hyphal Fragments* | | | | | |

**Total Raw Ct:** 93 **Total spm/m³:** 4841

**Comments**

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# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 355955 | **Job Name:** | Mount Vernon Community School | **Date Submitted:** | 11-25-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Classroom | **Date Analyzed:** | 11-26-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | Not Provided | **Report Date:** | 11-26-2024 |
| **Attention:** | Lauren Kesslak | **P.O. Number:** | 11652-W | **Date Sampled:** | 11-25-2024 |
| | | | | **Person Submitting:** | Lauren Kesslak |

## General Comments, Disclaimers, and Footnotes

**Analytical Method:** Sample are analyzed following the instructions and guidelines outlined in ASTM 7391-09.

**Sample Condition:** Acceptable: The sample was collected and delivered to the our location without disturbing the material on the sampling media. Unacceptable: 1. The sample trace (TR) has been disturbed. 2. The sample was damaged or otherwise unsuitable for analysis. 0 = No particulate matter detected; 1= >nd-~5% Particulate Loading; 2 = ~5%-25% Particulate Loading; 3 = ~25%- 75% Particulate Loading; 4 = ~75%-90% Particulate Loading; 5 = >90% Particulate Loading

**Spore Notes:** Based on their small size and very few distinguishing characteristics, Aspergillus and Penicillium cannot be differentiated by non-viable sampling methods. There are other types of spores whose morphology is similar to Aspergillus and Penicillium and cannot be differentiated by non-viable sampling methods. Examples of these similar spores are Acremonium, Paecilomyces, Wallemia, Trichoderma, Scopulariopsis, and Gliocladium. Smuts, Periconia and Myxomycetes are three different types of genera that have similar morphological characteristics. Bipolaris/Dreschlera/Helm: Bipolaris / Dreschlera / Helminthosporium are three different types of genera that have similar morphological characteristics. Other Colorless represents all colorless spores that are non-distinctive and unidentifiable. Hyphal Fragments: A portion of the mycelium that becomes separated from the remainder of the thallus (vegetative body), each of which has the capacity to grow and form new individuals. Results for hyphal fragments are in fragments/$m^3$ and are not incorporated in the total spore concentration.
The tilde symbol (~) refers to water-intrusion indicator spores. These fungal spores, when found on indoor air samples, can be an indication of moisture sources and resultant fungal growth that may be problematic.

**Quantification**: Analytical Sensitivity (A.S.): This is dependent on the volume of air collected, size of the trace, ocular diameter, and the amount of the trace that was analyzed. The value of "Present" indicated in the Raw Count column represents the presence of this spore type during the preliminary exam at 400x. The Raw Count converts to a whole number if the spore type is encountered again during the 600x-1,000x enumeration. The sp/$m^3$ concentration will be reported as less than the analytical sensitivity if "Present" is reported in the Raw Count. Results are reported to 3 significant figures. sp/$m^3$: Spores per cubic meter. Uncertainty: for raw count in the range of 0-50 the SR is 0.266, 51-100 SR=0.325, 101-200 SR=0.193, >200 SR=0.125 All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

**Analyst(s):** Tristan Ward

**Technical Director** _____
Tristan Ward

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# MOLD SPORE DESCRIPTIONS

## Alternaria

Alternaria is ubiquitous in the environment and are normal agents of decay and decomposition. The spores are airborne and common outdoors than indoors isolated from plants, soil, and food. Indoors, the spores are found in house dust, carpets, textiles, wallboard and window frames. The production of melanin-like pigment is one of its major identifying characteristics. The club-shaped spores (conidia) are single or in long chains. They can grow thick colonies with grayish-white surfaces at the beginning which later darken to greenish black or olive brown colors. Health Effects: Allergies are common, but serious infections are rare, except in people with compromised immune systems. Certain species of this genus are often prolific producers of a variety of toxic compounds whose effects on human health are not well known.

## Ascospores

Ascospores are spores formed inside an ascus (asci-plural) or sac-like cell which is contained inside a fruiting body called an ascocarp or an ascoma (ascomata-plural). An ascus typically contains a definite nuimber of ascospores, usually eight. Ascospores are unique in shape, size, and color as to the Genus/species they represent. These spores are specific to fungi classified as Ascomycetes. They are ubiquitous in nature. Many decay organic matter, others are plant or animal pathogens. They can grow indoors on damp materials. Release of ascospores are released by forcible ejection and dispersed by wind, water, animals and other agents. Health Effects: Depending on the Genera, Ascospores may be allergenic.

## Basidiospores

Basidiospores are reproductive spores produced by a group of fungi called basidiomycetes. This group includes the mushrooms, shelf fungi and various other macrofungi. Basidipspores serve as the main air (wind) dispersal units for the fungi and their release is dependent upon moisture. The structure of the spore complex can develop in various manners resulting in different appearances. It is often found growing in soil, decaying plant debris, compost piles and fruit rot. Indoors, it can be found on water damaged building materials (chipboard /OSB, plywood, wallpaper, and glue) as well as on food items (dried foods, cheeses, fruits, herbs, spices, cereals). Health effects: Some basidiospores may produce toxins and can act as allergens. They have not been reported to be pathogens.

## Bipol / Dresch / Helm

Bipolaris, Drechslera, and Helminthosporium are found on grasses, grains, various plants, and decaying food. They tend to grow in semi-dry environments and some species can be found indoors. Because of their microscopic similarities, these three genera are grouped together on both viable and non-viable analysis. Microscopically, the spores are cylindrical, fusiform, or club-shaped with protrusions, Health Effects: Can cause hay fever and asthma, allergic fungal sinusitis, and pathogenic sinusitis.

## Chaetomium

Chaetomium is a genus of ascomycete fungi. It is a cosmopolitan, dark colored fungus (grayish-green to brown) commonly isolated from soil, seeds, dung, wood, and straw materials. Indoors, it is very commonly found on damp sheetrock and paper or cellulose-containing materials. There are certain characteristics such as color, shape, and size of the Chaetomium ascopores, asci, and ascomata that are unique in identification of the different species. Wind, insects, and water aid dispersal of spores. Due to their large size, they settle out of the air after just a few minutes. As a consequence, airborne mold levels are usually low even in infested environments. Due to this, exposure levels are

# MOLD SPORE DESCRIPTIONS

likely to be low as well. Health Effects: Chaetomium does produce a variety of mycotoxins called chaetoglobsins, whose health effects on humans are unknown. Due to its toxigenic nature, special precautions may be required during remediation.

## Cladosporium

Cladosporium is the most common indoor and outdoor mold. The spores are wind dispersed and are often extremely abundant in outdoor air. Many species are commonly found on living and dead plant material. Indoors, they may grow on surfaces with high moisture or high humidity levels such as damp window sills, poorly ventilated bathrooms and soiled refrigerators. It produces powdery or velvety olive-green to brown or black colonies. The conidia (spores) vary depending on the species and are formed in simple or branching chains with multi-attachment points. Health Effects: Cladosporium species are rarely pathogenic to humans, but have been reported to occassionally cause sinusitis and pulmonary infections as well as infections of the skin and toenails. The airborne spores are significant allergens, and in large amounts they may severely affect asthmatics and people with respiratory diseases.

## Curvularia

Curvularia is a ubiquitous, wind dispersed hyphomycete (mold) fungus more commonly found in tropical, subtropical regions. It is often found outside growing in soil, seeds, plant litter, and decaying plants as well as on leaves. Indoors, it is found on a variety of building materials, especially those with cellulose surfaces. Colonies are olive-green to brown or black, with pinkish gray woolly surfaces. The conidia (spores) are large and appear curved due to expanded central cells. This feature and the presence of edge to edge septations on the conidia walls distinguishes Curvularia from Bipolaris. Health Effects: This mold is a potential allergen. Some people may experience hay fever, asthma and or allergic fungal sinusitis.

## Epicoccum

Epicoccum is a cosmopolitan fungus that is often found growing outside in soil, plant litter, decaying plants, and damaged plant tissue. Indoors, it can be found growing on a variety of building materials including paper and textiles. Colonies have a rapid growth rate with cottony texture, initially yellow or orange becoming brown to black in color. Conidiophores or fruiting bodies produce dense masses where conidia (spores) arise. Spores are round to pear-shaped, smooth to warty, brown to black in color and muriform (partitioned in both directions, like a soccer ball). Health Effects: This mold can act as a potential allergen. Some people may experience hay fever and or asthma. This mold has not been linked to any human or animal infection.

## Hyphal Fragments

Hyphal Fragments are segments or pieces of hyphae or mycelium that may have broken off during sampling (air, tape, dust). The mycelium is the entire mass of hyphae that makes up the vegetative body of a fungus. The presence of hyphal fragments may indicate the presence of viable mold.

## Nigrospora

Nigrospora is a ubiquitous, filamentous, dark colored fungus commonly isolated from soil, decaying plants, and seeds outdoors but seldom found growing indoors. It is especially abundant in warm climates and is dispersed through an active discharge mechanism, which does not require wind or rain. Nigrospora initially forms woolly, white

# MOLD SPORE DESCRIPTIONS

colonies, becomes gray with black areas over time, and eventually turns black. Its conidia are black, solitary, unicellular, slightly flattened horizontally, and have a thin equatorial germ slit. Health Effects: This mold is a potential allergen. Some people may experience hay fever or asthma. Nigrospora has a very rare report of human infection and does not produce any known toxins.

## Pen / Asp Like

Penicillium and Aspergillus are ubiquitous, filamentous fungi that are found in soil, decaying plant debris, compost piles, and in the air. Indoors, spores are commonly found in house dust, in water-damaged buildings (wallpaper, wallpaper glue, decaying fabrics, moist chipboards, and behind paint) as well as fruit and grains. They are the most common fungal genera, worldwide. Both produce chains of spores that are small, round to oval, colorless or slightly pigmented, and smooth to rough walled. These spores are indistinguishable between the two as well as other genera, such as Gliocladium, Trichoderma, Paecilomyces, and Scopulariopsis. They differ as to their conidiophores or fruiting bodies. While, Aspergillus spores are produced from phialides supported on conidia heads or swollen vesicles, Penicillium spores are produced on finger-like projections. Depending on species, typical colonies of Aspergillus are initially white and later turn to either shades of green, yellow, orange, brown or black. Texture is usually velvety to cottony. Typical colonies of Penicillium, other than Penicillium marneffei (yeast-like at 37oC), grow rapidly, white in color at first, later becoming bluish green with white borders with velvety to powdery textures depending on species. Some species produce radial patterns. Health Effects: Both Aspergillus and Penicillium are potential allergens. Several species of Aspergillus (A. flavus and A. parasiticus) produce aflatoxins or natually occurring mycotoxins that are toxic and carcinogenic. These are found in contaminated foodstuff and are hazardous to consumers. Penicillium has only one known species that is pathogenic to humans (P. marneffei) that causes lethal systemic infection (Penicilliosis) in immunocompromised individuals.

## Pestalotia

Pestalotia is considered a secondary plant pathogen. It is saprophytic or lives on dead and dying tissues. It is considered a weak parasite and infects wounds under moist conditions. The spores are multi-celled with usually three darkly pigmented center cells and clear pointed end cells. Its distinguishing feature is the two or more clear, whisker-like appendages arising from the end cell. Health Effects: No information is available regarding health effects or toxicity.

## Rusts

Rusts are ubiquitous fungi, often found growing on grasses, flowers, trees and other living plant materials. They are rarely found growing indoors, but will grow on host plants if present inside. Rusts are members of the Basidiomycetes class. They have a complex life cycle, producing five different spore types in two different plant hosts. Rusts have both wet and dry spores. Spore types include: basidiospores, pycniospores, aeciospores, urediospores, and teliospores. Wind disperses the urediospores, teliospores, basidiospores, and aeciospores. The basidiospores and aeciospores have an active spore release mechanism. Health Effects: Rusts can cause allergen type I allergies (hay fever, asthma). They have no reports of human infection and produce no known toxins.

## Smuts / Periconia / Myxomycetes

Smuts, Periconia, and Myxomycetes spores are grouped together due to their similar round, brown morphology. Smuts are outdoor parasitic plant pathogens. They rarely grow indoors but may grow on host plants if appropriate conditions are present. They are parasitic plant pathogens. They can be found on cereal crops, grasses, flowing plants, weed, and other fungi. They can cause allergies. Periconia are found in soils, dead herbaceous stems and leaf spots, and grasses. They have wind dispersed dry spores. Their spores are abundant in the air but it is not known if they are allergenic. Myxomycetes are found on decaying logs, stumps and dead leaves. They have wind-dispersed dry

# MOLD SPORE DESCRIPTIONS

spores and wet motile (amoebic phase) spores. During favorable conditions they move about like amoebae. They form dry airborne spores when conditions are unfavorable. They are rarely found indoors. Health Effects: They may cause Type 1 allergies (hay fever, asthma). No human infections have been reported.

## Stachybotrys / Memnoniella

Stachybotrys is a cosmopolitan, filamentous fungus that is commonly isolated from soil and decaying plant material. Stachybotrys is highly cellulolytic, so it's commonly found indoors on wet materials containing cellulose, such as wallboard, jute, wicker, straw baskets, and other paper materials. Stachybotrys conidia are ellipsoidal, black, and smooth to roughened. Its' spores are dispersed by insects, water slash and wind, when dried out. Stachybotrys colonies have a powdery texture and are generally black but may also appear white, pink, or orange in color. Health Effects: Stachybotrys can cause allergic and asthmatic reactions in sensitive individuals. Stachybotrys species produce a number of mycotoxins that may be harmful to human and animal health. These mycotoxins include the trichothecenes roridan E, satratoxins F, G, and H, and verrucarin J.

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AIHA-LAP (#100470) NVLAP (#101143-0) NY ELAP (10920)
4475 Forbes Blvd. • Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

# CHAIN OF CUSTODY

(Please Refer To This Number For Inquires) **355955**

**AMA Client Information:**
1. Client Name: ECS Mid-Atlantic
2. Address 1: Chantilly, VA
3. Address 2:
4. Billing Email:
5. Phone #:

**Submittal Information:**
1. Job Name: ~~John Adams~~ Mount Vernon Community School
2. Job Location: Classroom
3. Job #: 11652-W P.O. #:
4. Contact Person: Lauren Kosslak Cell: 202-494-7649
5. Collected by: Cell:

**If a TAT is not selected, AMA will assign 5-Day+ by default.** **Reports and Invoices provided by Email only.**

(After Hours TATs must be prescheduled and may not be technically feasible for some analytical methods)

**AFTER HOURS**
❑ 4 Hours ❑ 24 Hours
❑ Immediate (6-8 Hours) ❑ Late Night
Date Due: Time Due:

**NORMAL BUSINESS HOURS**
❑ 4 Hours ❑ 3 Day
☒ Same Day (6-8 Hours) ❑ 5 Day +
❑ 1 Day Date Due: 11/26
❑ 2 Day ❑ Results Required By Noon (addit fees may apply)
(Rush TATs must be prescheduled may not be technically feasible for some analytical methods)

**REPORT TO:**
☒ Email 1: LKosslak@ecslimited.com
❑ Email 2:
❑ Email 3:

**Asbestos Analysis**
*PCM Air – Please Indicate Filter Type:
❑ NIOSH 7400 (QTY)
*TEM Air – Please Indicate Filter Type:
❑ AHERA (QTY)
❑ NIOSH 7402 (QTY)
❑ Other (specify ) (QTY)
PLM Bulk
❑ EPA 600 – Visual Estimate (QTY) ❑ Pos Stop
❑ EPA Point Count (QTY)
❑ NY State Friable 198.1 (QTY)
❑ Grav. Reduction ELAP 198.6 (QTY)
❑ Other (specify ) (QTY)
Asbestos Soil ASTM D7521
❑ Qualitative PLM ___ (Qty.) ❑ Quantitative PLM ___ (Qty.)
❑ Qualitative PLM/TEM ___ (Qty.) ❑ Quantitative PLM/TEM ___ (Qty.)

**TEM Bulk**
❑ ELAP 198.4/Chatfield (QTY)
❑ NY State PLM/TEM (QTY)
❑ Residual Ash (QTY)
❑ Vermiculite (QTY)
**TEM Dust***
❑ Qual. (pres/abs) Vacuum/Dust (QTY)
❑ Quan. (s/area) Vacuum D5755-95 (QTY)
❑ Quan. (s/area)Dust D6480-99 (QTY)
**TEM Water**
❑ Qual. (pres/abs) (QTY)
❑ ELAP 198.2/EPA 100.2 (QTY)
❑ EPA 100.1 (QTY)
☒ All samples received in good condition unless otherwise noted.
(TEM Water samples °C) **(For Lab Use Only)**

**Metals Analysis**
❑ Pb Paint Chip ❑ % by Weight (QTY) ❑ mg/kg (QTY)
❑ *Pb Dust Wipe (QTY) (By submitting samples, you are certifying ASTM E1792 approved wipes were used)
❑ *Pb Air (QTY)
❑ Pb Soil/Solid (QTY)
❑ Pb TCLP (QTY)
❑ Drinking Water ❑ Pb (QTY) ❑ Cu (QTY)
❑ Waste Water ❑ Pb (QTY) ❑ Cu (QTY)
❑ Pb Furnace (Media ) (QTY)

**Fungal Analysis**
☒ *Spore-Trap (QTY)
❑ *Surface Swab (QTY)
❑ *Surface Tape (QTY)
❑ Other (Specify) (QTY)
❑ Surface Vacuum Dust (QTY)
Collection Apparatus for Spore Traps/Air Samples:
Collection Media

If field data sheets are submitted, there is no need to complete bottom section.
*It is recommended that blank samples be submitted with all air and surface samples

**SAMPLE INFORMATION**

| SAMPLE # | MATERIAL and/or LOCATION DESCRIPTION | DATE | TIME | VOL (L) (Air Samples) | Wipe Area (Dust Samples) | TEM | PCM | PLM | LEAD | MOLD | COMMENTS/SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Outside 1 | 11/25/24 | | 75L | | | | | | X | |
| 2 | 121 | | | | | | | | | | |
| 3 | 123 | | | | | | | | | | |
| 4 | 229 | | | | | | | | | | |
| 5 | 320 | | | | | | | | | | |
| 6 | 118 | | | | | | | | | | |
| 7 | 119 | | | | | | | | | | |
| 8 | 120 | | | | | | | | | | |
| 9 | Outside 2 | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| | Print Name | Signature | Date | Time |
|---|---|---|---|---|
| Relinquished by: | Lauren Kosslak | | | |
| Received by: (For Lab Use Only) | LS | | 11-25-24 | 16:20 |

**Delivery Information (For Lab Use Only)**
❑ UPS ☒ In-Person ❑ Other
❑ FedEx ❑ Drop Box
❑ USPS ❑ Courrier

*by submitting samples to AMA, you agree to abide by all of our terms & conditions. Please contact the laboratory at infor@amalab.com for a copy of our Terms & Conditions.

AMA Analytical Services, Inc.
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# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 664085 | **Job Name:** | Mount Vernon 116, 117, 122 | **Date Submitted:** | 12-03-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Not Provided | **Date Analyzed:** | 12-04-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | 47:11652-W:84 | **Report Date:** | 12-04-2024 |
| **Attention:** | Lauren Kesslak | **P.O. Number:** | Not Provided | **Date Sampled:** | 12/02/2024 |
| | | | | **Person Submitting:** | William Sargent |

| | |
|---|---|
| **AMA Sample #** | 664085-1 |
| **Client ID** | OUT1 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Air-O-Cell |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | Outdoors |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | | | | | |
| Basidiospores | 2 | 15 | 51 | 104 | 14.3% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 9 | 15 | 51 | 468 | 64.3% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | | | | | |
| Smuts / Periconia / Myxomycetes | 2 | 15 | 51 | 104 | 14.3% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Bispora | | | | | |
| Botrytis | | | | | |
| Epicoccum | 1 | 15 | 51 | 52 | 7.1% |
| Other Colorless | | | | | |
| Peronospora / Oidium | | | | | |
| Hyphal Fragments* | 1 | 15 | 51 | 52 | |

**Total Raw Ct:** 14 **Total spm/m³:** 728

**Comments**

| | |
|---|---|
| **AMA Sample #** | 664085-2 |
| **Client ID** | R116 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Air-O-Cell |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 3 |
| **Location** | RM 116 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | | | | | |
| Basidiospores | 3 | 15 | 51 | 155 | 15.8% |
| Bipol / Dresch / Helm | 1 | 15 | 51 | 51 | 5.3% |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 4 | 15 | 51 | 206 | 21.1% |
| Curvularia | Present | 15 | 51 | < 51 | |
| (~) Penicillium/Aspergillus | 3 | 15 | 51 | 155 | 15.8% |
| Smuts / Periconia / Myxomycetes | 7 | 15 | 51 | 362 | 36.8% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Bispora | 1 | 15 | 51 | 51 | 5.3% |
| Botrytis | | | | | |
| Epicoccum | | | | | |
| Other Colorless | | | | | |
| Peronospora / Oidium | | | | | |
| Hyphal Fragments* | 6 | 15 | 51 | 310 | |

**Total Raw Ct:** 19 **Total spm/m³:** 980

**Comments**

| | |
|---|---|
| **AMA Sample #** | 664085-3 |
| **Client ID** | R117 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Air-O-Cell |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 3 |
| **Location** | RM 117 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | 1 | 15 | 51 | 51 | 1.8% |
| Ascospores | 3 | 15 | 51 | 155 | 5.5% |
| Basidiospores | 8 | 15 | 51 | 413 | 14.5% |
| Bipol / Dresch / Helm | 1 | 15 | 51 | 51 | 1.8% |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 31 | 15 | 51 | 1603 | 56.4% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 1 | 15 | 51 | 51 | 1.8% |
| Smuts / Periconia / Myxomycetes | 9 | 15 | 51 | 465 | 16.4% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Bispora | | | | | |
| Botrytis | 1 | 15 | 51 | 51 | 1.8% |
| Epicoccum | | | | | |
| Other Colorless | | | | | |
| Peronospora / Oidium | | | | | |
| Hyphal Fragments* | 7 | 15 | 51 | 362 | |

**Total Raw Ct:** 55 **Total spm/m³:** 2840

**Comments**

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# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 664085 | **Job Name:** | Mount Vernon 116, 117, 122 | **Date Submitted:** | 12-03-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Not Provided | **Date Analyzed:** | 12-04-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | 47:11652-W:84 | **Report Date:** | 12-04-2024 |
| **Attention:** | Lauren Kesslak | **P.O. Number:** | Not Provided | **Date Sampled:** | 12/02/2024 |
| | | | | **Person Submitting:** | William Sargent |

| | |
|---|---|
| **AMA Sample #** | 664085-4 |
| **Client ID** | R122 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Air-O-Cell |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 3 |
| **Location** | RM 122 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 1 | 15 | 51 | 51 | .6% |
| Basidiospores | 3 | 15 | 51 | 155 | 1.9% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 136 | 13 | 59 | 8115 | 86.1% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 18 | 15 | 51 | 930 | 11.4% |
| Smuts / Periconia / Myxomycetes | Present | 15 | 51 | < 51 | |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Bispora | | | | | |
| Botrytis | | | | | |
| Epicoccum | | | | | |
| Hyphal Fragments* | 7 | 15 | 51 | 362 | |

**Total Raw Ct:** 158 **Total spm/m³:** 9251

**Comments**

| | |
|---|---|
| **AMA Sample #** | 664085-5 |
| **Client ID** | OUT2 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Air-O-Cell |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | Outdoors |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 2 | 15 | 51 | 103 | 2.9% |
| Basidiospores | 9 | 15 | 51 | 465 | 13% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 25 | 15 | 51 | 1292 | 36.2% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 26 | 15 | 51 | 1344 | 37.7% |
| Smuts / Periconia / Myxomycetes | 4 | 15 | 51 | 206 | 5.8% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | 1 | 15 | 51 | 51 | 1.4% |
| Bispora | | | | | |
| Botrytis | | | | | |
| Epicoccum | | | | | |
| Other Colorless | 1 | 15 | 51 | 51 | 1.4% |
| Peronospora / Oidium | 1 | 15 | 51 | 51 | 1.4% |
| Hyphal Fragments* | 1 | 15 | 51 | 51 | |

**Total Raw Ct:** 69 **Total spm/m³:** 3563

**Comments**

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# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 664085 | **Job Name:** | Mount Vernon 116, 117, 122 | **Date Submitted:** | 12-03-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Not Provided | **Date Analyzed:** | 12-04-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | 47:11652-W:84 | **Report Date:** | 12-04-2024 |
| **Attention:** | Lauren Kesslak | **P.O. Number:** | Not Provided | **Date Sampled:** | 12-02-2024 |
| | | | | **Person Submitting:** | William Sargent |

## General Comments, Disclaimers, and Footnotes

**Analytical Method:** Sample are analyzed following the instructions and guidelines outlined in ASTM 7391-09.

**Sample Condition:** Acceptable: The sample was collected and delivered to the our location without disturbing the material on the sampling media. Unacceptable: 1. The sample trace (TR) has been disturbed. 2. The sample was damaged or otherwise unsuitable for analysis. 0 = No particulate matter detected; 1= >nd-~5% Particulate Loading; 2 = ~5%-25% Particulate Loading; 3 = ~25%- 75% Particulate Loading; 4 = ~75%-90% Particulate Loading; 5 = >90% Particulate Loading

**Spore Notes:** Based on their small size and very few distinguishing characteristics, Aspergillus and Penicillium cannot be differentiated by non-viable sampling methods. There are other types of spores whose morphology is similar to Aspergillus and Penicillium and cannot be differentiated by non-viable sampling methods. Examples of these similar spores are Acremonium, Paecilomyces, Wallemia, Trichoderma, Scopulariopsis, and Gliocladium. Smuts, Periconia and Myxomycetes are three different types of genera that have similar morphological characteristics. Bipolaris/Dreschlera/Helm: Bipolaris / Dreschlera / Helminthosporium are three different types of genera that have similar morphological characteristics. Other Colorless represents all colorless spores that are non-distinctive and unidentifiable. Hyphal Fragments: A portion of the mycelium that becomes separated from the remainder of the thallus (vegetative body), each of which has the capacity to grow and form new individuals. Results for hyphal fragments are in fragments/$m^3$ and are not incorporated in the total spore concentration.
The tilde symbol (~) refers to water-intrusion indicator spores. These fungal spores, when found on indoor air samples, can be an indication of moisture sources and resultant fungal growth that may be problematic.

**Quantification**: Analytical Sensitivity (A.S.): This is dependent on the volume of air collected, size of the trace, ocular diameter, and the amount of the trace that was analyzed. The value of "Present" indicated in the Raw Count column represents the presence of this spore type during the preliminary exam at 400x. The Raw Count converts to a whole number if the spore type is encountered again during the 600x-1,000x enumeration. The sp/$m^3$ concentration will be reported as less than the analytical sensitivity if "Present" is reported in the Raw Count. Results are reported to 3 significant figures. sp/$m^3$: Spores per cubic meter. Uncertainty: for raw count in the range of 0-50 the SR is 0.266, 51-100 SR=0.325, 101-200 SR=0.193, >200 SR=0.125 All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.
**Analyst(s):** Tristan Ward

**Technical Director** _____
Tristan Ward

This report applies only to the sample(s) analyzed as received and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter, nor shall it be reproduced, except it full, without prior written authorization from us. Sample types, locations, collection protocols, air volumes and/or surface wipe area measurements are based upon information provided by the person(s) submitting them, and unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information and for analytical results calculated based on this information. Residual sample material will be discarded in accordance wit the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement, by NY ELAP, MDE, AIHA-LAP, NVLAP, NIST, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

# MOLD SPORE DESCRIPTIONS

## Alternaria

Alternaria is ubiquitous in the environment and are normal agents of decay and decomposition. The spores are airborne and common outdoors than indoors isolated from plants, soil, and food. Indoors, the spores are found in house dust, carpets, textiles, wallboard and window frames. The production of melanin-like pigment is one of its major identifying characteristics. The club-shaped spores (conidia) are single or in long chains. They can grow thick colonies with grayish-white surfaces at the beginning which later darken to greenish black or olive brown colors. Health Effects: Allergies are common, but serious infections are rare, except in people with compromised immune systems. Certain species of this genus are often prolific producers of a variety of toxic compounds whose effects on human health are not well known.

## Ascospores

Ascospores are spores formed inside an ascus (asci-plural) or sac-like cell which is contained inside a fruiting body called an ascocarp or an ascoma (ascomata-plural). An ascus typically contains a definite nuimber of ascospores, usually eight. Ascospores are unique in shape, size, and color as to the Genus/species they represent. These spores are specific to fungi classified as Ascomycetes. They are ubiquitous in nature. Many decay organic matter, others are plant or animal pathogens. They can grow indoors on damp materials. Release of ascospores are released by forcible ejection and dispersed by wind, water, animals and other agents. Health Effects: Depending on the Genera, Ascospores may be allergenic.

## Basidiospores

Basidiospores are reproductive spores produced by a group of fungi called basidiomycetes. This group includes the mushrooms, shelf fungi and various other macrofungi. Basidipspores serve as the main air (wind) dispersal units for the fungi and their release is dependent upon moisture. The structure of the spore complex can develop in various manners resulting in different appearances. It is often found growing in soil, decaying plant debris, compost piles and fruit rot. Indoors, it can be found on water damaged building materials (chipboard /OSB, plywood, wallpaper, and glue) as well as on food items (dried foods, cheeses, fruits, herbs, spices, cereals). Health effects: Some basidiospores may produce toxins and can act as allergens. They have not been reported to be pathogens.

## Bipol / Dresch / Helm

Bipolaris, Drechslera, and Helminthosporium are found on grasses, grains, various plants, and decaying food. They tend to grow in semi-dry environments and some species can be found indoors. Because of their microscopic similarities, these three genera are grouped together on both viable and non-viable analysis. Microscopically, the spores are cylindrical, fusiform, or club-shaped with protrusions, Health Effects: Can cause hay fever and asthma, allergic fungal sinusitis, and pathogenic sinusitis.

## Botrytis

Botrytis is a cosmopolitan fungus and often isolated from regions with humid climates. It is found in soil and vegetables. It is reported to be parasitic on plants and soft fruits. Colonies grow rapidly, appearing woolly, white at first and then becoming gray to brown. Microscopically, conidiophores are large with apical branches terminating in vesicles where blastoconidia are produced (tree-like branches). It is reported to be allergenic.

# MOLD SPORE DESCRIPTIONS

## Cladosporium

Cladosporium is the most common indoor and outdoor mold. The spores are wind dispersed and are often extremely abundant in outdoor air. Many species are commonly found on living and dead plant material. Indoors, they may grow on surfaces with high moisture or high humidity levels such as damp window sills, poorly ventilated bathrooms and soiled refrigerators. It produces powdery or velvety olive-green to brown or black colonies. The conidia (spores) vary depending on the species and are formed in simple or branching chains with multi-attachment points. Health Effects: Cladosporium species are rarely pathogenic to humans, but have been reported to occassionally cause sinusitis and pulmonary infections as well as infections of the skin and toenails. The airborne spores are significant allergens, and in large amounts they may severely affect asthmatics and people with respiratory diseases.

## Curvularia

Curvularia is a ubiquitous, wind dispersed hyphomycete (mold) fungus more commonly found in tropical, subtropical regions. It is often found outside growing in soil, seeds, plant litter, and decaying plants as well as on leaves. Indoors, it is found on a variety of building materials, especially those with cellulose surfaces. Colonies are olive-green to brown or black, with pinkish gray woolly surfaces. The conidia (spores) are large and appear curved due to expanded central cells. This feature and the presence of edge to edge septations on the conidia walls distinguishes Curvularia from Bipolaris. Health Effects: This mold is a potential allergen. Some people may experience hay fever, asthma and or allergic fungal sinusitis.

## Epicoccum

Epicoccum is a cosmopolitan fungus that is often found growing outside in soil, plant litter, decaying plants, and damaged plant tissue. Indoors, it can be found growing on a variety of building materials including paper and textiles. Colonies have a rapid growth rate with cottony texture, initially yellow or orange becoming brown to black in color. Conidiophores or fruiting bodies produce dense masses where conidia (spores) arise. Spores are round to pear-shaped, smooth to warty, brown to black in color and muriform (partitioned in both directions, like a soccer ball). Health Effects: This mold can act as a potential allergen. Some people may experience hay fever and or asthma. This mold has not been linked to any human or animal infection.

## Hyphal Fragments

Hyphal Fragments are segments or pieces of hyphae or mycelium that may have broken off during sampling (air, tape, dust). The mycelium is the entire mass of hyphae that makes up the vegetative body of a fungus. The presence of hyphal fragments may indicate the presence of viable mold.

## Other Colorless

“Other Colorless” are all non-distinctive, unidentifiable, colorless spores seen on spore trap samples and include all the genera that do not have distinguishing morphology to belong to any of the other defined categories.

# MOLD SPORE DESCRIPTIONS

## Pen / Asp Like

Penicillium and Aspergillus are ubiquitous, filamentous fungi that are found in soil, decaying plant debris, compost piles, and in the air. Indoors, spores are commonly found in house dust, in water-damaged buildings (wallpaper, wallpaper glue, decaying fabrics, moist chipboards, and behind paint) as well as fruit and grains. They are the most common fungal genera, worldwide. Both produce chains of spores that are small, round to oval, colorless or slightly pigmented, and smooth to rough walled. These spores are indistinguishable between the two as well as other genera, such as Gliocladium, Trichoderma, Paecilomyces, and Scopulariopsis. They differ as to their conidiophores or fruiting bodies. While, Aspergillus spores are produced from phialides supported on conidia heads or swollen vesicles, Penicillium spores are produced on finger-like projections. Depending on species, typical colonies of Aspergillus are initially white and later turn to either shades of green, yellow, orange, brown or black. Texture is usually velvety to cottony. Typical colonies of Penicillium, other than Penicillium marneffei (yeast-like at 37oC), grow rapidly, white in color at first, later becoming bluish green with white borders with velvety to powdery textures depending on species. Some species produce radial patterns. Health Effects: Both Aspergillus and Penicillium are potential allergens. Several species of Aspergillus (A. flavus and A. parasiticus) produce aflatoxins or natually occurring mycotoxins that are toxic and carcinogenic. These are found in contaminated foodstuff and are hazardous to consumers. Penicillium has only one known species that is pathogenic to humans (P. marneffei) that causes lethal systemic infection (Penicilliosis) in immunocompromised individuals.

## Peronospora / Oidium

Peronospora and Oidium are plant pathogens that cause downey or powdery mildew (a disease that affects a wide range of plants). Both affect the leaves, stems, flowers, and fruits of plants and trees. They have distinctive morphologies. The spores may also be seen in dust as part of the normal influx of outdoor microbial particles. Health Effects: No information is available regarding health effects or toxicity.

## Smuts / Periconia / Myxomycetes

Smuts, Periconia, and Myxomycetes spores are grouped together due to their similar round, brown morphology. Smuts are outdoor parasitic plant pathogens. They rarely grow indoors but may grow on host plants if appropriate conditions are present. They are parasitic plant pathogens. They can be found on cereal crops, grasses, flowing plants, weed, and other fungi. They can cause allergies. Periconia are found in soils, dead herbaceous stems and leaf spots, and grasses. They have wind dispersed dry spores. Their spores are abundant in the air but it is not known if they are allergenic. Myxomycetes are found on decaying logs, stumps and dead leaves. They have wind-dispersed dry spores and wet motile (amoebic phase) spores. During favorable conditions they move about like amoebae. They form dry airborne spores when conditions are unfavorable. They are rarely found indoors. Health Effects: They may cause Type 1 allergies (hay fever, asthma). No human infections have been reported.

**AMA Analytical Services, Inc.**
Focused on Results www.amalab.com
AIHA-LAP (#100470) NVLAP (#101143-0) NY ELAP (10920)
4475 Forbes Blvd. • Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

# CHAIN OF CUSTODY

(Please Refer To This Number For Inquires)



664085

**AMA Client Information:**
1. Client Name: ECS Mid-Atlantic LLC
2. Address 1: Chantilly
3. Address 2:
4. Billing Email:
5. Phone #:

**Submittal Information:**
1. Job Name: Mount Vernon ~~[illegible]~~ 116, 117, 122
2. Job Location ~~[illegible]~~
3. Job #: 47:11652-WI:84 PO#:
4. Contact Person: Lauren Kesslak Cell: (202) 494-7649
5. Collected by: William Sargent Cell: (202) 570-0898

**If a TAT is not provided, AMA will assign a default of 5-Day.** **Reports and Invoices provided by Email only.**

**AFTER HOURS (must be pre-scheduled)**
☐ 4 Hours ☐ Late Night
☐ Immediate Date Due:
☐ 24 Hours Time Due:
Comments:

**NORMAL BUSINESS HOURS**
☐ 4 Hours
~~☐ Same Day (6-8 Hours)~~
☒ 1 Day
☐ 2 Day
☐ 3 Day
☐ 5 Day + 12/4
Date Due: ~~12/3/24~~
☐ Results Required By Noon

**REPORT TO:**
☒ Email 1: lkesslak@ecslimited.com
☐ Email 2:
☐ Email 3:

**Asbestos Analysis**
*PCM Air – Please Indicate Filter Type:
☐ NIOSH 7400 (QTY)
*TEM Air – Please Indicate Filter Type:
☐ AHERA (QTY)
☐ NIOSH 7402 (QTY)
☐ Other (specify) (QTY)
PLM Bulk
☐ EPA 600 – Visual Estimate (QTY) ☐ Pos Stop
☐ EPA Point Count (QTY)
☐ NY State Friable 198.1 (QTY)
☐ Grav. Reduction ELAP 198.6 (QTY)
☐ Other (specify) (QTY)
MISC
☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

**TEM Bulk**
☐ ELAP 198.4/Chatfield (QTY)
☐ NY State PLM/TEM (QTY)
☐ Residual Ash (QTY)
☐ Vermiculite (QTY)
**TEM Dust***
☐ Qual. (pres/abs) Vacuum/Dust (QTY)
☐ Quan. (s/area) Vacuum D5755-95 (QTY)
☐ Quan. (s/area)Dust D6480-99 (QTY)
**TEM Water**
☐ Qual. (pres/abs) (QTY)
☐ ELAP 198.2/EPA 100.2 (QTY)
☐ EPA 100.1 (QTY)

☐ All samples received in good condition unless otherwise noted.
(TEM Water samples °C) **(For Lab Use Only)**

If field data sheets are submitted, there is no need to complete bottom section.
*It is recommended that blank samples be submitted with all air and surface samples

**Metals Analysis**
☐ Pb Paint Chip ☐ % by Weight (QTY) ☐ mg/kg (QTY)
☐ *Pb Dust Wipe (QTY) (Samples collected using ASTM approved media ☐)
☐ *Pb Air (QTY)
☐ Pb Soil/Solid (QTY)
☐ Pb TCLP (QTY)
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY)
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY)
☐ Pb Furnace (Media ) (QTY)

**Fungal Analysis**
☒ *Spore-Trap 5 (QTY)
☐ *Surface Swab (QTY)
☐ *Surface Tape (QTY)
☐ Other (Specify) (QTY)
☐ Surface Vacuum Dust (QTY)
Collection Apparatus for Spore Traps/Air Samples: Air-5 Pro-D
Collection Media Air

**SAMPLE INFORMATION**

| SAMPLE # | MATERIAL and/or LOCATION DESCRIPTION | DATE (m/d/yyyy) | TIME (hh:mm) | VOL (L) (Air Samples) | Wipe Area (Dust Samples) | TEM | PCM | PLM | LEAD | MOLD | COMMENTS/SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OUT 1 | Outdoors | 12/2/24 | 14:15 | 75L | | | | | | X | |
| R116 | Room 116 | ↓ | 14:44 | ↓ | | | | | | X | |
| R117 | Room 117 | | 14:51 | | | | | | | X | |
| R122 | Room 122 | | 15:02 | | | | | | | X | |
| OUT 2 | Outdoors | ↓ | 16:52 | ↓ | | | | | | X | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |

| | Print Name | Signature | Date: m/d/yyyy | Time: hh:mm | Delivery Information (For Lab Use Only) |
|---|---|---|---|---|---|
| *Relinquished by: | William Sargent | [signature] | 12/2/2024 | 6:30 PM | ☐ UPS ☐ In-Person ☐ Other ☐ FedEx ☒ Drop Box ☐ USPS ☐ Courier |
| Received by: | JV | [signature] | 12/3 | 6:00 | |

# Appendix VI: Mold Reference and Guidance Documents

# MOLD REFERENCE DOCUMENTS AND GUIDANCE

## Standards and Publications

Mold Remediation in Schools and Commercial Buildings, EPA, EPA 402-K-01-001, September 2008

A Brief Guide to Mold in the Workplace, Occupational Safety Health Administration (OSHA), SHIB 03-10-10, updated 11-08-13

ANSI/IICRC S520-2015 Standard and Reference Guide for Professional Mold Remediation, Institute of Inspection, Cleaning, and Restoration Certification, Third Edition

ANSI/IICRC S500-2021 Standard and Reference Guide for Professional Water Damage Restoration, Institute of Inspection, Cleaning, and Restoration Certification, Fifth Edition

Bioaerosols: Assessment and Control, American Conference of Governmental Industrial Hygienists, 1999.

Building Air Quality: A Guide for Building Owners and Facility Managers, National Institute for Occupational Safety and Health (NIOSH) and Environmental Protection Agency (EPA) EPA 402F-91-102, December 1991

Mold Moisture and Your Home, EPA, EPA-402-K-02-003, September 2012

WHO Guidelines for Indoor Air Quality: Dampness and Mould, World Health Organization (WHO), 2009

Guidelines on Assessment and Remediation of Fungi in Indoor Environments, New York City Department of Health and Mental Hygiene, November 2008.

Damp Buildings, Human Health, and HVAC Design, Report of the ASHRAE Multidisciplinary Task Group: Damp Buildings, American Society of Heating, Refrigerating, and Air Conditioning Engineers, 2020

## Websites

EPA – Mold Resources, https://www.epa.gov/mold

Centers for Disease Control and Prevention (CDC), https://www.cdc.gov/mold/faqs.htm

Department of Energy and the Environment (DOEE), Mold Assessment and Remediation Licensure Regulations https://doee.dc.gov/service/mold-professional-licensing

Virginia Department of Health, Environmental Health, Public Health Toxicology, Mold https://www.vdh.virginia.gov/environmental-health/public-health-toxicology/mold/

# MOLD AND MOISTURE ASSESSMENT




MOUNT VERNON COMMUNITY SCHOOL
ROOMS 117-123

2601 COMMONWEALTH AVE
ALEXANDRIA, VIRGINIA 22305

ECS PROJECT NO. 47:11652-W

FOR: ALEXANDRIA CITY PUBLIC SCHOOLS

MAY 23, 2025

May 23, 2025

Ms. Ayanna Harris
Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, Virginia 22314
ayanna.harrison@acps.k12.va.us

ECS Project No. 47:11652-W

Reference: Mold and Moisture Assessment, Mount Vernon Community School, 2601 Commonwealth Ave, Alexandria, Virginia

Dear Ms. Harris:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with the results of the Mold and Moisture Assessment performed in Rooms 117-123 at Mount Vernon Community School located at 2601 Commonwealth Ave in Alexandria, Virginia. This report summarizes our observations, analytical results, findings, and recommendations related to the work performed. The work described in this report was performed by ECS in general accordance with the Scope of Services described in ECS Proposal Number 47:35758-EP and the terms and conditions of the agreement authorizing those services.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC





Bobby L. Rhett
Environmental Project Manager
brhett@ecslimited.com
703-471-8400

Christopher J. Chapman, CIH
Director of Industrial Hygiene
cchapman@ecslimited.com
703-471-8400

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## 1.0 PROJECT DESCRIPTION

Mount Vernon Community School is located at 2601 Commonwealth Ave in Alexandria, Virginia. The school was reportedly originally constructed in 1923, with various renovations throughout the building's operational history.

ECS was previously requested to do a mold and moisture assessment of various rooms on the first, second, and third floors after complaints of odor and visible mold growth by occupants. Initially, the complaints were due to mold growth in rooms 118, 119, and 120, and initial air sampling conducted on the first floor rooms indicated elevated spore levels, prompting a more thorough investigation. The scope of the assessment was broadened to include rooms 116 through 123 on the first floor, as well as rooms 222 and 229 on the second floor and rooms 318 through 323 on the third floor. Subsequent post-remediation air sampling indicated persistent elevated spore counts in the first floor rooms, as well as visually observed mold. These rooms included rooms 117, 118, 119, 120, 121, 122, and 123.

Alexandria City Public Schools requested ECS to conduct additional Mold and Moisture Assessment to evaluate these concerns.

## 2.0 PURPOSE

The purpose of the Mold and Moisture Assessment was to conduct visual observations and sampling for mold to identify sources of mold growth and moisture within the above referenced classrooms of the subject building. This was not a comprehensive survey of the entire building.

## 3.0 METHODOLOGY

ECS performed the authorized Scope of Services in general accordance with our proposal, standard industry practice(s) and methods specified by guidelines and industry standards for the identification of mold and moisture-affected building materials.

### 3.1 Mold and Moisture

The first assessment after the prior report, performed on December 16, 2024, included a non-invasive visual and olfactory survey for mold and moisture within client-selected areas of the building. ECS performed several additional site visits between December 30, 2024 and February 10, 2025. The assessments focused on the previously referenced client-selected areas indicated by Alexandria City Public Schools. The ECS site personnel observed readily accessible areas and selected building materials to evaluate visible suspect fungal growth and/or moisture-impacted materials. A reasonable effort was made to identify water and mold-impacted areas; however, this does not imply a guarantee that all possible reservoirs of mold were identified because mold or water-impacted building materials may be hidden by walls, flooring, partitions, etc.

Ambient temperature, relative humidity, and dewpoint temperature were measured during the survey using a thermo-hygrometer. The purpose of these measurements was to identify elevated interior humidity levels, which could potentially support indoor mold growth or indicate ongoing moisture problems.

Fungal spore air samples were collected by means of a high-volume pump and Air-O-Cell® cassettes. Samples were transported to AMA Analytical Inc. located in Lanham, Maryland and Pace (formerly Aerobiology) laboratory located in Sterling, Virginia for analysis. AMA Analytical Inc. and Pace/ Aerobiology are accredited by the Environmental Microbiology Laboratory Accreditation Program, administered by the American Industrial Hygiene Association. Air samples were reported to the genus or group level according to the laboratory standard quantification procedures.

It is important to note that fungal spore samples represent a snapshot in time of a constantly changing microbiome. Environmental conditions such as temperature and humidity may influence sample results. The goal of the sampling performed was not to establish precise numerical concentrations over time but rather to generally identify the dominant fungi in the sampled locations and the general significance of their relative concentrations as compared to outdoor concentrations or unaffected locations.

## 4.0 RESULTS

The following is a summary of laboratory results, measurements, findings and observations.

### 4.1 Mold and Moisture

On December 16, 2024, ECS inspector William Sargent returned to the site to perform a visual/ olfactory assessment and air sampling post-remediation in rooms 118-120. It was observed that drywall in 118, 119, and 120 was cut out up to a foot from the floor, and that the hydraulic drum in the elevator closet was replaced. Ceiling tiles were removed, and the ceiling grids in each classroom had been cleaned as well. Mold was still visible on fiberglass piping in Room 118, and small amounts of mold still remained on some of the stored wooden instruments in Classroom 120.

The following site visit, performed on December 30, 2024, in which ECS inspector William Sargent returned to observe rooms that had been remediated. This assessment was a follow-up assessment after work had been done in rooms 117 to 122. Some deficiencies were noted, so another site visit was scheduled.

On January 3, 2025, ECS inspectors Robert Rhett and William Sargent performed a more in-depth assessment of the rooms in question. Moisture was measured on the floors and drywall using Tramex and Delmhorst moisture meters. While the walls in general did not appear to contain high levels of moisture, some of the flooring appeared to have elevated moisture pockets sporadically throughout the rooms. Observations underneath the floor tiles revealed suspect mold growth, and the loose (debonded) floor tiles were deemed a possible source of high spore counts.

Following further remediation measures, on January 12, 2025, ECS inspector William Sargent performed a post-remediation visual assessment. Several areas still had visible mold, such as loose tiles still remaining, and the contractor was told to resolve these issues before completing the assessment. After the visual assessment was completed, one air scrubber in each room was disconnected from the window to exhaust into the room, while the other air scrubber continued to exhaust outdoors. On January 14, 2025, both air scrubbers were turned off by the remediation supervisor. Subsequent spore trap sampling was performed two days later on January 16, 2025,

in which two additional hallway samples were included in the sampling event, in addition to the classrooms and outdoor samples. These sample results suggested indoor mold sources remained in the sampled areas.

ECS revisited the site on January 28, 2025 following the completion of an expanded scope of work and additional cleaning and air scrubbing of the classrooms. On January 28, 2025, ECS inspector Bobby Rhett performed a post-remediation visual assessment and air sampling. Sampling included Rooms 118, 119, 122, 123, two hallway samples, and two outdoor samples.

Following receipt of the results, on January 30, 2025, ECS inspector Bobby Rhett performed a site visit to evaluate suspected remaining reservoirs of indoor mold in Classroom 117. ECS identified potential mold reservoirs in the pipe chases and HVAC unit in Classroom 117. Additional remediation including dismantling of the HVAC unit and pipe chase covers was performed. Finally, on February 10, ECS performed a final site visit to assess the remediation efforts and perform spore trap air sampling, including hallway samples in addition to rooms 118, 119, 122, 123, and outdoor samples. This post-remediation sampling event was successful, and the classrooms passed post-remediation clearance criteria.

Below is a summary of the sampling data collected as part of this evaluation.

### 4.1.1 Spore-Trap Air Samples

Fungal spore-trap air samples were collected from suspected mold and moisture impacted rooms, as well as adjacent hallways and outdoors for comparison. The results are presented in table format in Appendix II.

The laboratory results at the conclusion of remediation actions on February 10 indicated that indoor fungal spore concentrations were less than the concentrations identified outdoors. The spore types identified indoors were generally consistent with the outdoor spore types, and lower in concentration indoors than outdoors. These results suggest that the source of the indoor fungal spores was likely outdoors. Overall, the results following remediation do not suggest the presence of indoor mold reservoirs.

There are currently no accepted regulatory standards or guidelines with respect to acceptable fungal levels inside buildings. It is important to note however that spore trap measurements can fluctuate rapidly and the readings reported should not be used as a definitive indication that mold and or health hazards related to mold are present or absent.

### 4.1.2 Temperature, Humidity, and Dew Point

The key to understanding humidity is that warmer air can contain greater quantities of moisture than cooler air. Relative humidity is defined as the ratio of the amount of moisture contained in the air to the maximum amount of moisture the air can contain at that temperature. The dew point temperature is defined as the temperature at which the amount of moisture in the air reaches saturation. The dew point is a more accurate indication of the actual amount of moisture in the air because it is independent of temperature.

The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) has published several standards for ventilated buildings. *ANSI/ASHRAE Standard 62.1-2022, Ventilation for Acceptable Air Quality,* specifies that indoor humidity should be maintained below 60 degrees Fahrenheit (°F) dew point temperature. The EPA recommends that indoor relative humidity be maintained below 60%, ideally 30-50%, to prevent mold growth. The *OSHA Technical Manual,* Section III, Chapter 2 for Indoor Air Quality Investigations specifies a thermal comfort range of 68°F to 76°F and a relative humidity range of 20% to 60% to maximize comfort for all occupants.

The following tables summarize the indoor air temperature and relative humidity readings collected by ECS during the surveys. The indoor relative humidity levels were below the recommended maximum levels described above.

**Temperature and Relative Humidity**

| Location | Temperature (°F) | Relative Humidity (%) |
|---|---|---|
| **Sampled December 16, 2024** | | |
| Outdoors | 62.7 | 38.0% |
| Room 117 | 69.9 | 28.2% |
| Room 118 | 66.9 | 33.8% |
| Room 119 | 67.4 | 34.2% |
| Room 120 | 71.2 | 31.8% |
| Room 121 | 73.2 | 32.5% |
| Room 122 | 72.5 | 32.2% |
| Room 123 | 70.5 | 27.6% |
| Outdoors | 51.4 | 56.6% |
| **Sampled December 30, 2024** | | |
| Outdoors | 68.1 | 24.7% |
| Room 117 | 71.0 | 40.6% |
| Room 118 | 75.4 | 34.7% |
| Room 119 | 75.7 | 32.7% |
| Room 120 | 73.9 | 32.5% |
| Room 121 | 73.9 | 32.5% |
| Room 122 | 71.2 | 32.3% |
| Room 123 | 69.8 | 28.5% |
| Outdoors | 67.6 | 23.7% |

| Location | Temperature (°F) | Relative Humidity (%) |
|---|---|---|
| **Sampled January 16, 2025** | | |
| Outdoors | 23.1 | 27.1% |
| Hallway outside 118 | 71.2 | 13.8% |
| Hallway outside 121 | 73.0 | 14.3% |
| Room 118 | 74.1 | 9.7% |
| Room 119 | 73.4 | 13.2% |
| Room 120 | 72.4 | 12.5% |
| Room 121 | 76.1 | 11.7% |
| Room 122 | 73.0 | 11.3% |
| Outdoors | 24.6 | 28.7% |
| **Sampled January 28, 2025** | | |
| Outdoors | 55.9 | 22.7% |
| Hallway outside 119 | 69.4 | 17.5% |
| Room 118 | 67.4 | 18.4% |
| Room 119 | 68.7 | 20.5% |
| Room 122 | 67.4 | 15.6% |
| Room 123 | 70.3 | 20.7% |
| Hallway outside 123 | 69.4 | 18.5% |
| Outdoors | 55.9 | 22.7% |
| **Sampled February 10, 2025** | | |
| Outdoors | 42.8 | 28.7% |
| Room 118 | 60.4 | 30.7% |
| Room 119 | 62.5 | 28.0% |
| Hallway | 64.9 | 27.0% |
| Room 123 | 63.9 | 25.2% |
| Room 122 | 66.6 | 15.5% |
| Outdoors | 43.8 | 27.0% |

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on our understanding of the purpose of the Mold and Moisture Assessment, the results of laboratory analysis, and our findings and observations, ECS presents the following recommendations.

**Mold and Moisture**

**Based on site observations and sample results, no further remediation appears to be warranted at this time. If future evidence of mold or moisture appears, additional investigation should be performed.**

Because of the nature of the environment, complete elimination of all microbial organisms within a building cannot be expected and is not the goal of remediation. The goal of remediation is to restore the affected materials to at least the condition of unaffected materials. It is important to note that the reported mold levels are only reflective of conditions at the time of the test. Mold populations can vary over time, depending upon a number of conditions, including environmental factors (i.e., temperature and relative humidity). If significant mold growth reappears, or if the occupants experience prolonged allergic-type health complaints, they should seek further investigation of the problem.

Note: The purpose of this survey was to evaluate areas where moisture intrusion or suspected visible mold growth has occurred and provide findings and recommendations for corrective action. Positive identification of sources of moisture and specific recommendations for correction of sources of moisture should be performed by a qualified engineer.

ECS was not requested to assess the potential presence of hazardous materials, and ECS assumes no responsibility for actions taken to address mold or moisture that inadvertently disturb hazardous materials. ECS is unaware of the presence of possible lead based paint (LBP). If not performed already, a LBP survey is recommended for the building. Pending the results of this survey, disclosures and/or abatement should be made with regards to hazardous materials prior to mold/water damage material removal efforts.

*Note: ECS was requested to perform abatement monitoring for the floor in Classroom 123 between January 24 to January 26, 2025. Please refer to that report for more information.*

## 6.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

This survey is not intended to represent an exhaustive research of every potential hazard or condition that may exist, nor does it claim to represent indoor conditions or events that arise after the survey. This report has been prepared in accordance with generally accepted environmental practices. Our conclusions and findings are based, in part, upon information provided to us by others and our site

observations. We have not verified the completeness or accuracy of the information provided by others. The scope of services performed was limited to those requested by the Client and does not constitute a full microbial assessment of the site or a comprehensive moisture survey of the site. The data provided in this study is only indicative of conditions sampled at the immediate time of the study.

This report does not warrant against future operations or conditions, nor does it warrant against extant, or future, conditions of a type or at a location not investigated. Because of the nature of this type of work and the difficulties involved in conducting remediation work, ECS cannot guarantee that the methods or recommendations described in this report will eliminate all potential indoor air quality issues. Since performance of the remediation work is also beyond ECS scope of services, ECS also cannot be held responsible for the execution of the remediation work. The reported microbial levels are only reflective of conditions at the time of this test and that microbial populations can vary over time, depending upon a number of conditions, including environmental factors (i.e., temperature and relative humidity). The work performed in conjunction with this assessment and the data developed is intended as a description of available information at the dates and locations given.

The observations, conclusions, and recommendations pertaining to environmental conditions at the subject site are necessarily limited to conditions observed, and/or materials reviewed at the time this study was undertaken. No warranty, expressed or implied, is made with regard to the conclusions and recommendations presented within this report. This report is provided for the exclusive use of the client. This report is not intended to be used or relied upon in connection with other projects or by other unidentified third parties without the written consent of ECS and the client.

Our recommendations are in part based on federal, state, and local regulations and guidelines. ECS does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to any local, state, or federal public agencies, any conditions at the site that may present a potential danger to public health, safety, or the environment. Under this scope of services, ECS assumes no responsibility regarding any response actions initiated as a result of these findings. General compliance with regulations and response actions are the sole responsibility of the Client and should be conducted in accordance with local, state, and/or federal requirements.

# Appendix I: Site Photographs




1 - View of project location, Mount Vernon Community School



2 - View of Classroom 117 closet with suspect mold on floor tile (1/3/2025)



3 - View of suspect mold on floor tile mastic (1/3/2025)



4 - View of suspect mold under tile in Classroom 123 (1/3/2025)



5 - View of air filtration devices in Classroom 117 (1/12/2025)



6 - View of air filtration devices in Classroom 118 (1/12/2025)



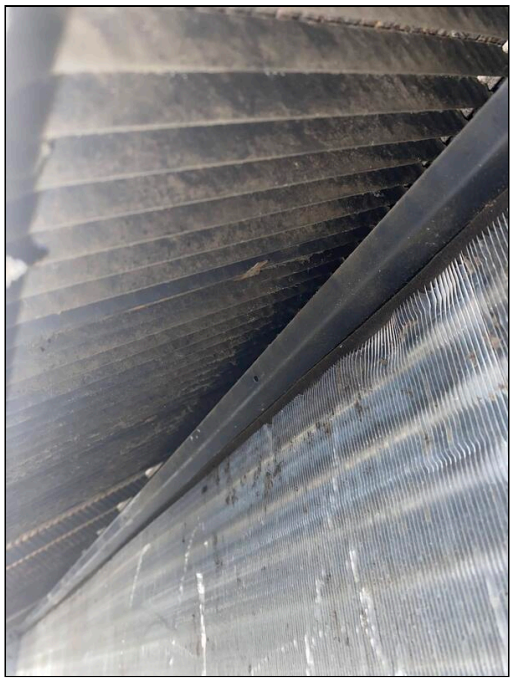
7 - View of additional drywall removed in Classroom 118 (1/12/2025)



8 - View of "wet stack" chase cleaned and coated with mold-resistant sealant (1/12/2025)



9 - View of suspect mold on HVAC unit (1/30/2025)



10 - View of suspect mold on HVAC unit (1/30/2025)



11 - View of HVAC unit in Classroom 117 removed and cleaned. (2/10/2025)



12 - View of floor under HVAC unit in Classroom 117 cleaned and repaired. (2/10/2025)

# Appendix II: Air Sample Results

Mount Vernon Community School Mold Assessment
2601 Commonwealth Avenue, Alexandria, Virginia 22305
ECS Project No. 47:11652-W
Survey Date Range: December 16, 2024 to December 30, 2025

# Fungal Spore Trap Air Sample Results

| Sample Number | Sample Location | Organisms Identified: Alternaria | Ascospores | Basidiospores | Cladosporium | Hyphae / Hyphal fragments | Penicillium/ Aspergillus | Pyricularia | Scopulariopsis | Smuts/Periconia/ Myxomycetes | Unknown/Other | Total* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Survey Date: December 16, 2024** | | | | | | | | | | | | |
| R117 | Indoors - Room 117 | | 260 | 104 | | | 52 | | | <52 | 52 | 468 |
| R118 | Indoors - Room 118 | | 156 | 104 | 729 | | 260 | | | 468 | 52 | 1,769 |
| R119 | Indoors - Room 119 | | 364 | | 52 | | 572 | | | | | 988 |
| R120 | Indoors - Room 120 | | 52 | | 729 | | | | | | | 781 |
| R121 | Indoors - Room 121 | | 1,093 | 781 | 104 | | 364 | | | 52 | | 2,446 |
| R122 | Indoors - Room 122 | | 208 | 260 | 364 | | 468 | | | | | 1,300 |
| R123 | Indoors - Room 123 | | 104 | 208 | 156 | | 260 | | | 52 | 104 | 884 |
| OUT01 | Outside 1 | | 884 | 260 | | | 104 | | | 104 | | 1,352 |
| OUT02 | Outside 2 | <52 | 4,218 | 3,541 | 156 | | | | | | <52 | 7,915 |
| **Survey Date: December 30, 2024** | | | | | | | | | | | | |
| 117 | Indoors - Room 117 | | 78 | 78 | 78 | | | | | | 78 | 313 |
| 118 | Indoors - Room 118 | | 235 | 78 | 313 | | 313 | | | | | 940 |
| 119 | Indoors - Room 119 | | 157 | 157 | 940 | | 2,120 | | | 78 | 78 | 3,680 |
| 120 | Indoors - Room 120 | | 627 | 1,020 | 784 | | 6,740 | | 2,040 | | 78 | 11,300 |
| 121 | Indoors - Room 121 | | 78 | 78 | | | | | | | | 157 |
| 122 | Indoors - Room 122 | | 157 | 313 | 8,700 | | 392 | | | | | 9,560 |
| 123 | Indoors - Room 123 | | 470 | 862 | 4,470 | | 392 | | | | 394 | 6,580 |
| OUT01 | Outside 1 | | 1,650 | 705 | 940 | | | | | | | 3,290 |
| OUT02 | Outside 2 | | 2,590 | 1,180 | 1,100 | | | | | | 78 | 4,940 |

All results are in spores per cubic meter (spores/m3)

Blank = None detected

*Note: Total counts may not match laboratory reports due to rounding.

Mount Vernon Community School Mold Assessment
2601 Commonwealth Avenue, Alexandria, Virginia 22305
ECS Project No. 47:11652-W
Survey Date: January 28, 2025

## Fungal Spore Trap Air Sample Results

| Sample Number | Sample Location | Organisms Identified: Alternaria | Ascospores | Basidiospores | Chaetomium | Cladosporium | Epicoccum | Hyphae / Hyphal fragments | Penicillium/ Aspergillus | Smuts/Periconia/ Myxomycetes | Spegazzinia | Unknown/Other | Total* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A-01 | Hallway Outside 119 | | | 67 | | 27 | | 13 | 13 | | | | 120 |
| A-02 | Room 118 | | | 160 | | 1,680 | | 27 | 120 | | | | 1,987 |
| A-03 | Room 119 | | 40 | 160 | | 547 | | 13 | 53 | 13 | | 27 | 853 |
| A-04 | Room 122 | | 13 | 53 | | 40 | | | 67 | | | | 173 |
| A-05 | Room 123 | | 27 | 80 | | 653 | | 13 | 13 | | | | 786 |
| A-06 | Hallway Outside 123 | | | 27 | | 160 | | 13 | 13 | | | | 213 |
| Out-1 | Outdoors | 7 | 33 | 107 | 20 | 440 | 7 | 40 | 67 | 27 | 7 | 13 | 768 |
| Out-2 | Outdoors | 13 | 80 | 133 | | 267 | | 20 | 87 | 40 | | 20 | 660 |

All results are in spores per cubic meter (spores/m3)
Blank = None detected
*Note: Total counts may not match laboratory reports due to rounding.

Mount Vernon Community School Mold Assessment
2601 Commonwealth Avenue, Alexandria, Virginia 22305
ECS Project No. 47:11652-W
Survey Date: February 10, 2025

## Fungal Spore Trap Air Sample Results

| Sample Number | Sample Location | Organisms Identified: Ascospores | Basidiospores | Cladosporium | Clear Brown | Colorless | Hyphae / Hyphal fragments | Penicillium/ Aspergillus | Smuts/Periconia/ Myxomycetes | Unknown/Other | Total* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A-01 | Room 118 | | 253 | 107 | 133 | 27 | 120 | 27 | 53 | | 720 |
| A-02 | Room 119 | | 133 | 80 | | | 40 | 40 | 13 | | 306 |
| A-03 | Hallway | 13 | 53 | 13 | | | 13 | 27 | 13 | | 132 |
| A-04 | Room 123 | 27 | 40 | 13 | | | 13 | | | | 93 |
| A-05 | Room 122 | 13 | 53 | 93 | | | | | | | 159 |
| Out 1 | Outdoors | 7 | 100 | | 33 | | 13 | 40 | | | 193 |
| Out 2 | Outdoors | 7 | 133 | 33 | | | 13 | 47 | 7 | | 240 |

All results are in spores per cubic meter (spores/m3)
Blank = None detected
*Note: Total counts may not match laboratory reports due to rounding.

# Appendix III: Laboratory Report(s)

# Direct Exam: Spore Trap Analysis

**SAI Method B-SOP-003**

**Customer:** ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Chantilly, VA 20151

**Attn:** Lauren Kesslak

**Project:** Mount Vernon Community Mold Survey

**Lab Order ID:** **10071816**
**Analysis:** STA
**Date Received:** 01/02/2025
**Date Reported:** 01/02/2025

| **Sample ID** | OUT1 | | | 117 | | | 118 | | | **EXTERIOR** | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID** | 10071816_0001 | | | 10071816_0002 | | | 10071816_0003 | | | **AVERAGE** | | |
| **Description** | Outdoors | | | Room 117 | | | Room 118 | | | **N/A** | | |
| **Lab Notes** | | | | | | | | | | **N/A** | | |
| **Volume (L)** | 75 | | | 75 | | | 75 | | | **N/A** | | |
| **Analytical Sensitivity (counts/m³)** | 78 | | | 78 | | | 78 | | | **N/A** | | |
| **IDENTIFICATION** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** |
| Ascospores | 21 | 1650 | 50.0% | 1 | 78.4 | 25.0% | 3 | 235 | 25.0% | 27 | 2120 | 51.9% |
| *Aspergillus/Penicillium-like* | | | | | | | 4 | 313 | 33.3% | | | |
| Basidiospores | 9 | 705 | 21.4% | 1 | 78.4 | 25.0% | 1 | 78.4 | 8.33% | 12 | 943 | 23.1% |
| *Chaetomium* | | | | | | | | | | | | |
| *Cladosporium* | 12 | 940. | 28.6% | 1 | 78.4 | 25.0% | 4 | 313 | 33.3% | 13 | 1020 | 25.0% |
| *Curvularia* | | | | | | | | | | | | |
| *Epicoccum* | | | | 1 | 78.4 | 25.0% | | | | <1 | 39.2 | N/A |
| Myxomycete/Rust/Smut-like | | | | | | | | | | | | |
| *Nigrospora* | | | | | | | | | | | | |
| *Pithomyces* | | | | | | | | | | | | |
| *Scopulariopsis* | | | | | | | | | | | | |
| *Stachybotrys* | | | | | | | | | | | | |
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| | | | | | | | | | | | | |
| **TOTAL** | **42** | **3290** | **100.%** | **4** | **313** | **100.%** | **12** | **940.** | **100.%** | **52** | **4120** | **100.%** |
| Non-Cellulosic Fibers | - | - | - | - | - | - | - | - | - | - | - | - |
| Hyphal Fragments | 1 | 78.4 | - | 1 | 78.4 | - | - | - | - | - | 39.2 | - |
| Insect Parts | - | - | - | - | - | - | - | - | - | - | - | - |
| Pollen | - | - | - | - | - | - | - | - | - | - | - | - |
| **Skin Cell % of Total Debris** | | **0-20%** | | | **40-60%** | | | **40-60%** | | | **N/A** | |
| **Total Debris in Background** | | **20-40%** | | | **40-60%** | | | **40-60%** | | | **N/A** | |

Disclaimer: This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. Unless otherwise noted blank sample correction was not performed on analytical results. Scientific Analytical Institute participates in the AIHA EMPAT program for fungi. EMPAT Laboratory ID: 173190. Reporting Limit equals Analytical Sensitivity. Unless indicated, areas and volumes were provided by the customer.

Darrin Parrick (9)
**Analyst**

**Approved Signatory**

# Direct Exam: Spore Trap Analysis

**SAI Method B-SOP-003**

**Customer:** ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Chantilly, VA 20151

**Attn:** Lauren Kesslak

**Project:** Mount Vernon Community Mold Survey

**Lab Order ID:** **10071816**
**Analysis:** STA
**Date Received:** 01/02/2025
**Date Reported:** 01/02/2025

| **Sample ID** | 119 | | | 120 | | | 121 | | | **EXTERIOR** | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID** | 10071816_0004 | | | 10071816_0005 | | | 10071816_0006 | | | **AVERAGE** | | |
| **Description** | Room 119 | | | Room 120 | | | Room 121 | | | **N/A** | | |
| **Lab Notes** | | | | | | | | | | **N/A** | | |
| **Volume (L)** | 75 | | | 75 | | | 75 | | | **N/A** | | |
| **Analytical Sensitivity (counts/m³)** | 78 | | | 78 | | | 78 | | | **N/A** | | |
| **IDENTIFICATION** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** |
| Ascospores | 2 | 157 | 4.26% | 8 | 627 | 5.56% | 1 | 78.4 | 50.0% | 27 | 2120 | 51.9% |
| *Aspergillus/Penicillium-like* | 27 | 2120 | 57.4% | 86 | 6740 | 59.7% | | | | | | |
| Basidiospores | 2 | 157 | 4.26% | 13 | 1020 | 9.03% | 1 | 78.4 | 50.0% | 12 | 943 | 23.1% |
| *Chaetomium* | 1 | 78.4 | 2.13% | | | | | | | | | |
| *Cladosporium* | 12 | 940. | 25.5% | 10 | 784 | 6.94% | | | | 13 | 1020 | 25.0% |
| *Curvularia* | | | | | | | | | | | | |
| *Epicoccum* | | | | | | | | | | <1 | 39.2 | N/A |
| Myxomycete/Rust/Smut-like | 1 | 78.4 | 2.13% | | | | | | | | | |
| *Nigrospora* | | | | | | | | | | | | |
| *Pithomyces* | | | | | | | | | | | | |
| *Scopulariopsis* | 2 | 157 | 4.26% | 26 | 2040 | 18.1% | | | | | | |
| *Stachybotrys* | | | | 1 | 78.4 | 0.694% | | | | | | |
| | | | | | | | | | | | | |
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| | | | | | | | | | | | | |
| **TOTAL** | **47** | **3680** | **100.%** | **144** | **11300** | **100.%** | **2** | **157** | **100.%** | **52** | **4120** | **100.%** |
| Non-Cellulosic Fibers | - | - | - | - | - | - | - | - | - | - | - | - |
| Hyphal Fragments | 3 | 235 | - | 5 | 392 | - | - | - | - | - | 39.2 | - |
| Insect Parts | - | - | - | - | - | - | - | - | - | - | - | - |
| Pollen | - | - | - | - | - | - | - | - | - | - | - | - |
| **Skin Cell % of Total Debris** | | **40-60%** | | | **40-60%** | | | **40-60%** | | | **N/A** | |
| **Total Debris in Background** | | **20-40%** | | | **40-60%** | | | **0-20%** | | | **N/A** | |

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Darrin Parrick (9)
**Analyst**

**Approved Signatory**

# Direct Exam: Spore Trap Analysis

**SAI Method B-SOP-003**

**Customer:** ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Chantilly, VA 20151

**Attn:** Lauren Kesslak

**Project:** Mount Vernon Community Mold Survey

**Lab Order ID:** **10071816**
**Analysis:** STA
**Date Received:** 01/02/2025
**Date Reported:** 01/02/2025

| **Sample ID** | 122 | | | 123 | | | OUT2 | | | **EXTERIOR** | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID** | 10071816_0007 | | | 10071816_0008 | | | 10071816_0009 | | | **AVERAGE** | | |
| **Description** | Room 122 | | | Room 123 | | | Outdoors | | | **N/A** | | |
| **Lab Notes** | | | | | | | | | | **N/A** | | |
| **Volume (L)** | 75 | | | 75 | | | 75 | | | **N/A** | | |
| **Analytical Sensitivity (counts/m³)** | 78 | | | 78 | | | 78 | | | **N/A** | | |
| **IDENTIFICATION** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** | **Raw Count** | **Concentration (counts/m³)** | **% Of Total** |
| Ascospores | 2 | 157 | 1.64% | 6 | 470. | 7.14% | 33 | 2590 | 52.4% | 27 | 2120 | 51.9% |
| *Aspergillus/Penicillium-like* | 5 | 392 | 4.1% | 5 | 392 | 5.95% | | | | | | |
| Basidiospores | 4 | 313 | 3.28% | 11 | 862 | 13.1% | 15 | 1180 | 23.8% | 12 | 943 | 23.1% |
| *Chaetomium* | | | | | | | | | | | | |
| *Cladosporium* | 111 | 8700 | 91.0% | 57 | 4470 | 67.9% | 14 | 1100 | 22.2% | 13 | 1020 | 25.0% |
| *Curvularia* | | | | 1 | 78.4 | 1.19% | | | | | | |
| *Epicoccum* | | | | 1 | 78.4 | 1.19% | 1 | 78.4 | 1.59% | <1 | 39.2 | N/A |
| Myxomycete/Rust/Smut-like | | | | | | | | | | | | |
| *Nigrospora* | | | | 1 | 78.4 | 1.19% | | | | | | |
| *Pithomyces* | | | | 2 | 157 | 2.38% | | | | | | |
| *Scopulariopsis* | | | | | | | | | | | | |
| *Stachybotrys* | | | | | | | | | | | | |
| | | | | | | | | | | | | |
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| | | | | | | | | | | | | |
| **TOTAL** | **122** | **9560** | **100.%** | **84** | **6580** | **100.%** | **63** | **4940** | **100.%** | **52** | **4120** | **100.%** |
| Non-Cellulosic Fibers | - | - | - | - | - | - | - | - | - | - | - | - |
| Hyphal Fragments | 12 | 940. | - | 10 | 784 | - | - | - | - | - | 39.2 | - |
| Insect Parts | - | - | - | - | - | - | - | - | - | - | - | - |
| Pollen | - | - | - | - | - | - | - | - | - | - | - | - |
| **Skin Cell % of Total Debris** | | **20-40%** | | | **0-20%** | | | **0-20%** | | | **N/A** | |
| **Total Debris in Background** | | **0-20%** | | | **60-80%** | | | **40-60%** | | | **N/A** | |

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Darrin Parrick (9)
**Analyst**

**Approved Signatory**

**Scientific Analytical Institute**
4604 Dundas Dr. Greensboro, NC 27407
Phone: 336.292.3888 Fax: 336.292.3313
www.sailab.com lab@sailab.com

*Lab Use Only*
Lab Order ID: 10071816
Client Code: _____

## Company Contact Information

| | |
|---|---|
| Company: ECS Mid-Atlantic LLC | Contact: Lauren Kesslak |
| Address: 14026 Thunderbolt Pl Suite 100 | Phone ☐: 202-494-7649 |
| Chantilly, VA 20151 | Fax ☐: |
| | Email ☐: lkesslak@ecslimited.com |

## Billing/Invoice Information

| | | |
|---|---|---|
| Company: ECS Mid-Atlantic LLC | 90 Min. ☐ | 48 Hours ☐ |
| Contact: Lauren Kesslak | 3 Hours ☐ | 72 Hours ☐ |
| Address: 14026 Thunderbolt Pl Suite 100 | 6 Hours ☑ | 96 Hours ☐ |
| Chantilly, VA 20151 | 12 Hours ☐ | 120 Hours ☐ |
| | 24 Hours ☐ | 144+Hours ☐ |

## Microbiology Test Types

| | |
|---|---|
| Spore Trap - Slit Impact, ie, AOC/Allergenco (STA) | ☑ |
| Spore Trap Other, ie. Micro-5 (STO) | ☐ |
| Direct Exam Tape (DET) | ☐ |
| Direct Exam Swab (DES) | ☐ |
| Direct Exam Bulk (DEB) | ☐ |
| Fungal Culture Air (FCA) | ☐ |
| Fungal Culture Swab (FCS) | ☐ |
| Fungal Culture Bulk (FCB) | ☐ |
| Bacteria Culture Air (BCA) | ☐ |
| Bacteria Culture Bulk (BCB) | ☐ |
| Bacteria Culture Swab (BCS) | ☐ |
| Biolog (BLG) | ☐ |
| Drinking Water (BCC) (Coliform/E.coli) | ☐ |
| Other: | ☐ |

**PO Number:** 47:11652-W:84

**Project Name/Number:** Mount Vernon Community Mold Survey

| Sample ID # | Description/Location | Volume/Area | Comments |
|---|---|---|---|
| OUT1 | Outdoors | 75 L | |
| 117 | Room 117 | 75 L | |
| 118 | Room 118 | 75 L | |
| 119 | Room 119 | 75 L | |
| 120 | Room 120 | 75 L | |
| 121 | Room 121 | 75 L | |
| 122 | Room 122 | 75 L | |
| 123 | Room 123 | 75 L | |
| OUT2 | Outdoors | 75 L | |
| | | | |
| | | | Accepted ☑ |
| | | | |
| | | | Rejected ☐ |
| | | | |

Total # of Samples 9

| Relinquished by | Date/Time | Received by | Date/Time |
|---|---|---|---|
| William Sargent | | | |
| receiving. | 12/31/24 1:00PM | 1/2 | 10:30 am |



A-F-019

AMA Analytical Services, Inc.
Focused On Results.

# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 664419 | **Job Name:** | Mount Vernon Community School Mold | **Date Submitted:** | 12-17-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Not Provided | **Date Analyzed:** | 12-17-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | 47:11652-W:84 | **Report Date:** | 12-17-2024 |
| **Attention:** | Lauren Kesslak | **P.O. Number:** | Not Provided | **Date Sampled:** | 12/16/2024 |
| | | | | **Person Submitting:** | William Sargent |

| | |
|---|---|
| **AMA Sample #** | 664419-1 |
| **Client ID** | OUT1 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | Outdoors |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 17 | 15 | 52 | 884 | 65.4% |
| Basidiospores | 5 | 15 | 52 | 260 | 19.2% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | | | | | |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 2 | 15 | 52 | 104 | 7.7% |
| Smuts / Periconia / Myxomycetes | 2 | 15 | 52 | 104 | 7.7% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Hyphal Fragments* | | | | | |

**Total Raw Ct:** 26 **Total spm/m³:** 1352

**Comments**

| | |
|---|---|
| **AMA Sample #** | 664419-2 |
| **Client ID** | R117 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | RM 117 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 5 | 15 | 52 | 260 | 55.6% |
| Basidiospores | 2 | 15 | 52 | 104 | 22.2% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | | | | | |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 1 | 15 | 52 | 52 | 11.1% |
| Smuts / Periconia / Myxomycetes | Present | 15 | 52 | < 52 | |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | 1 | 15 | 52 | 52 | 11.1% |
| Hyphal Fragments* | | | | | |

**Total Raw Ct:** 9 **Total spm/m³:** 468

**Comments**

| | |
|---|---|
| **AMA Sample #** | 664419-3 |
| **Client ID** | R118 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | RM 118 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 3 | 15 | 52 | 156 | 8.8% |
| Basidiospores | 2 | 15 | 52 | 104 | 5.9% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 14 | 15 | 52 | 729 | 41.2% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 5 | 15 | 52 | 260 | 14.7% |
| Smuts / Periconia / Myxomycetes | 9 | 15 | 52 | 468 | 26.5% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Epicoccum | | | | | |
| Other Colorless | 1 | 15 | 52 | 52 | 2.9% |
| Rusts | | | | | |
| Hyphal Fragments* | Present | 15 | 52 | | |

**Total Raw Ct:** 34 **Total spm/m³:** 1769

**Comments**

AMA Analytical Services, Inc.
Focused On Results.

# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 664419 | **Job Name:** | Mount Vernon Community School Mold | **Date Submitted:** | 12-17-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Not Provided | **Date Analyzed:** | 12-17-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | 47:11652-W:84 | **Report Date:** | 12-17-2024 |
| **Attention:** | Lauren Kesslak | **P.O. Number:** | Not Provided | **Date Sampled:** | 12/16/2024 |
| | | | | **Person Submitting:** | William Sargent |

| | |
|---|---|
| **AMA Sample #** | 664419-4 |
| **Client ID** | R119 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | RM 119 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 7 | 15 | 52 | 364 | 28% |
| Basidiospores | | | | | |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 1 | 15 | 52 | 52 | 4% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 11 | 15 | 52 | 572 | 44% |
| Smuts / Periconia / Myxomycetes | Present | 15 | 52 | < 52 | |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Other Colorless | | | | | |
| Hyphal Fragments* | | | | | |

**Total Raw Ct:** 25 **Total spm/m³:** 988

**Comments**

| | |
|---|---|
| **AMA Sample #** | 664419-5 |
| **Client ID** | R120 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 1 |
| **Location** | RM 120 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 1 | 15 | 52 | 52 | 6.7% |
| Basidiospores | | | | | |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 14 | 15 | 52 | 729 | 93.3% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | | | | | |
| Smuts / Periconia / Myxomycetes | | | | | |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Other Colorless | | | | | |
| Hyphal Fragments* | | | | | |

**Total Raw Ct:** 15 **Total spm/m³:** 781

**Comments**

| | |
|---|---|
| **AMA Sample #** | 664419-6 |
| **Client ID** | R121 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 1 |
| **Location** | RM 121 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 21 | 15 | 52 | 1093 | 44.7% |
| Basidiospores | 15 | 15 | 52 | 781 | 31.9% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | 1 | 15 | 52 | 52 | 2.1% |
| (~) Cladosporium | 2 | 15 | 52 | 104 | 4.3% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 7 | 15 | 52 | 364 | 14.9% |
| Smuts / Periconia / Myxomycetes | 1 | 15 | 52 | 52 | 2.1% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Epicoccum | | | | | |
| Other Colorless | | | | | |
| Rusts | | | | | |
| Hyphal Fragments* | | | | | |

**Total Raw Ct:** 47 **Total spm/m³:** 2446

**Comments**

AMA Analytical Services, Inc.
Focused On Results.

# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 664419 | **Job Name:** | Mount Vernon Community School Mold | **Date Submitted:** | 12-17-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Not Provided | **Date Analyzed:** | 12-17-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | 47:11652-W:84 | **Report Date:** | 12-17-2024 |
| **Attention:** | Lauren Kesslak | **P.O. Number:** | Not Provided | **Date Sampled:** | 12/16/2024 |
| | | | | **Person Submitting:** | William Sargent |

| | |
|---|---|
| **AMA Sample #** | 664419-7 |
| **Client ID** | R122 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | RM 122 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 4 | 15 | 52 | 208 | 16% |
| Basidiospores | 5 | 15 | 52 | 260 | 20% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 7 | 15 | 52 | 364 | 28% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 9 | 15 | 52 | 468 | 36% |
| Smuts / Periconia / Myxomycetes | | | | | |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Other Colorless | | | | | |
| Hyphal Fragments* | 7 | 15 | 52 | 364 | |

**Total Raw Ct:** 25 **Total spm/m³:** 1300

**Comments**

| | |
|---|---|
| **AMA Sample #** | 664419-8 |
| **Client ID** | R123 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | RM 123 |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | | | | | |
| Ascospores | 2 | 15 | 52 | 104 | 11.8% |
| Basidiospores | 4 | 15 | 52 | 208 | 23.5% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | 2 | 15 | 52 | 104 | 11.8% |
| (~) Cladosporium | 3 | 15 | 52 | 156 | 17.6% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | 5 | 15 | 52 | 260 | 29.4% |
| Smuts / Periconia / Myxomycetes | 1 | 15 | 52 | 52 | 5.9% |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Other Colorless | | | | | |
| Rusts | Present | 15 | 52 | < 52 | |
| Hyphal Fragments* | 2 | 15 | 52 | 104 | |

**Total Raw Ct:** 17 **Total spm/m³:** 884

**Comments**

| | |
|---|---|
| **AMA Sample #** | 664419-9 |
| **Client ID** | OUT2 |
| **Analyst ID** | TLW |
| **Collection Apparatus** | Allergenco |
| **Sample Volume (L)** | 75 |
| **Sample Condition** | Acceptable |
| **Debris Loading** | 2 |
| **Location** | Outdoors |

| | Raw Ct. | Trav/Fids | A.S | sp/m³ | % |
|---|---|---|---|---|---|
| Alternaria | Present | 15 | 52 | < 52 | |
| Ascospores | 81 | 15 | 52 | 4218 | 53.3% |
| Basidiospores | 68 | 15 | 52 | 3541 | 44.7% |
| Bipol / Dresch / Helm | | | | | |
| (~) Chaetomium | | | | | |
| (~) Cladosporium | 3 | 15 | 52 | 156 | 2% |
| Curvularia | | | | | |
| (~) Penicillium/Aspergillus | | | | | |
| Smuts / Periconia / Myxomycetes | | | | | |
| (~) Stachybotrys/Memnoniella | | | | | |
| (~) Ulocladium | | | | | |
| Unknown Fungi | | | | | |
| Epicoccum | Present | 15 | 52 | < 52 | |
| Other Colorless | | | | | |
| Rusts | | | | | |
| Hyphal Fragments* | 1 | 15 | 52 | 52 | |

**Total Raw Ct:** 152 **Total spm/m³:** 7915

**Comments**

AMA Analytical Services, Inc.
Focused On Results.

# CERTIFICATE OF ANALYSIS
## ASTM D7391 Spore Trap Analysis Report

| | | | | | |
|---|---|---|---|---|---|
| **Chain of Custody:** | 664419 | **Job Name:** | Mount Vernon Community School Mold | **Date Submitted:** | 12-17-2024 |
| **Client:** | ECS Mid-Atlantic, LLC | **Job Location:** | Not Provided | **Date Analyzed:** | 12-17-2024 |
| **Address:** | 14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151 | **Job Number:** | 47:11652-W:84 | **Report Date:** | 12-17-2024 |
| **Attention:** | Lauren Kesslak | **P.O. Number:** | Not Provided | **Date Sampled:** | 12-16-2024 |
| | | | | **Person Submitting:** | William Sargent |

## General Comments, Disclaimers, and Footnotes

**Analytical Method:** Sample are analyzed following the instructions and guidelines outlined in ASTM 7391-09.

**Sample Condition:** Acceptable: The sample was collected and delivered to the our location without disturbing the material on the sampling media. Unacceptable: 1. The sample trace (TR) has been disturbed. 2. The sample was damaged or otherwise unsuitable for analysis. 0 = No particulate matter detected; 1= >nd-~5% Particulate Loading; 2 = ~5%-25% Particulate Loading; 3 = ~25%- 75% Particulate Loading; 4 = ~75%-90% Particulate Loading; 5 = >90% Particulate Loading

**Spore Notes:** Based on their small size and very few distinguishing characteristics, Aspergillus and Penicillium cannot be differentiated by non-viable sampling methods. There are other types of spores whose morphology is similar to Aspergillus and Penicillium and cannot be differentiated by non-viable sampling methods. Examples of these similar spores are Acremonium, Paecilomyces, Wallemia, Trichoderma, Scopulariopsis, and Gliocladium. Smuts, Periconia and Myxomycetes are three different types of genera that have similar morphological characteristics. Bipolaris/Dreschlera/Helm: Bipolaris / Dreschlera / Helminthosporium are three different types of genera that have similar morphological characteristics. Other Colorless represents all colorless spores that are non-distinctive and unidentifiable. Hyphal Fragments: A portion of the mycelium that becomes separated from the remainder of the thallus (vegetative body), each of which has the capacity to grow and form new individuals. Results for hyphal fragments are in fragments/$m^3$ and are not incorporated in the total spore concentration.
The tilde symbol (~) refers to water-intrusion indicator spores. These fungal spores, when found on indoor air samples, can be an indication of moisture sources and resultant fungal growth that may be problematic.

**Quantification**: Analytical Sensitivity (A.S.): This is dependent on the volume of air collected, size of the trace, ocular diameter, and the amount of the trace that was analyzed. The value of "Present" indicated in the Raw Count column represents the presence of this spore type during the preliminary exam at 400x. The Raw Count converts to a whole number if the spore type is encountered again during the 600x-1,000x enumeration. The sp/$m^3$ concentration will be reported as less than the analytical sensitivity if "Present" is reported in the Raw Count. Results are reported to 3 significant figures. sp/$m^3$: Spores per cubic meter. Uncertainty: for raw count in the range of 0-50 the SR is 0.266, 51-100 SR=0.325, 101-200 SR=0.193, >200 SR=0.125 All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

**Analyst(s):** Tristan Ward

**Technical Director** _____
Tristan Ward

This report applies only to the sample(s) analyzed as received and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter, nor shall it be reproduced, except it full, without prior written authorization from us. Sample types, locations, collection protocols, air volumes and/or surface wipe area measurements are based upon information provided by the person(s) submitting them, and unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information and for analytical results calculated based on this information. Residual sample material will be discarded in accordance wit the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement, by NY ELAP, MDE, AIHA-LAP, NVLAP, NIST, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

# MOLD SPORE DESCRIPTIONS

## Alternaria

Alternaria is ubiquitous in the environment and are normal agents of decay and decomposition. The spores are airborne and common outdoors than indoors isolated from plants, soil, and food. Indoors, the spores are found in house dust, carpets, textiles, wallboard and window frames. The production of melanin-like pigment is one of its major identifying characteristics. The club-shaped spores (conidia) are single or in long chains. They can grow thick colonies with grayish-white surfaces at the beginning which later darken to greenish black or olive brown colors. Health Effects: Allergies are common, but serious infections are rare, except in people with compromised immune systems. Certain species of this genus are often prolific producers of a variety of toxic compounds whose effects on human health are not well known.

## Ascospores

Ascospores are spores formed inside an ascus (asci-plural) or sac-like cell which is contained inside a fruiting body called an ascocarp or an ascoma (ascomata-plural). An ascus typically contains a definite nuimber of ascospores, usually eight. Ascospores are unique in shape, size, and color as to the Genus/species they represent. These spores are specific to fungi classified as Ascomycetes. They are ubiquitous in nature. Many decay organic matter, others are plant or animal pathogens. They can grow indoors on damp materials. Release of ascospores are released by forcible ejection and dispersed by wind, water, animals and other agents. Health Effects: Depending on the Genera, Ascospores may be allergenic.

## Basidiospores

Basidiospores are reproductive spores produced by a group of fungi called basidiomycetes. This group includes the mushrooms, shelf fungi and various other macrofungi. Basidipspores serve as the main air (wind) dispersal units for the fungi and their release is dependent upon moisture. The structure of the spore complex can develop in various manners resulting in different appearances. It is often found growing in soil, decaying plant debris, compost piles and fruit rot. Indoors, it can be found on water damaged building materials (chipboard /OSB, plywood, wallpaper, and glue) as well as on food items (dried foods, cheeses, fruits, herbs, spices, cereals). Health effects: Some basidiospores may produce toxins and can act as allergens. They have not been reported to be pathogens.

## Chaetomium

Chaetomium is a genus of ascomycete fungi. It is a cosmopolitan, dark colored fungus (grayish-green to brown) commonly isolated from soil, seeds, dung, wood, and straw materials. Indoors, it is very commonly found on damp sheetrock and paper or cellulose-containing materials. There are certain characteristics such as color, shape, and size of the Chaetomium ascopores, asci, and ascomata that are unique in identification of the different species. Wind, insects, and water aid dispersal of spores. Due to their large size, they settle out of the air after just a few minutes. As a consequence, airborne mold levels are usually low even in infested environments. Due to this, exposure levels are likely to be low as well. Health Effects: Chaetomium does produce a variety of mycotoxins called chaetoglobsins, whose health effects on humans are unknown. Due to its toxigenic nature, special precautions may be required during remediation.

# MOLD SPORE DESCRIPTIONS

## Cladosporium

Cladosporium is the most common indoor and outdoor mold. The spores are wind dispersed and are often extremely abundant in outdoor air. Many species are commonly found on living and dead plant material. Indoors, they may grow on surfaces with high moisture or high humidity levels such as damp window sills, poorly ventilated bathrooms and soiled refrigerators. It produces powdery or velvety olive-green to brown or black colonies. The conidia (spores) vary depending on the species and are formed in simple or branching chains with multi-attachment points. Health Effects: Cladosporium species are rarely pathogenic to humans, but have been reported to occassionally cause sinusitis and pulmonary infections as well as infections of the skin and toenails. The airborne spores are significant allergens, and in large amounts they may severely affect asthmatics and people with respiratory diseases.

## Epicoccum

Epicoccum is a cosmopolitan fungus that is often found growing outside in soil, plant litter, decaying plants, and damaged plant tissue. Indoors, it can be found growing on a variety of building materials including paper and textiles. Colonies have a rapid growth rate with cottony texture, initially yellow or orange becoming brown to black in color. Conidiophores or fruiting bodies produce dense masses where conidia (spores) arise. Spores are round to pear-shaped, smooth to warty, brown to black in color and muriform (partitioned in both directions, like a soccer ball). Health Effects: This mold can act as a potential allergen. Some people may experience hay fever and or asthma. This mold has not been linked to any human or animal infection.

## Hyphal Fragments

Hyphal Fragments are segments or pieces of hyphae or mycelium that may have broken off during sampling (air, tape, dust). The mycelium is the entire mass of hyphae that makes up the vegetative body of a fungus. The presence of hyphal fragments may indicate the presence of viable mold.

## Other Colorless

“Other Colorless” are all non-distinctive, unidentifiable, colorless spores seen on spore trap samples and include all the genera that do not have distinguishing morphology to belong to any of the other defined categories.

## Pen / Asp Like

Penicillium and Aspergillus are ubiquitous, filamentous fungi that are found in soil, decaying plant debris, compost piles, and in the air. Indoors, spores are commonly found in house dust, in water-damaged buildings (wallpaper, wallpaper glue, decaying fabrics, moist chipboards, and behind paint) as well as fruit and grains. They are the most common fungal genera, worldwide. Both produce chains of spores that are small, round to oval, colorless or slightly pigmented, and smooth to rough walled. These spores are indistinguishable between the two as well as other genera, such as Gliocladium, Trichoderma, Paecilomyces, and Scopulariopsis. They differ as to their conidiophores or fruiting bodies. While, Aspergillus spores are produced from phialides supported on conidia heads or swollen vesicles, Penicillium spores are produced on finger-like projections. Depending on species, typical colonies of Aspergillus are initially white and later turn to either shades of green, yellow, orange, brown or black. Texture is usually velvety to cottony. Typical colonies of Penicillium, other than Penicillium marneffei (yeast-like at 37oC), grow rapidly, white in color at first, later becoming bluish green with white borders with velvety to powdery textures depending on species. Some species produce radial patterns. Health Effects: Both Aspergillus and Penicillium are potential allergens. Several species of Aspergillus (A. flavus and A. parasiticus) produce aflatoxins or natually occurring mycotoxins that are toxic and carcinogenic. These are found in

# MOLD SPORE DESCRIPTIONS

contaminated foodstuff and are hazardous to consumers. Penicillium has only one known species that is pathogenic to humans (P. marneffei) that causes lethal systemic infection (Penicilliosis) in immunocompromised individuals.

## Rusts

Rusts are ubiquitous fungi, often found growing on grasses, flowers, trees and other living plant materials. They are rarely found growing indoors, but will grow on host plants if present inside. Rusts are members of the Basidiomycetes class. They have a complex life cycle, producing five different spore types in two different plant hosts. Rusts have both wet and dry spores. Spore types include: basidiospores, pycniospores, aeciospores, urediospores, and teliospores. Wind disperses the urediospores, teliospores, basidiospores, and aeciospores. The basidiospores and aeciospores have an active spore release mechanism. Health Effects: Rusts can cause allergen type I allergies (hay fever, asthma). They have no reports of human infection and produce no known toxins.

## Smuts / Periconia / Myxomycetes

Smuts, Periconia, and Myxomycetes spores are grouped together due to their similar round, brown morphology. Smuts are outdoor parasitic plant pathogens. They rarely grow indoors but may grow on host plants if appropriate conditions are present. They are parasitic plant pathogens. They can be found on cereal crops, grasses, flowing plants, weed, and other fungi. They can cause allergies. Periconia are found in soils, dead herbaceous stems and leaf spots, and grasses. They have wind dispersed dry spores. Their spores are abundant in the air but it is not known if they are allergenic. Myxomycetes are found on decaying logs, stumps and dead leaves. They have wind-dispersed dry spores and wet motile (amoebic phase) spores. During favorable conditions they move about like amoebae. They form dry airborne spores when conditions are unfavorable. They are rarely found indoors. Health Effects: They may cause Type 1 allergies (hay fever, asthma). No human infections have been reported.

AMA Analytical Services, Inc.
Focused on Results www.amalab.com
AIHA-LAP (#100470) NVLAP (#101143-0) NY ELAP (10920)
4475 Forbes Blvd. • Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

# CHAIN OF CUSTODY

(Please Refer To This Number For Inquires) 66441.9

**AMA Client Information:**
1. Client Name: ECS Mid-Atlantic LLC
2. Address 1:
3. Address 2:
4. Billing Email:
5. Phone #:

**Submittal Information:**
1. Job Name: Mount Vernon Community School Mold
2. Job Location:
3. Job #: 11652-W:84 PO#:
4. Contact Person: Lauren Kesslak Cell: (202) 494-7649
5. Collected by: William Sargent Cell: (202) 570-0898

**If a TAT is not provided, AMA will assign a default of 5-Day.** **Reports and Invoices provided by Email only.**

**AFTER HOURS (must be pre-scheduled)**
☐ 4 Hours ☐ Late Night
☐ Immediate Date Due:
☐ 24 Hours Time Due:
Comments:

**NORMAL BUSINESS HOURS**
☐ 4 Hours ☐ 3 Day
☒ Same Day (6-8 Hours) ☐ 5 Day + 12
☐ 1 Day Date Due: 12/17/24
☐ 2 Day
☐ Results Required By Noon

**REPORT TO:**
☒ Email 1: Lkesslak@ecslimited.com
☐ Email 2:
☐ Email 3:

**Asbestos Analysis**
*PCM Air – Please Indicate Filter Type:
☐ NIOSH 7400 (QTY)
*TEM Air – Please Indicate Filter Type:
☐ AHERA (QTY)
☐ NIOSH 7402 (QTY)
☐ Other (specify) (QTY)
PLM Bulk
☐ EPA 600 – Visual Estimate (QTY) ☐ Pos Stop
☐ EPA Point Count (QTY)
☐ NY State Friable 198.1 (QTY)
☐ Grav. Reduction ELAP 198.6 (QTY)
☐ Other (specify) (QTY)
MISC
☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

TEM Bulk
☐ ELAP 198.4/Chatfield (QTY)
☐ NY State PLM/TEM (QTY)
☐ Residual Ash (QTY)
☐ Vermiculite (QTY)
TEM Dust*
☐ Qual. (pres/abs) Vacuum/Dust (QTY)
☐ Quan. (s/area) Vacuum D5755-95 (QTY)
☐ Quan. (s/area)Dust D6480-99 (QTY)
TEM Water
☐ Qual. (pres/abs) (QTY)
☐ ELAP 198.2/EPA 100.2 (QTY)
☐ EPA 100.1 (QTY)

☒ All samples received in good condition unless otherwise noted.
(TEM Water samples °C) **(For Lab Use Only)**

If field data sheets are submitted, there is no need to complete bottom section.
*It is recommended that blank samples be submitted with all air and surface samples

**Metals Analysis**
☐ Pb Paint Chip ☐ % by Weight (QTY) ☐ mg/kg (QTY)
☐ *Pb Dust Wipe (QTY) (Samples collected using ASTM approved media ☐)
☐ *Pb Air (QTY)
☐ Pb Soil/Solid (QTY)
☐ Pb TCLP (QTY)
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY)
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY)
☐ Pb Furnace (Media ) (QTY)

**Fungal Analysis**
☒ *Spore-Trap 9 (QTY)
☐ *Surface Swab (QTY)
☐ *Surface Tape (QTY)
☐ Other (Specify) (QTY)
☐ Surface Vacuum Dust (QTY)
Collection Apparatus for Spore Traps/Air Samples: Allergenco-D
Collection Media

**SAMPLE INFORMATION**

| SAMPLE # | MATERIAL and/or LOCATION DESCRIPTION | DATE (m/d/yyyy) | TIME (hh:mm) | VOL (L) (Air Samples) | Wipe Area (Dust Samples) | TEM | PCM | PLM | LEAD | MOLD | COMMENTS/SPECIAL INSTRUCTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OUT1 | Outdoors | 12/16/24 | 9:55 | 75 | | | | | | X | |
| R117 | Room 117 | | 10:09 | | | | | | | X | |
| R118 | Room 118 | | 10:19 | | | | | | | X | |
| R119 | Room 119 | | 10:25 | | | | | | | X | |
| R120 | Room 120 | | 10:33 | | | | | | | X | |
| R121 | Room 121 | | 10:44 | | | | | | | X | |
| R122 | Room 122 | | 10:52 | | | | | | | X | |
| R123 | Room 123 | | 11:02 | | | | | | | X | |
| OUT2 | Outdoors | | 13:05 | | | | | | | X | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| | Print Name | Signature | Date: m/d/yyyy | Time: hh:mm | Delivery Information (For Lab Use Only) |
|---|---|---|---|---|---|
| *Relinquished by: | William Sargent | | 12/16/2024 | 17:45 | ☐ UPS ☐ In-Person ☐ Other ☐ FedEx ☒ Drop Box |
| *Received by: | | | | | |

**Certificate of Analysis**
AIHA LAP EMLAP# 102977

Building Sciences
43760 Trade Center Place, Suite 100
Sterling , VA 20166
8776489150

ECS Mid Atlantic, LLC
14026 Thunderbolt Place
Chantilly VA , 20151
Attn: Bobby Rhett
Project: **47:11652-W:84 Mount Vernon Community School Mold**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 1/16/2025
Date Received: 1/16/2025
Date Analyzed: 1/17/2025
Date Reported: 1/17/2025
Project ID: 25001477



1054 Spore Trap Analysis SOP 3.8: 24hr TAT

| Client Sample # | Out 1 | | | | Out 2 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | Outdoors | | | | Outdoors | | | |
| Sample Volume (L) | 75 | | | | 75 | | | |
| Lab Sample # | 25001477-001 | | | | 25001477-009 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| ascospores | 1 | 13 | 9 | 1/2 | 2 | 27 | 5 | - |
| basidiospores | 8 | 107 | 73 | 1/1 | 6 | 80 | 15 | - |
| Cladosporium | - | - | - | - | 1 | 13 | 2 | - |
| Clear brown | 1 | 13 | 9 | 1/7 | 7 | 93 | 17 | - |
| Penicillium/Aspergillus group | 1 | 13 | 9 | 1/24 | 24 | 320 | 59 | - |
| Unknown | - | - | - | - | 1 | 13 | 2 | - |
| | Debris Rating **3** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **13** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 11 | 147 | ~100% | 1/4 | 41 | 547 | ~100% | - |

| Client Sample # | Hall 1 | | | | Out 2 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | Hallway | | | | Outdoors | | | |
| Sample Volume (L) | 75 | | | | 75 | | | |
| Lab Sample # | 25001477-002 | | | | 25001477-009 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| ascospores | - | - | - | - | 2 | 27 | 5 | - |
| basidiospores | 2 | 27 | 40 | 1/3 | 6 | 80 | 15 | - |
| Cladosporium | 2 | 27 | 40 | 2/1 | 1 | 13 | 2 | - |
| Clear brown | - | - | - | - | 7 | 93 | 17 | - |
| hyphal elements | 1 | 13 | 20 | - | - | - | - | - |
| Penicillium/Aspergillus group | - | - | - | - | 24 | 320 | 59 | - |
| Unknown | - | - | - | - | 1 | 13 | 2 | - |
| | Debris Rating **3** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **13** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 5 | 67 | ~100% | 1/8 | 41 | 547 | ~100% | - |

| Client Sample # | Hall 2 | | | | Out 2 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | Hallway | | | | Outdoors | | | |
| Sample Volume (L) | 75 | | | | 75 | | | |
| Lab Sample # | 25001477-003 | | | | 25001477-009 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| ascospores | - | - | - | - | 2 | 27 | 5 | - |
| basidiospores | 3 | 40 | 30 | 1/2 | 6 | 80 | 15 | - |
| Cladosporium | 5 | 67 | 50 | 5/1 | 1 | 13 | 2 | - |
| Clear brown | - | - | - | - | 7 | 93 | 17 | - |
| hyphal elements | 1 | 13 | 10 | - | - | - | - | - |
| Penicillium/Aspergillus group | 1 | 13 | 10 | 1/24 | 24 | 320 | 59 | - |
| Unknown | - | - | - | - | 1 | 13 | 2 | - |
| | Debris Rating **3** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **13** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 10 | 133 | ~100% | 1/4 | 41 | 547 | ~100% | - |

Building Sciences
43760 Trade Center Place, Suite 100
Sterling , VA 20166
8776489150

ECS Mid Atlantic, LLC
14026 Thunderbolt Place
Chantilly VA , 20151
Attn: Bobby Rhett
Project: **47:11652-W:84 Mount Vernon Community School Mold**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 1/16/2025
Date Received: 1/16/2025
Date Analyzed: 1/17/2025
Date Reported: 1/17/2025
Project ID: 25001477



| Client Sample # | 118 | | | | Out 2 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | Room 118 | | | | Outdoors | | | |
| Sample Volume (L) | 75 | | | | 75 | | | |
| Lab Sample # | 25001477-004 | | | | 25001477-009 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| ascospores | - | - | - | - | 2 | 27 | 5 | - |
| basidiospores | 2 | 27 | 9 | 1/3 | 6 | 80 | 15 | - |
| Cladosporium | 6 | 80 | 26 | 6/1 | 1 | 13 | 2 | - |
| Clear brown | - | - | - | - | 7 | 93 | 17 | - |
| hyphal elements | 1 | 13 | 4 | - | - | - | - | - |
| Penicillium/Aspergillus group | 14 | 187 | 61 | 1/2 | 24 | 320 | 59 | - |
| Unknown | - | - | - | - | 1 | 13 | 2 | - |
| | Debris Rating **2** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **13** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 23 | 307 | ~100% | 1/2 | 41 | 547 | ~100% | - |

| Client Sample # | 119 | | | | Out 2 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | Room 119 | | | | Outdoors | | | |
| Sample Volume (L) | 75 | | | | 75 | | | |
| Lab Sample # | 25001477-005 | | | | 25001477-009 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| ascospores | - | - | - | - | 2 | 27 | 5 | - |
| basidiospores | 9 | 120 | 13 | 2/1 | 6 | 80 | 15 | - |
| Chaetomium | 1 | 13 | 1 | - | - | - | - | - |
| Cladosporium | 4 | 53 | 6 | 4/1 | 1 | 13 | 2 | - |
| Clear brown | - | - | - | - | 7 | 93 | 17 | - |
| Penicillium/Aspergillus group | 54 | 720 | 78 | 2/1 | 24 | 320 | 59 | - |
| Unknown | 1 | 13 | 1 | 1/1 | 1 | 13 | 2 | - |
| | Debris Rating **3** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **13** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 69 | 920 | ~100% | 2/1 | 41 | 547 | ~100% | - |

| Client Sample # | 120 | | | | Out 2 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | Room 120 | | | | Outdoors | | | |
| Sample Volume (L) | 75 | | | | 75 | | | |
| Lab Sample # | 25001477-006 | | | | 25001477-009 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| ascospores | 1 | 13 | 5 | 1/2 | 2 | 27 | 5 | - |
| basidiospores | 1 | 13 | 5 | 1/6 | 6 | 80 | 15 | - |
| Cladosporium | 5 | 67 | 26 | 5/1 | 1 | 13 | 2 | - |
| Clear brown | - | - | - | - | 7 | 93 | 17 | - |
| hyphal elements | 1 | 13 | 5 | - | - | - | - | - |
| Penicillium/Aspergillus group | 11 | 147 | 58 | 1/2 | 24 | 320 | 59 | - |
| Unknown | - | - | - | - | 1 | 13 | 2 | - |
| | Debris Rating **2** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **13** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 19 | 253 | ~100% | 1/2 | 41 | 547 | ~100% | - |

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ECS Mid Atlantic, LLC
14026 Thunderbolt Place
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Attn: Bobby Rhett
Project: **47:11652-W:84 Mount Vernon Community School Mold**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 1/16/2025
Date Received: 1/16/2025
Date Analyzed: 1/17/2025
Date Reported: 1/17/2025
Project ID: 25001477



| Client Sample # | 121 | | | | Out 2 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | Room 121 | | | | Outdoors | | | |
| Sample Volume (L) | 75 | | | | 75 | | | |
| Lab Sample # | 25001477-007 | | | | 25001477-009 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| ascospores | - | - | - | - | 2 | 27 | 5 | - |
| basidiospores | 3 | 40 | 17 | 1/2 | 6 | 80 | 15 | - |
| Cladosporium | 3 | 40 | 17 | 3/1 | 1 | 13 | 2 | - |
| Clear brown | - | - | - | - | 7 | 93 | 17 | - |
| hyphal elements | 1 | 13 | 6 | - | - | - | - | - |
| Penicillium/Aspergillus group | 10 | 133 | 56 | 1/2 | 24 | 320 | 59 | - |
| Unknown | 1 | 13 | 6 | 1/1 | 1 | 13 | 2 | - |
| | Debris Rating **2** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **13** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 18 | 240 | ~100% | 1/2 | 41 | 547 | ~100% | - |

| Client Sample # | 122 | | | | Out 2 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | Room 122 | | | | Outdoors | | | |
| Sample Volume (L) | 75 | | | | 75 | | | |
| Lab Sample # | 25001477-008 | | | | 25001477-009 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| ascospores | - | - | - | - | 2 | 27 | 5 | - |
| basidiospores | 2 | 27 | 22 | 1/3 | 6 | 80 | 15 | - |
| Cladosporium | 7 | 93 | 78 | 7/1 | 1 | 13 | 2 | - |
| Clear brown | - | - | - | - | 7 | 93 | 17 | - |
| Penicillium/Aspergillus group | - | - | - | - | 24 | 320 | 59 | - |
| Unknown | - | - | - | - | 1 | 13 | 2 | - |
| | Debris Rating **2** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **13** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 9 | 120 | ~100% | 1/5 | 41 | 547 | ~100% | - |

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Project: **47:11652-W:84 Mount Vernon Community School Mold**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 1/16/2025
Date Received: 1/16/2025
Date Analyzed: 1/17/2025
Date Reported: 1/17/2025
Project ID: 25001477



## Footnotes and Additional Report Information

### Debris Rating Table

| | | |
|---|---|---|
| 1 | Minimal (<5%) particulate present | Reported values are minimally affected by particulate load. |
| 2 | 5% to 25% of the trace occluded with particulate | Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded. |
| 3 | 26% to 75% of the trace occluded with particulate | Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded. |
| 4 | 75% to 90% of the trace occluded with particulate | Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded. |
| 5 | Greater than 90% of the trace occluded with particulate | Quantification not possible due to large negative bias. A new sample should be collected at a shorter time interval or other measures taken to reduce particulate load. |

Pace Analytical Services, LLC shall be responsible for all the information provided in the report, except when information is provided by the customer. Data provided by a customer can affect the validity of results and shall be clearly identified. Results apply to the samples as received. Pace Analytical Services, LLC is not responsible for the sampling activity, such as air and water volume, area, and mass unit. The report shall not be reproduced except in full without the approval of the laboratory to ensure that parts of a report are not taken out of context. Data interpretation of this report will be the client responsibility based on their sampling.

1. Penicillium/Aspergillus group spores are characterized by their small size, round to ovoid shape, being unicellular, and usually colorless to lightly pigmented. There are numerous genera of fungi whose spore morphology is similar to that of the Penicillium/Aspergillus type. Two common examples would be Paecilomyces and Acremonium. Although the majority of spores placed in this group are Penicillium, Aspergillus, or a combination of both. Keep in mind that these are not the only two possibilities.

2. Ascospores are sexually produced fungal spores formed within an ascus. An ascus is a sac-like structure designed to discharge the ascospores into the environment, e.g. Ascobolus.

3. Basidiospores are typically blown indoors from outdoors and rarely have an indoor source. However, in certain situations a high basidiospore count indoors may be indicative of a wood decay problem or wet soil.

4. The colorless group contains colorless spores which were unidentifiable to a specific genus. Examples of this group include Acremonium, Aphanocladium, Beauveria, Chrysosporium, Engyodontium microconidia, yeast, some arthrospores, as well as many others.

5. Hyphae are the vegetative mode of fungi. Hyphal elements are fragments of individual Hyphae. They can break apart and become airborne much like spores and are potentially allergenic. A mass of hyphal elements is termed the mycelium. Hyphae in high concentration may be indicative of colonization.

6. Dash (-) in this report, under raw count column means 'not detected (ND)'; otherwise 'not applicable' (NA).

*7. The positive-hole correction factor is a statistical tool which calculates a probable count from the raw count, taking into consideration that multiple particles can impact on the same hole; for this reason the sum of the calculated counts may be less than the positive hole corrected total.

8. Due to rounding totals may not equal 100%.

9. Analytical Sensitivity for each spores is different for Non-viable sample when the spores are read at different percentage. Analytical Sensitivity is calculated as spr/m $^3$ divided by raw count. spr/m $^3$ = raw counts x (100/ % read) x (1000/Sample volume). If Analytical Sensitivity is 13 spr/m $^3$ at 100% read, Analytical Sensitivity at 50% read would be 27 spr/m $^3$, which is 2 times higher. Analytical Sensitivity provided on the report is based on an assumed 100% of the trace being analyzed.

*10. Minimum Reporting Limits (MRL) for BULKS, DUSTS, SWABS, and WATER samples are a calculation based on the sample size and the dilution plate on which the organism was counted. Results are a compilation of counts taken from multiple dilutions and multiple medias. This means that every genus of fungi or bacteria recovered can be counted on the plate on which it is best represented.

*11. If the final quantitative result is corrected for contamination based on the blank, the blank correction is stated in the sample comments section of the report.

12. The results in this report are related to this project and these samples only as received.

13. For samples with an air volume of < 100L, the number of significant figures in the result should be considered (2) two. For samples with air volumes between 100-999L, the number of significant figures in the result should considered (3) three. For example, a sample with a result of 55,443 spr/m$^3$ from a 75L sample using significant figures should be considered 55,000. The same result of 55,443 from a 150L sample using significant figures should be considered 55,400 spr/m $^3$.

14. If the In/Out ratio is greater than 100 times it is indicated >100/1, rather than showing the real value.

**Terminology Used in Direct Exam Reporting**

**Conidiophores are a type of modified hyphae from which spores are born. When seen on a surface sample in moderate to numerous concentrations they may be indicative of fungal growth.**

***: Applicable to the reported data for culture testing**

Dr. Michael Berg
Technical Director

**Certificate of Analysis**
AIHA LAP EMLAP# 102977

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Attn: Bobby Rhett
Project: **47:11652-W:84 MVCS**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 1/28/2025
Date Received: 1/28/2025
Date Analyzed: 1/29/2025
Date Reported: 1/29/2025
Project ID: 25002862


1054 Spore Trap Analysis SOP 3.8: 24hr TAT

| Client Sample # | A-01 | | | | Out-1 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | Hallway Outside 119 | | | | | | | |
| Sample Volume (L) | 75 | | | | 150 | | | |
| Lab Sample # | 25002862-001 | | | | 25002862-007 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| Alternaria | - | - | - | - | 1 | 7 | <1 | - |
| ascospores | - | - | - | - | 5 | 33 | 4 | - |
| basidiospores | 5 | 67 | 56 | 1/2 | 16 | 107 | 14 | - |
| Chaetomium | - | - | - | - | 3 | 20 | 3 | - |
| Cladosporium | 2 | 27 | 22 | 1/17 | 66 | 440 | 57 | - |
| Epicoccum | - | - | - | - | 1 | 7 | <1 | - |
| hyphal elements | 1 | 13 | 11 | 1/3 | 6 | 40 | 5 | - |
| Penicillium/Aspergillus group | 1 | 13 | 11 | 1/5 | 10 | 67 | 9 | - |
| Smuts,Periconia,Myxomycetes | - | - | - | - | 4 | 27 | 3 | - |
| Spegazzinia | - | - | - | - | 1 | 7 | <1 | - |
| Unknown | - | - | - | - | 2 | 13 | 2 | - |
| | Debris Rating **2** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **7** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 9 | 120 | ~100% | 1/6 | 115 | 767 | ~100% | - |

| Client Sample # | A-02 | | | | Out-1 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | | | | |
| Sample Volume (L) | 75 | | | | 150 | | | |
| Lab Sample # | 25002862-002 | | | | 25002862-007 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| Alternaria | - | - | - | - | 1 | 7 | <1 | - |
| ascospores | - | - | - | - | 5 | 33 | 4 | - |
| basidiospores | 12 | 160 | 8 | 2/1 | 16 | 107 | 14 | - |
| Chaetomium | - | - | - | - | 3 | 20 | 3 | - |
| Cladosporium | 63 | 1,680 | 85 | 4/1 | 66 | 440 | 57 | - |
| Epicoccum | - | - | - | - | 1 | 7 | <1 | - |
| hyphal elements | 2 | 27 | 1 | 1/2 | 6 | 40 | 5 | - |
| Penicillium/Aspergillus group | 9 | 120 | 6 | 2/1 | 10 | 67 | 9 | - |
| Smuts,Periconia,Myxomycetes | - | - | - | - | 4 | 27 | 3 | - |
| Spegazzinia | - | - | - | - | 1 | 7 | <1 | - |
| Unknown | - | - | - | - | 2 | 13 | 2 | - |
| | Debris Rating **3** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **7** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 86 | 1,987 | ~100% | 3/1 | 115 | 767 | ~100% | - |

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Project: **47:11652-W:84 MVCS**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 1/28/2025
Date Received: 1/28/2025
Date Analyzed: 1/29/2025
Date Reported: 1/29/2025
Project ID: 25002862


| Client Sample # | A-03 | | | | Out-1 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | | | | |
| Sample Volume (L) | 75 | | | | 150 | | | |
| Lab Sample # | 25002862-003 | | | | 25002862-007 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| Alternaria | - | - | - | - | 1 | 7 | <1 | - |
| ascospores | 3 | 40 | 5 | 1/1 | 5 | 33 | 4 | - |
| basidiospores | 12 | 160 | 19 | 2/1 | 16 | 107 | 14 | - |
| Chaetomium | - | - | - | - | 3 | 20 | 3 | - |
| Cladosporium | 41 | 547 | 64 | 1/1 | 66 | 440 | 57 | - |
| Epicoccum | - | - | - | - | 1 | 7 | <1 | - |
| hyphal elements | 1 | 13 | 2 | 1/3 | 6 | 40 | 5 | - |
| Penicillium/Aspergillus group | 4 | 53 | 6 | 1/1 | 10 | 67 | 9 | - |
| Smuts,Periconia,Myxomycetes | 1 | 13 | 2 | 1/2 | 4 | 27 | 3 | - |
| Spegazzinia | - | - | - | - | 1 | 7 | <1 | - |
| Unknown | 2 | 27 | 3 | 2/1 | 2 | 13 | 2 | - |
| | Debris Rating **3** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **7** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 64 | 853 | ~100% | 1/1 | 115 | 767 | ~100% | - |

| Client Sample # | A-04 | | | | Out-1 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | | | | |
| Sample Volume (L) | 75 | | | | 150 | | | |
| Lab Sample # | 25002862-004 | | | | 25002862-007 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| Alternaria | - | - | - | - | 1 | 7 | <1 | - |
| ascospores | 1 | 13 | 8 | 1/3 | 5 | 33 | 4 | - |
| basidiospores | 4 | 53 | 31 | 1/2 | 16 | 107 | 14 | - |
| Chaetomium | - | - | - | - | 3 | 20 | 3 | - |
| Cladosporium | 3 | 40 | 23 | 1/11 | 66 | 440 | 57 | - |
| Epicoccum | - | - | - | - | 1 | 7 | <1 | - |
| hyphal elements | - | - | - | - | 6 | 40 | 5 | - |
| Penicillium/Aspergillus group | 5 | 67 | 38 | 1/1 | 10 | 67 | 9 | - |
| Smuts,Periconia,Myxomycetes | - | - | - | - | 4 | 27 | 3 | - |
| Spegazzinia | - | - | - | - | 1 | 7 | <1 | - |
| Unknown | - | - | - | - | 2 | 13 | 2 | - |
| | Debris Rating **2** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **7** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 13 | 173 | ~100% | 1/4 | 115 | 767 | ~100% | - |

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Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 1/28/2025
Date Received: 1/28/2025
Date Analyzed: 1/29/2025
Date Reported: 1/29/2025
Project ID: 25002862


| Client Sample # | A-05 | | | | Out-1 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | | | | |
| Sample Volume (L) | 75 | | | | 150 | | | |
| Lab Sample # | 25002862-005 | | | | 25002862-007 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| Alternaria | - | - | - | - | 1 | 7 | <1 | - |
| ascospores | 2 | 27 | 3 | 1/1 | 5 | 33 | 4 | - |
| basidiospores | 6 | 80 | 10 | 1/1 | 16 | 107 | 14 | - |
| Chaetomium | - | - | - | - | 3 | 20 | 3 | - |
| Cladosporium | 49 | 653 | 83 | 1/1 | 66 | 440 | 57 | - |
| Epicoccum | - | - | - | - | 1 | 7 | <1 | - |
| hyphal elements | 1 | 13 | 2 | 1/3 | 6 | 40 | 5 | - |
| Penicillium/Aspergillus group | 1 | 13 | 2 | 1/5 | 10 | 67 | 9 | - |
| Smuts,Periconia,Myxomycetes | - | - | - | - | 4 | 27 | 3 | - |
| Spegazzinia | - | - | - | - | 1 | 7 | <1 | - |
| Unknown | - | - | - | - | 2 | 13 | 2 | - |
| | Debris Rating **3** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **7** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 59 | 787 | ~100% | 1/1 | 115 | 767 | ~100% | - |

| Client Sample # | A-06 | | | | Out-1 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | | | | |
| Sample Volume (L) | 75 | | | | 150 | | | |
| Lab Sample # | 25002862-006 | | | | 25002862-007 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| Alternaria | - | - | - | - | 1 | 7 | <1 | - |
| ascospores | - | - | - | - | 5 | 33 | 4 | - |
| basidiospores | 2 | 27 | 13 | 1/4 | 16 | 107 | 14 | - |
| Chaetomium | - | - | - | - | 3 | 20 | 3 | - |
| Cladosporium | 12 | 160 | 75 | 1/3 | 66 | 440 | 57 | - |
| Epicoccum | - | - | - | - | 1 | 7 | <1 | - |
| hyphal elements | 1 | 13 | 6 | 1/3 | 6 | 40 | 5 | - |
| Penicillium/Aspergillus group | 1 | 13 | 6 | 1/5 | 10 | 67 | 9 | - |
| Smuts,Periconia,Myxomycetes | - | - | - | - | 4 | 27 | 3 | - |
| Spegazzinia | - | - | - | - | 1 | 7 | <1 | - |
| Unknown | - | - | - | - | 2 | 13 | 2 | - |
| | Debris Rating **3** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **7** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 16 | 213 | ~100% | 1/4 | 115 | 767 | ~100% | - |

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Project: **47:11652-W:84 MVCS**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 1/28/2025
Date Received: 1/28/2025
Date Analyzed: 1/29/2025
Date Reported: 1/29/2025
Project ID: 25002862


| Client Sample # | Out-2 | | | | Out-1 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | | | | |
| Sample Volume (L) | 150 | | | | 150 | | | |
| Lab Sample # | 25002862-008 | | | | 25002862-007 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| Alternaria | 2 | 13 | 2 | 2/1 | 1 | 7 | <1 | - |
| ascospores | 12 | 80 | 12 | 2/1 | 5 | 33 | 4 | - |
| basidiospores | 20 | 133 | 20 | 1/1 | 16 | 107 | 14 | - |
| Chaetomium | - | - | - | - | 3 | 20 | 3 | - |
| Cladosporium | 40 | 267 | 40 | 1/2 | 66 | 440 | 57 | - |
| Epicoccum | - | - | - | - | 1 | 7 | <1 | - |
| hyphal elements | 3 | 20 | 3 | 1/2 | 6 | 40 | 5 | - |
| Penicillium/Aspergillus group | 13 | 87 | 13 | 1/1 | 10 | 67 | 9 | - |
| Smuts,Periconia,Myxomycetes | 6 | 40 | 6 | 2/1 | 4 | 27 | 3 | - |
| Spegazzinia | - | - | - | - | 1 | 7 | <1 | - |
| Unknown | 3 | 20 | 3 | 2/1 | 2 | 13 | 2 | - |
| | Debris Rating **3** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **7** spr/m$^3$ | | | | Analytical Sensitivity: **7** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 99 | 660 | ~100% | 1/1 | 115 | 767 | ~100% | - |

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Project: **47:11652-W:84 MVCS**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 1/28/2025
Date Received: 1/28/2025
Date Analyzed: 1/29/2025
Date Reported: 1/29/2025
Project ID: 25002862


## Footnotes and Additional Report Information

### Debris Rating Table

| | | |
|---|---|---|
| 1 | Minimal (<5%) particulate present | Reported values are minimally affected by particulate load. |
| 2 | 5% to 25% of the trace occluded with particulate | Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded. |
| 3 | 26% to 75% of the trace occluded with particulate | Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded. |
| 4 | 75% to 90% of the trace occluded with particulate | Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded. |
| 5 | Greater than 90% of the trace occluded with particulate | Quantification not possible due to large negative bias. A new sample should be collected at a shorter time interval or other measures taken to reduce particulate load. |

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2. Ascospores are sexually produced fungal spores formed within an ascus. An ascus is a sac-like structure designed to discharge the ascospores into the environment, e.g. Ascobolus.

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4. The colorless group contains colorless spores which were unidentifiable to a specific genus. Examples of this group include Acremonium, Aphanocladium, Beauveria, Chrysosporium, Engyodontium microconidia, yeast, some arthrospores, as well as many others.

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*7. The positive-hole correction factor is a statistical tool which calculates a probable count from the raw count, taking into consideration that multiple particles can impact on the same hole; for this reason the sum of the calculated counts may be less than the positive hole corrected total.

8. Due to rounding totals may not equal 100%.

9. Analytical Sensitivity for each spores is different for Non-viable sample when the spores are read at different percentage. Analytical Sensitivity is calculated as spr/m $^3$ divided by raw count. spr/m $^3$ = raw counts x (100/ % read) x (1000/Sample volume). If Analytical Sensitivity is 13 spr/m $^3$ at 100% read, Analytical Sensitivity at 50% read would be 27 spr/m $^3$, which is 2 times higher. Analytical Sensitivity provided on the report is based on an assumed 100% of the trace being analyzed.

*10. Minimum Reporting Limits (MRL) for BULKS, DUSTS, SWABS, and WATER samples are a calculation based on the sample size and the dilution plate on which the organism was counted. Results are a compilation of counts taken from multiple dilutions and multiple medias. This means that every genus of fungi or bacteria recovered can be counted on the plate on which it is best represented.

*11. If the final quantitative result is corrected for contamination based on the blank, the blank correction is stated in the sample comments section of the report.

12. The results in this report are related to this project and these samples only as received.

13. For samples with an air volume of < 100L, the number of significant figures in the result should be considered (2) two. For samples with air volumes between 100-999L, the number of significant figures in the result should considered (3) three. For example, a sample with a result of 55,443 spr/m$^3$ from a 75L sample using significant figures should be considered 55,000. The same result of 55,443 from a 150L sample using significant figures should be considered 55,400 spr/m $^3$.

14. If the In/Out ratio is greater than 100 times it is indicated >100/1, rather than showing the real value.

**Terminology Used in Direct Exam Reporting**

**Conidiophores are a type of modified hyphae from which spores are born. When seen on a surface sample in moderate to numerous concentrations they may be indicative of fungal growth.**

***: Applicable to the reported data for culture testing**

Dr. Michael Berg
Technical Director

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**Certificate of Analysis**
AIHA LAP EMLAP# 102977

ECS Mid Atlantic, LLC
14026 Thunderbolt Place
Chantilly VA , 20151
Attn: Bobby Rhett
Project: **47 - 11652 - W MVCS**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 2/10/2025
Date Received: 2/11/2025
Date Analyzed: 2/11/2025
Date Reported: 2/12/2025
Project ID: 25004480


1054 Spore Trap Analysis SOP 3.8: 24hr TAT

| Client Sample # | A - 01 | | | | Out 2 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | 118 | | | | Outdoors | | | |
| Sample Volume (L) | 75 | | | | 150 | | | |
| Lab Sample # | 25004480-001 | | | | 25004480-007 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| ascospores | - | - | - | - | 1 | 7 | 3 | - |
| basidiospores | 19 | 253 | 35 | 2/1 | 20 | 133 | 56 | - |
| Cladosporium | 8 | 107 | 15 | 3/1 | 5 | 33 | 14 | - |
| Clear brown | 10 | 133 | 19 | - | - | - | - | - |
| Colorless | 2 | 27 | 4 | - | - | - | - | - |
| hyphal elements | 9 | 120 | 17 | 9/1 | 2 | 13 | 6 | - |
| Penicillium/Aspergillus group | 2 | 27 | 4 | 1/2 | 7 | 47 | 19 | - |
| Smuts,Periconia,Myxomycetes | 4 | 53 | 7 | 8/1 | 1 | 7 | 3 | - |
| | Debris Rating **0** | | | | Debris Rating **0** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **7** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 54 | 720 | ~100% | 3/1 | 36 | 240 | ~100% | - |

| Client Sample # | A - 02 | | | | Out 2 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | 119 | | | | Outdoors | | | |
| Sample Volume (L) | 75 | | | | 150 | | | |
| Lab Sample # | 25004480-002 | | | | 25004480-007 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| ascospores | - | - | - | - | 1 | 7 | 3 | - |
| basidiospores | 10 | 133 | 43 | 1/1 | 20 | 133 | 56 | - |
| Cladosporium | 6 | 80 | 26 | 2/1 | 5 | 33 | 14 | - |
| hyphal elements | 3 | 40 | 13 | 3/1 | 2 | 13 | 6 | - |
| Penicillium/Aspergillus group | 3 | 40 | 13 | 1/1 | 7 | 47 | 19 | - |
| Smuts,Periconia,Myxomycetes | 1 | 13 | 4 | 2/1 | 1 | 7 | 3 | - |
| | Debris Rating **3** | | | | Debris Rating **0** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **7** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 23 | 307 | ~100% | 1/1 | 36 | 240 | ~100% | - |

| Client Sample # | A - 03 | | | | Out 2 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | Hallway | | | | Outdoors | | | |
| Sample Volume (L) | 75 | | | | 150 | | | |
| Lab Sample # | 25004480-003 | | | | 25004480-007 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| ascospores | 1 | 13 | 10 | 2/1 | 1 | 7 | 3 | - |
| basidiospores | 4 | 53 | 40 | 1/3 | 20 | 133 | 56 | - |
| Cladosporium | 1 | 13 | 10 | 1/3 | 5 | 33 | 14 | - |
| hyphal elements | 1 | 13 | 10 | 1/1 | 2 | 13 | 6 | - |
| Penicillium/Aspergillus group | 2 | 27 | 20 | 1/2 | 7 | 47 | 19 | - |
| Smuts,Periconia,Myxomycetes | 1 | 13 | 10 | 2/1 | 1 | 7 | 3 | - |
| | Debris Rating **3** | | | | Debris Rating **0** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **7** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 10 | 133 | ~100% | 1/2 | 36 | 240 | ~100% | - |

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ECS Mid Atlantic, LLC
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Attn: Bobby Rhett
Project: **47 - 11652 - W MVCS**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 2/10/2025
Date Received: 2/11/2025
Date Analyzed: 2/11/2025
Date Reported: 2/12/2025
Project ID: 25004480


| Client Sample # | A - 04 | | | | Out 2 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | 123 | | | | Outdoors | | | |
| Sample Volume (L) | 75 | | | | 150 | | | |
| Lab Sample # | 25004480-004 | | | | 25004480-007 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| ascospores | 2 | 27 | 29 | 4/1 | 1 | 7 | 3 | - |
| basidiospores | 3 | 40 | 43 | 1/3 | 20 | 133 | 56 | - |
| Cladosporium | 1 | 13 | 14 | 1/3 | 5 | 33 | 14 | - |
| hyphal elements | 1 | 13 | 14 | 1/1 | 2 | 13 | 6 | - |
| Penicillium/Aspergillus group | - | - | - | - | 7 | 47 | 19 | - |
| Smuts,Periconia,Myxomycetes | - | - | - | - | 1 | 7 | 3 | - |
| | Debris Rating **3** | | | | Debris Rating **0** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **7** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 7 | 93 | ~100% | 1/3 | 36 | 240 | ~100% | - |

| Client Sample # | A - 05 | | | | Out 2 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | 122 | | | | Outdoors | | | |
| Sample Volume (L) | 75 | | | | 150 | | | |
| Lab Sample # | 25004480-005 | | | | 25004480-007 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| ascospores | 1 | 13 | 8 | 2/1 | 1 | 7 | 3 | - |
| basidiospores | 4 | 53 | 33 | 1/3 | 20 | 133 | 56 | - |
| Cladosporium | 7 | 93 | 58 | 3/1 | 5 | 33 | 14 | - |
| hyphal elements | - | - | - | - | 2 | 13 | 6 | - |
| Penicillium/Aspergillus group | - | - | - | - | 7 | 47 | 19 | - |
| Smuts,Periconia,Myxomycetes | - | - | - | - | 1 | 7 | 3 | - |
| | Debris Rating **2** | | | | Debris Rating **0** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **7** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 12 | 160 | ~100% | 1/2 | 36 | 240 | ~100% | - |

| Client Sample # | Out 1 | | | | Out 2 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | Outdoors | | | | Outdoors | | | |
| Sample Volume (L) | 150 | | | | 150 | | | |
| Lab Sample # | 25004480-006 | | | | 25004480-007 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| ascospores | 1 | 7 | 3 | 1/1 | 1 | 7 | 3 | - |
| basidiospores | 15 | 100 | 52 | 1/1 | 20 | 133 | 56 | - |
| Cladosporium | - | - | - | - | 5 | 33 | 14 | - |
| Clear brown | 5 | 33 | 17 | - | - | - | - | - |
| hyphal elements | 2 | 13 | 7 | 1/1 | 2 | 13 | 6 | - |
| Penicillium/Aspergillus group | 6 | 40 | 21 | 1/1 | 7 | 47 | 19 | - |
| Smuts,Periconia,Myxomycetes | - | - | - | - | 1 | 7 | 3 | - |
| | Debris Rating **0** | | | | Debris Rating **0** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **7** spr/m$^3$ | | | | Analytical Sensitivity: **7** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 29 | 193 | ~100% | 1/1 | 36 | 240 | ~100% | - |

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Project: **47 - 11652 - W MVCS**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 2/10/2025
Date Received: 2/11/2025
Date Analyzed: 2/11/2025
Date Reported: 2/12/2025
Project ID: 25004480


## Footnotes and Additional Report Information

### Debris Rating Table

| | | |
|---|---|---|
| 1 | Minimal (<5%) particulate present | Reported values are minimally affected by particulate load. |
| 2 | 5% to 25% of the trace occluded with particulate | Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded. |
| 3 | 26% to 75% of the trace occluded with particulate | Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded. |
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1. Penicillium/Aspergillus group spores are characterized by their small size, round to ovoid shape, being unicellular, and usually colorless to lightly pigmented. There are numerous genera of fungi whose spore morphology is similar to that of the Penicillium/Aspergillus type. Two common examples would be Paecilomyces and Acremonium. Although the majority of spores placed in this group are Penicillium, Aspergillus, or a combination of both. Keep in mind that these are not the only two possibilities.

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5. Hyphae are the vegetative mode of fungi. Hyphal elements are fragments of individual Hyphae. They can break apart and become airborne much like spores and are potentially allergenic. A mass of hyphal elements is termed the mycelium. Hyphae in high concentration may be indicative of colonization.

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9. Analytical Sensitivity for each spores is different for Non-viable sample when the spores are read at different percentage. Analytical Sensitivity is calculated as spr/m $^3$ divided by raw count. spr/m $^3$ = raw counts x (100/ % read) x (1000/Sample volume). If Analytical Sensitivity is 13 spr/m $^3$ at 100% read, Analytical Sensitivity at 50% read would be 27 spr/m $^3$, which is 2 times higher. Analytical Sensitivity provided on the report is based on an assumed 100% of the trace being analyzed.

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***: Applicable to the reported data for culture testing**

Dr. Michael Berg
Technical Director

# Appendix IV: Mold Reference and Guidance Documents

# MOLD REFERENCE DOCUMENTS AND GUIDANCE

## Standards and Publications

Mold Remediation in Schools and Commercial Buildings, EPA, EPA 402-K-01-001, September 2008

A Brief Guide to Mold in the Workplace, Occupational Safety Health Administration (OSHA), SHIB 03-10-10, updated 11-08-13

ANSI/IICRC S520-2015 Standard and Reference Guide for Professional Mold Remediation, Institute of Inspection, Cleaning, and Restoration Certification, Third Edition

ANSI/IICRC S500-2021 Standard and Reference Guide for Professional Water Damage Restoration, Institute of Inspection, Cleaning, and Restoration Certification, Fifth Edition

Bioaerosols: Assessment and Control, American Conference of Governmental Industrial Hygienists, 1999.

Building Air Quality: A Guide for Building Owners and Facility Managers, National Institute for Occupational Safety and Health (NIOSH) and Environmental Protection Agency (EPA) EPA 402F-91-102, December 1991

Mold Moisture and Your Home, EPA, EPA-402-K-02-003, September 2012

WHO Guidelines for Indoor Air Quality: Dampness and Mould, World Health Organization (WHO), 2009

Guidelines on Assessment and Remediation of Fungi in Indoor Environments, New York City Department of Health and Mental Hygiene, November 2008.

Damp Buildings, Human Health, and HVAC Design, Report of the ASHRAE Multidisciplinary Task Group: Damp Buildings, American Society of Heating, Refrigerating, and Air Conditioning Engineers, 2020

## Websites

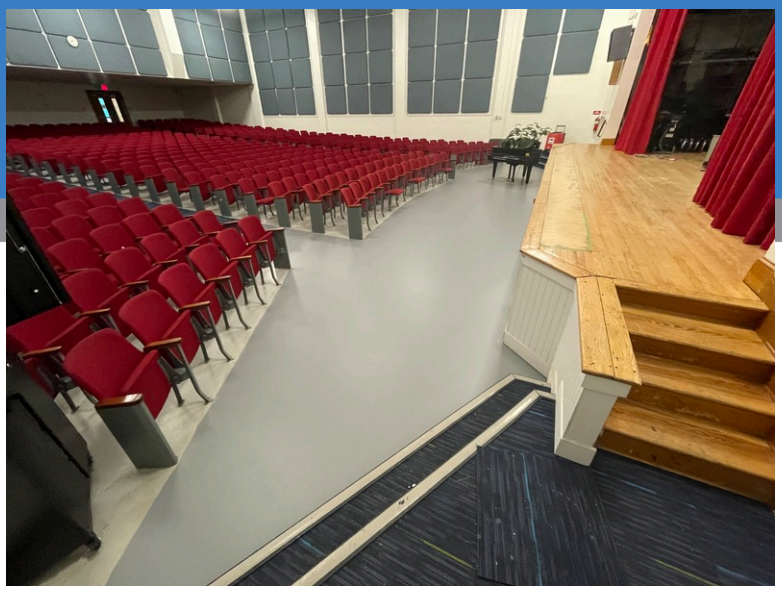
EPA – Mold Resources, https://www.epa.gov/mold

Centers for Disease Control and Prevention (CDC), https://www.cdc.gov/mold/faqs.htm

Department of Energy and the Environment (DOEE), Mold Assessment and Remediation Licensure Regulations https://doee.dc.gov/service/mold-professional-licensing

Virginia Department of Health, Environmental Health, Public Health Toxicology, Mold https://www.vdh.virginia.gov/environmental-health/public-health-toxicology/mold/

# MOLD AND MOISTURE ASSESSMENT



MOUNT VERNON COMMUNITY SCHOOL

2601 COMMONWEALTH AVE
ALEXANDRIA, VIRGINIA 22305

ECS PROJECT NO. 47:11652-W

FOR: ALEXANDRIA CITY PUBLIC SCHOOLS

Ms. Ayanna Harris
Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, Virginia 22314

ECS Project No. 47:11652-W

Reference: Mold and Moisture Assessment, Mount Vernon Community School, 2601 Commonwealth Ave, Alexandria, Virginia

Dear Ms. Harris:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with the results of the Mold and Moisture Assessment performed at Mount Vernon Community School located at 2601 Commonwealth Ave in Alexandria, Virginia. This report summarizes our observations, analytical results, findings, and recommendations related to the work performed. The work described in this report was performed by ECS in general accordance with the Scope of Services described in ECS Term Contract and the terms and conditions of the agreement authorizing those services.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC

Bobby L. Rhett
Environmental Project Manager
brhett@ecslimited.com
703-471-8400
Signature for Unknown User
Unknown User

Christopher J. Chapman, CIH
Director of Industrial Hygiene
cchapman@ecslimited.com
703-471-8400

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Appendix I: Site Photographs

Appendix II: Air Sample Results

Appendix III: Mold Reference and Guidance Documents

## 1.0 PROJECT DESCRIPTION

Mount Vernon Community School is located at 2601 Commonwealth Ave in Alexandria, Virginia. The school was reportedly originally constructed in 1923, with various renovations throughout the building's operational history. ECS understands that the building experienced water infiltration from the southwest pipe riser in the Auditorium. The leak happened while the building was unoccupied, and water had been flowing for a couple days. Concerns were raised about mold growth underneath carpeting and behind building materials that the water had seeped into.

Alexandria City Public Schools has requested ECS to conduct a Mold and Moisture Assessment to evaluate these concerns.

## 2.0 PURPOSE

The purpose of the Mold and Moisture Assessment was to conduct visual observations and sampling for mold and moisture to identify selective amplification of mold within sampled areas of the building auditorium.

## 3.0 METHODOLOGY

ECS performed the authorized Scope of Services in general accordance with our proposal, standard industry practice(s) and methods specified by guidelines and industry standards for the identification of mold and moisture-affected building materials.

### 3.1 Mold and Moisture

The assessment included a non-invasive visual and olfactory survey for evidence of mold and moisture within the subject property. The assessments focused on the client-selected area indicated by Alexandria City Public Schools. The ECS site personnel observed readily accessible areas and selected building materials to evaluate visible suspect fungal growth and/or moisture-impacted materials. A reasonable effort was made to identify water and mold-impacted areas; however, this does not imply a guarantee that all possible reservoirs of mold were identified because mold or water-impacted building materials may be hidden by walls, flooring, partitions, etc.

Ambient temperature, relative humidity, and dewpoint temperature were measured during the survey using a thermo-hygrometer. The purpose of these measurements was to identify elevated interior humidity levels, which could potentially support indoor mold growth or indicate ongoing moisture problems.

ECS conducted a screening of selected areas using an infrared (IR) thermal imaging camera to assess thermal characteristics of building materials that may indicate potential moisture intrusion concerns. Suspected moisture-affected areas identified by the IR screening were subsequently tested using a moisture meter.

Selected potentially moisture-affected materials were measured using a Delmhorst Model BD 2100 moisture meter to evaluate moisture content. Based on the Delmhorst moisture meter settings, moisture levels greater than 1.0% are considered elevated for drywall or other gypsum materials,

and greater than 17% is elevated for wood-based materials. This was not a comprehensive moisture mapping survey of all building materials within the areas surveyed but rather a non-invasive survey of moisture in select areas of specific building materials which may be impacted by moisture.

Fungal spore air samples were collected by means of a high volume pump and Air-O-Cell® cassettes. Samples were transported to Aerobiology located in Sterling, Virginia for analysis. Aerobiology is accredited by the Environmental Microbiology Laboratory Accreditation Program, administered by the American Industrial Hygiene Association. Air samples were reported to the genus or group level according to the laboratory standard quantification procedures.

It is important to note that fungal spore samples represent a snapshot in time of a constantly changing microbiome. Environmental conditions such as temperature and humidity may influence sample results. The goal of the sampling performed was not to establish precise numerical concentrations over time, but rather to generally identify the dominant fungi in the sampled locations and the general significance of their relative concentrations as compared to outdoor concentrations or unaffected locations.

## 4.0 RESULTS

The following is a summary of laboratory results, measurements, findings and observations.

### 4.1 Mold and Moisture

On **April 14, 2025**, ECS inspectors Bobby Rhett and William Sargent performed a preliminary visual and moisture assessment of the auditorium. Below are a list of observations from that day:

- The north wall plaster was still wet from the stage steps to the third column back. The vinyl base had only been removed to the second column, and behind the base was saturated from the second to the third column from the stage. The wall was wet near the stage to approximately 2 feet high, tapering to the floor at the third column.
- The south wall plaster was wet from the steps near the entrance door and stage to the first row of seats. No vinyl base had been removed.
- The glue-down carpet tile had not been lifted from the floor. The carpet was wet from the stage to approximately the third row of seats.
- Relative humidity in the auditorium was around 29-30%, indicating that the moisture was not evaporating from the damp surfaces faster than the dehumidifiers were removing it.
- The auditorium stage was constructed on top of carpet tile. Elevated moisture content was not identified in the wood of the stage base along the floor.

It was determined that carpeting was to be removed from the base of the auditorium in front of the stage, as well as approximately 10 feet up each aisle. It was also recommended that fans were to be placed to quicken the drying process, and that the space under the stage be accessible to determine the extent of water infiltration.

On **May 8, 2025**, the first follow-up visit was conducted by Bobby Rhett to assess remediation progress. Below are a list of observations from that day:

- Most of the materials tested that had been impacted by moisture had been addressed, including cove base and carpeting at the base of the auditorium facing the stage and up 10 feet into the aisles. The concrete floor and plaster wall still had elevated moisture content.
- Humidity appeared to be controlled by the HVAC units and dehumidifiers. The teachers in these rooms all indicated recent improvement in the odors and overall air quality conditions in these rooms.
- In the hallway outside Classroom 120, ECS noted a musty odor. This appeared to be related to a floor machine that was charging in this location, although the area rugs could not be ruled out as a possible odor source. No odors were noted in classrooms 118-122.

ECS recommended that small (~2 inch diameter) penetrations were to be made in the base of the plaster wall at approximately three foot intervals, extending from the stage to the third column from the stage. This was to accelerate drying of the plaster wall, and to permit observation of the wall cavity to assist in determining the source of moisture. It was also determined that concrete flooring and plaster wall were unlikely to cause mold to develop as long as drying efforts continued.

On **May 20, 2025**, the next follow-up visit was conducted by Bobby Rhett and William Sargent to assess ongoing remediation progress. Below are a list of observations from that day:

- The humidity levels appeared to be well controlled at an average 35% relative humidity, although there was still liquid water on several areas of the floor. ECS did not observe musty odors or evidence of mold.
- ECS observed that several small (approximately 1/4 to 1/2 inch) holes had been made in the plaster below the level of the cove base, presumably to facilitate drying.

ECS was informed that the pipe between the auditorium and the library could be a possible source of the water infiltration. A camera survey and/or flood testing of this pipe was recommended to identify whether or not it was clogged and whether it was related to the Auditorium flooding. It was also recommended that larger penetrations were to be made in the plaster wall (1-1/2 to 2 inch) to allow for visual or camera observations and air movement.

On **May 22, 2025**, a third follow-up visit was conducted by Bobby Rhett to evaluate concerns and view the space underneath the stage. Below are a list of observations from that day:

- ECS did not observe evidence of new moisture following the recent rain events. Moisture measurements indicated that the plaster on the side walls remained wet, but was slowly drying.
- The relative humidity in the auditorium was consistent with the rest of the school and below 60%.
- The construction of the south wall of the auditorium was checked by punching a hole through the plaster. The plaster was applied directly to brick with no wall cavity.

- A black waterproofing was observed on the brick, which appeared to be homogeneous with other black waterproofing at the school that was tested and found to contain asbestos. The suspect asbestos waterproofing was not disturbed.
- The construction of the stage platform was checked by both lifting the wood platform and penetrating through the composite façade. The stage façade was composite (plastic) trim over plaster over concrete, with no wall cavity. The base of the plaster contained elevated moisture content. The stage platform was concrete with wood framing supporting the flooring. The concrete and wood contained low moisture content (<9% wood moisture equivalent), and the air in the framing did not contain elevated relative humidity. ECS did not observe evidence of mold or moisture affecting the platform.
- ECS did not observe odors or other evidence of microbial growth in the auditorium.

On **May 27, 2025**, the final follow-up visit was conducted by William Sargent to collect spore-trap samples and assess remediation progress. A total of six (6) air samples were collected. Below are a list of observations from that day:

- Newly painted floors were generally dry, with a small leak on the dehumidifier reservoir. ECS observed a remediation worker remove the reservoir at around 9:30 AM.
- Plaster wall base coat near the leak site was observed to be exposed and in poor condition, though moisture levels in these walls had significantly decreased compared to the last site visit. Slight bacterial growth was visible on the exposed plaster base coat, but mold growth was not observed at this time.
- Moisture readings were low on auditorium stage stair carpeting where the dehumidifier was placed.

Below is a summary of the sampling data collected as part of this evaluation.

### 4.1.1 Spore-Trap Air Samples

Fungal spore-trap air samples were collected from the auditorium and the adjacent hallways. Representative exterior samples were collected for comparison. The following table summarizes the results of sample analysis reported in spore counts per cubic meter of air.

**Spore-Trap Sample Results**

| Sample Number | Sample Location | Total Fungal Spore Concentration (count/cubic meter) |
|---|---|---|
| 01 | Outdoors - Front Entrance | 13,376 |
| 02 | Hallway - North | 467 |
| 03 | Auditorium - Stage | 67 |

| Sample Number | Sample Location | Total Fungal Spore Concentration (count/cubic meter) |
|---|---|---|
| 04 | Auditorium - North Aisle | 93 |
| 05 | Hallway - East | 133 |
| 06 | Outdoors - Front Entrance | 11,959 |

The laboratory results indicated that indoor fungal spore concentrations were less than the concentrations identified outdoors. The spore types identified indoors were generally consistent with the outdoor spore types, and lower in concentration indoors than outdoors. These results suggest that the source of the indoor fungal spores was likely from the outdoors. Overall, the results do not indicate that indoor fungal sources were likely impacting the indoor air.

There are currently no accepted regulatory standards or guidelines with respect to acceptable fungal levels inside buildings. It is important to note however that spore trap measurements can fluctuate rapidly and the readings reported should not be used as a definitive indication that mold and or health hazards related to mold are present or absent.

### 4.1.2 Temperature, Humidity, and Dew Point

The key to understanding humidity is that warmer air can contain greater quantities of moisture than cooler air. Relative humidity is defined as the ratio of the amount of moisture contained in the air to the maximum amount of moisture the air can contain at that temperature. The dew point temperature is defined as the temperature at which the amount of moisture in the air reaches saturation. The dew point is a more accurate indication of the actual amount of moisture in the air because it is independent of temperature.

The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) has published several standards for ventilated buildings. *ANSI/ASHRAE Standard 62.1-2022, Ventilation for Acceptable Air Quality,* specifies that indoor humidity should be maintained below 60 degrees Fahrenheit (°F) dew point temperature. The EPA recommends that indoor relative humidity be maintained below 60%, ideally 30-50%, to prevent mold growth. The *OSHA Technical Manual,* Section III, Chapter 2 for Indoor Air Quality Investigations specifies a thermal comfort range of 68°F to 76°F and a relative humidity range of 20% to 60% to maximize comfort for all occupants.

The following table summarizes the indoor air temperature and relative humidity readings collected by ECS during the survey.

**Temperature and Relative Humidity**

| Location | Temperature (°F) | Relative Humidity (%) |
|---|---|---|
| **Site Visit: April 14, 2025** | | |

| Location | Temperature (°F) | Relative Humidity (%) |
|---|---|---|
| Auditorium - Front Seats | 74.3 | 32.2 |
| Room 106 | 76.1 | 31.0 |
| Auditorium - Stage Near Leak | 72.3 | 30.8 |
| **Site Visit: May 20, 2025** | | |
| Auditorium - Stage | 71.9 | 30.9 |
| Auditorium - Stage Near Leak | 69.6 | 34.2 |
| Auditorium - Front Seats | 69.8 | 34.3 |
| **Site Visit: May 22, 2025** | | |
| Auditorium - Stage | 69.4 | 59.7 |
| Auditorium - Side Entrance | 69.6 | 58.2 |
| Hallway - North of Auditorium | 69.9 | 60.3 |
| Hallway - South of Auditorium | 70.7 | 59.8 |
| Auditorium - Underneath Stage | 70.8 | 57.1 |
| **Site Visit: May 27, 2025** | | |
| Outdoors - Front Entrance | 66.3 | 51.4 |
| Hallway - North of Auditorium | 71.4 | 44.8 |
| Auditorium - Stage near leak | 70.7 | 44.8 |
| Auditorium - North Aisle middle | 69.8 | 49.7 |
| Hallway - East of Auditorium | 68.3 | 51.5 |
| Auditorium - North Aisle front | 69.0 | 46.7 |
| Auditorium - South Aisle front | 69.2 | 45.9 |
| Auditorium - Stage near exit | 68.9 | 49.5 |
| Auditorium - Back | 69.2 | 48.9 |

| Location | Temperature (°F) | Relative Humidity (%) |
|---|---|---|
| Outdoors - Front Entrance | 70.3 | 49.5 |

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on our understanding of the purpose of the Mold and Moisture Assessment, the results of laboratory analysis, and our findings and observations, ECS presents the following recommendations.

ECS was not requested to assess the potential presence of hazardous materials, and ECS assumes no responsibility for actions taken to address mold or moisture that inadvertently disturb hazardous materials. ECS is unaware of the presence of possible asbestos containing materials or lead based paint (LBP). Prior to remediation work, if not performed already, an asbestos/LBP survey is recommended for the building. Pending the results of this survey, disclosures and/or abatement should be made with regard to hazardous materials prior to mold/water damage material removal efforts.

### Mold and Moisture

The auditorium wall construction appeared to be plaster applied to structural brick wall (or brick over block walls) and poured concrete. In this construction there is no batt insulation. The Auditorium stage is poured concrete with plaster directly applied to the face (now covered with plastic trim), and the only wood framing is at the top of the platform. Drywall was not found other than at the stage side walls, the hallway entry door walls and the ceiling in the back, which are not in the affected area. With the removal of the carpet, the only remaining materials being affected at the extent of the water's observable reach was plaster and masonry and the vinyl cove base.

ECS recommends the following actions during occupied use:

- The floor should be checked for water prior to use.
- The extent of any water observed should be confirmed to be limited to the painted floor area, not beyond the north (side hallway) wall and not beyond the first row of seats (or first column)
- Any water should be promptly removed by mopping and/or wet vacuums.
- Humidity should be controlled below 60%, as verified by placement of a hygrometer (humidity meter or weather station).
- Suplemental dehumidification should be maintained. If a dehumidifier is removed, placement of a one or more dehumidifiers with an internal pump and a water capture system such as a 40 gallon or larger bucket or basin on a rolling dolly is recommended. The water basin should be checked/emptied at least three (3) times per week, and more often if needed following a water event.

Additional assessment should be sought if the following occurs:

- if flood water exceeds the amount previously observed (beyond the first column)
- If lingering musty odors are observed
- If relative humidity exceeds 65% for longer than 24-48 hours.

- If suspected visible mold or other concerns are observed.

## 6.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

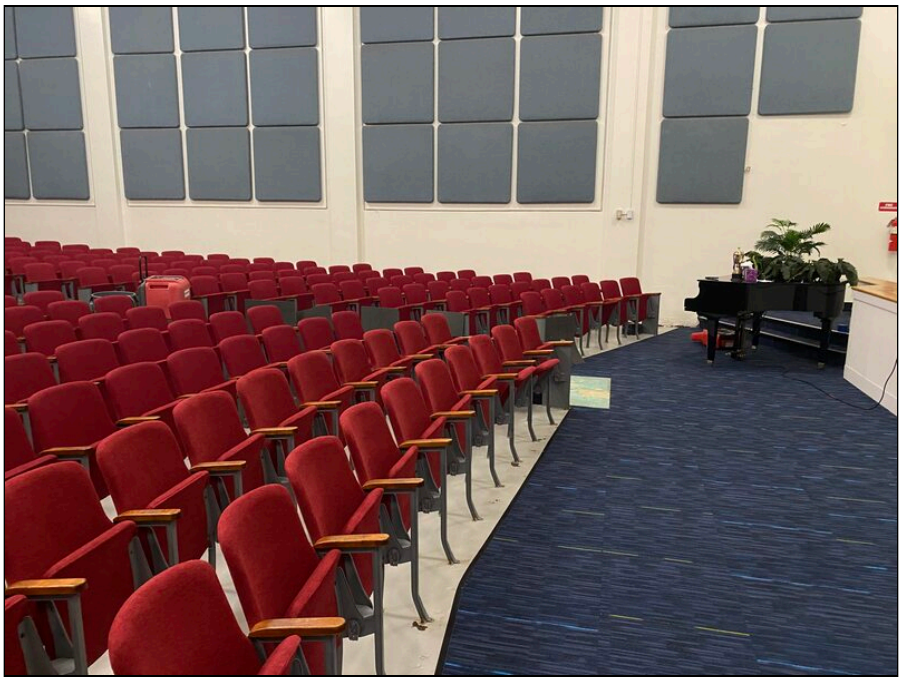
This survey is not intended to represent an exhaustive research of every potential hazard or condition that may exist, nor does it claim to represent indoor conditions or events that arise after the survey. This report has been prepared in accordance with generally accepted environmental practices. Our conclusions and findings are based, in part, upon information provided to us by others and our site observations. We have not verified the completeness or accuracy of the information provided by others. The scope of services performed was limited to those requested by the Client and does not constitute a full microbial assessment of the site or a comprehensive moisture survey of the site. The data provided in this study is only indicative of conditions sampled at the immediate time of the study.

This report does not warrant against future operations or conditions, nor does it warrant against extant, or future, conditions of a type or at a location not investigated. Because of the nature of this type of work and the difficulties involved in conducting remediation work, ECS cannot guarantee that the methods or recommendations described in this report will eliminate all potential indoor air quality issues. Since performance of the remediation work is also beyond ECS scope of services, ECS also cannot be held responsible for the execution of the remediation work. The reported microbial levels are only reflective of conditions at the time of this test and that microbial populations can vary over time, depending upon a number of conditions, including environmental factors (i.e., temperature and relative humidity). The work performed in conjunction with this assessment and the data developed is intended as a description of available information at the dates and locations given.

The observations, conclusions, and recommendations pertaining to environmental conditions at the subject site are necessarily limited to conditions observed, and/or materials reviewed at the time this study was undertaken. No warranty, expressed or implied, is made with regard to the conclusions and recommendations presented within this report. This report is provided for the exclusive use of the client. This report is not intended to be used or relied upon in connection with other projects or by other unidentified third parties without the written consent of ECS and the client.

Our recommendations are in part based on federal, state, and local regulations and guidelines. ECS does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to any local, state, or federal public agencies, any conditions at the site that may present a potential danger to public health, safety, or the environment. Under this scope of services, ECS assumes no responsibility regarding any response actions initiated as a result of these findings. General compliance with regulations and response actions are the sole responsibility of the Client and should be conducted in accordance with local, state, and/or federal requirements.

# Appendix I: Site Photographs



1 - View of Auditorium on April 14, 2025



2 - Pipe between Auditorium and Library (4.14.25)



3 - Auditorium carpet square removed in aisle (4.14.25)



4 - Water damage on south wall at leak (4.14.25)



5 - Water damage continuing up auditorium staircase at south wall (4.14.25)



6 - Water damage on south wall at leak (5.20.25)



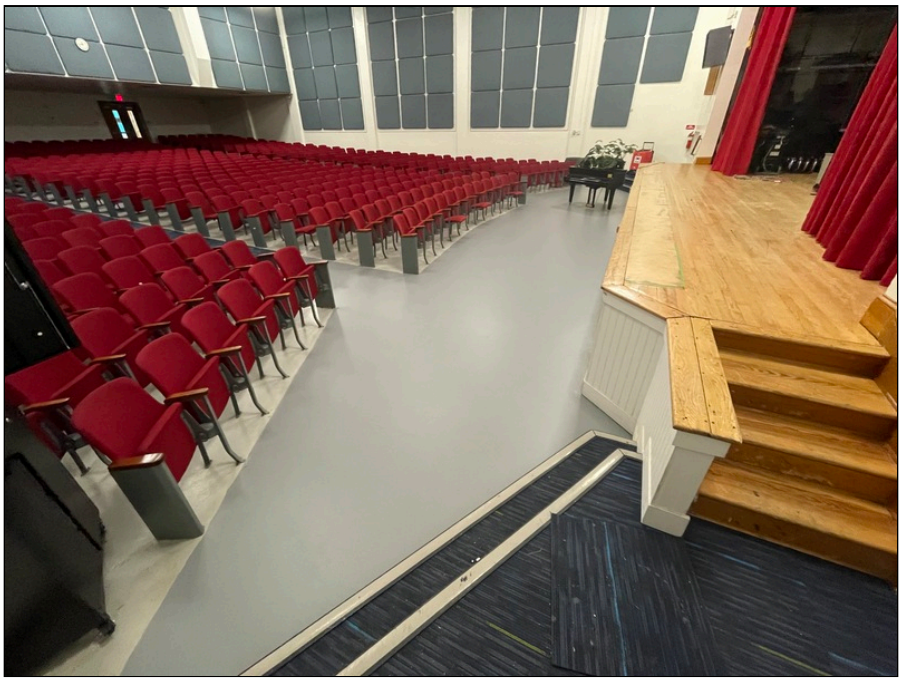
7 - Water damage on south wall at leak (5.20.25)



8 - View underneath auditorium stage (5.22.25)



9 - Exploratory breach into plaster at point of leak (5.22.25)



10 - View of Auditorium post-remediation (5.27.25)

# Appendix II: Air Sample Results

Mount Vernon Community School Mold Assessment
2601 Commonwealth Avenue, Alexandria, Virginia 22305
ECS Project No. 47:11652-W
Survey Date: May 27, 2025

## Fungal Spore Trap Air Sample Results

| Sample Number | Sample Location | Alternaria | Ascospores | Basidiospores | Cladosporium | Hyphae / Hyphal fragments | Penicillium/ Aspergillus | Pyricularia | Smuts/Periconia/ Myxomycetes | Unknown/Other | Total* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 02 | Hallway - North | 13 | 27 | 133 | 27 | 107 | 13 | | | 147 | 467 |
| 03 | Auditorium - Stage | | | 67 | | | | | | | 67 |
| 04 | Auditorium - North Aisle | | | 80 | 13 | | | | | | 93 |
| 05 | Hallway - East | | 13 | 67 | 40 | | | | 13 | | 133 |
| 01 | Outdoors - Front | 13 | 1,707 | 11,093 | 333 | 13 | 27 | | 120 | 70 | 13,376 |
| 06 | Outdoors - Front | 13 | 1,280 | 9,813 | 533 | 27 | 80 | | 120 | 93 | 11,959 |

All results are in spores per cubic meter (spores/m3)
Blank = None detected
*Note: Total counts may not match laboratory reports due to rounding.

# Appendix III: Mold Reference and Guidance Documents

# MOLD REFERENCE DOCUMENTS AND GUIDANCE

## Standards and Publications

Mold Remediation in Schools and Commercial Buildings, EPA, EPA 402-K-01-001, September 2008

A Brief Guide to Mold in the Workplace, Occupational Safety Health Administration (OSHA), SHIB 03-10-10, updated 11-08-13

ANSI/IICRC S520-2015 Standard and Reference Guide for Professional Mold Remediation, Institute of Inspection, Cleaning, and Restoration Certification, Third Edition

ANSI/IICRC S500-2021 Standard and Reference Guide for Professional Water Damage Restoration, Institute of Inspection, Cleaning, and Restoration Certification, Fifth Edition

Bioaerosols: Assessment and Control, American Conference of Governmental Industrial Hygienists, 1999.

Building Air Quality: A Guide for Building Owners and Facility Managers, National Institute for Occupational Safety and Health (NIOSH) and Environmental Protection Agency (EPA) EPA 402F-91-102, December 1991

Mold Moisture and Your Home, EPA, EPA-402-K-02-003, September 2012

WHO Guidelines for Indoor Air Quality: Dampness and Mould, World Health Organization (WHO), 2009

Guidelines on Assessment and Remediation of Fungi in Indoor Environments, New York City Department of Health and Mental Hygiene, November 2008.

Damp Buildings, Human Health, and HVAC Design, Report of the ASHRAE Multidisciplinary Task Group: Damp Buildings, American Society of Heating, Refrigerating, and Air Conditioning Engineers, 2020

## Websites

EPA – Mold Resources, https://www.epa.gov/mold

Centers for Disease Control and Prevention (CDC), https://www.cdc.gov/mold/faqs.htm

Department of Energy and the Environment (DOEE), Mold Assessment and Remediation Licensure Regulations https://doee.dc.gov/service/mold-professional-licensing

Virginia Department of Health, Environmental Health, Public Health Toxicology, Mold https://www.vdh.virginia.gov/environmental-health/public-health-toxicology/mold/

# Appendix IV: Mount Vernon Community School Classroom 214 Lab Report

**Certificate of Analysis**
AIHA LAP EMLAP# 102977

Building Sciences
43760 Trade Center Place, Suite 100
Sterling , VA 20166
8776489150

ECS Mid Atlantic, LLC
14026 Thunderbolt Place
Chantilly VA , 20151
Attn: Bobby Rhett
Project: **47:11652-W:84 MVCS 213**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 2/21/2025
Date Received: 2/24/2025
Date Analyzed: 2/25/2025
Date Reported: 2/25/2025
Project ID: 25006110


Client Sample #: W-1
Lab Sample #: 25006110-001
Sample Location: Classroom 213

Test: 1051-24H Surface, Swab - Qualitative Direct Microscopic Exam SOP 3.7: 24hr TAT

| **Results:** | Observation |
|---|---|
| Occasional Cladosporium spores seen | 1-5 per cover slip |
| Occasional hyphal elements seen | 1-5 per cover slip |

Debris Rating: 2

Building Sciences
43760 Trade Center Place, Suite 100
Sterling , VA 20166
8776489150

ECS Mid Atlantic, LLC
14026 Thunderbolt Place
Chantilly VA , 20151
Attn: Bobby Rhett
Project: **47:11652-W:84 MVCS 213**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 2/21/2025
Date Received: 2/24/2025
Date Analyzed: 2/25/2025
Date Reported: 2/25/2025
Project ID: 25006110


## Footnotes and Additional Report Information

### Debris Rating Table

| | | |
|---|---|---|
| 1 | Minimal (<5%) particulate present | Reported values are minimally affected by particulate load. |
| 2 | 5% to 25% of the trace occluded with particulate | Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded. |
| 3 | 26% to 75% of the trace occluded with particulate | Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded. |
| 4 | 75% to 90% of the trace occluded with particulate | Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded. |
| 5 | Greater than 90% of the trace occluded with particulate | Quantification not possible due to large negative bias. A new sample should be collected at a shorter time interval or other measures taken to reduce particulate load. |

Pace Analytical Services, LLC shall be responsible for all the information provided in the report, except when information is provided by the customer. Data provided by a customer can affect the validity of results and shall be clearly identified. Results apply to the samples as received. Pace Analytical Services, LLC is not responsible for the sampling activity, such as air and water volume, area, and mass unit. The report shall not be reproduced except in full without the approval of the laboratory to ensure that parts of a report are not taken out of context. Data interpretation of this report will be the client responsibility based on their sampling.

1. Penicillium/Aspergillus group spores are characterized by their small size, round to ovoid shape, being unicellular, and usually colorless to lightly pigmented. There are numerous genera of fungi whose spore morphology is similar to that of the Penicillium/Aspergillus type. Two common examples would be Paecilomyces and Acremonium. Although the majority of spores placed in this group are Penicillium, Aspergillus, or a combination of both. Keep in mind that these are not the only two possibilities.

2. Ascospores are sexually produced fungal spores formed within an ascus. An ascus is a sac-like structure designed to discharge the ascospores into the environment, e.g. Ascobolus.

3. Basidiospores are typically blown indoors from outdoors and rarely have an indoor source. However, in certain situations a high basidiospore count indoors may be indicative of a wood decay problem or wet soil.

4. The colorless group contains colorless spores which were unidentifiable to a specific genus. Examples of this group include Acremonium, Aphanocladium, Beauveria, Chrysosporium, Engyodontium microconidia, yeast, some arthrospores, as well as many others.

5. Hyphae are the vegetative mode of fungi. Hyphal elements are fragments of individual Hyphae. They can break apart and become airborne much like spores and are potentially allergenic. A mass of hyphal elements is termed the mycelium. Hyphae in high concentration may be indicative of colonization.

6. Dash (-) in this report, under raw count column means 'not detected (ND)'; otherwise 'not applicable' (NA).

*7. The positive-hole correction factor is a statistical tool which calculates a probable count from the raw count, taking into consideration that multiple particles can impact on the same hole; for this reason the sum of the calculated counts may be less than the positive hole corrected total.

8. Due to rounding totals may not equal 100%.

9. Analytical Sensitivity for each spores is different for Non-viable sample when the spores are read at different percentage. Analytical Sensitivity is calculated as spr/m $^3$ divided by raw count. spr/m $^3$ = raw counts x (100/ % read) x (1000/Sample volume). If Analytical Sensitivity is 13 spr/m $^3$ at 100% read, Analytical Sensitivity at 50% read would be 27 spr/m $^3$, which is 2 times higher. Analytical Sensitivity provided on the report is based on an assumed 100% of the trace being analyzed.

*10. Minimum Reporting Limits (MRL) for BULKS, DUSTS, SWABS, and WATER samples are a calculation based on the sample size and the dilution plate on which the organism was counted. Results are a compilation of counts taken from multiple dilutions and multiple medias. This means that every genus of fungi or bacteria recovered can be counted on the plate on which it is best represented.

*11. If the final quantitative result is corrected for contamination based on the blank, the blank correction is stated in the sample comments section of the report.

12. The results in this report are related to this project and these samples only as received.

13. For samples with an air volume of < 100L, the number of significant figures in the result should be considered (2) two. For samples with air volumes between 100-999L, the number of significant figures in the result should considered (3) three. For example, a sample with a result of 55,443 spr/m$^3$ from a 75L sample using significant figures should be considered 55,000. The same result of 55,443 from a 150L sample using significant figures should be considered 55,400 spr/m $^3$.

14. If the In/Out ratio is greater than 100 times it is indicated >100/1, rather than showing the real value.

**Terminology Used in Direct Exam Reporting**

**Conidiophores are a type of modified hyphae from which spores are born. When seen on a surface sample in moderate to numerous concentrations they may be indicative of fungal growth.**

***: Applicable to the reported data for culture testing**

Dr. Michael Berg
Technical Director

# IAQ Microbiology Chain of Custody Analytical Request Document

Pace ANALYTICAL SERVICES

Chain-of-Custody is a legal document - Complete all relevant fields

Pace® Location Requested (City/State):

Scan QR Code for Instructions

25006110

25006110

**Shaded Area - Lab Use ONLY**

| Acct. Num. / Client ID: | Thermometer ID: | Correction Factor (°C): | Obs. Temp. (°C) | Corrected Temp. (°C) | Received On Ice: |
|---|---|---|---|---|---|
| | | | | | |

Delivered by: [X] In- Person [ ] Courier [ ] FedEX [ ] UPS [ ] Other _____ Tracking Number:

Company Name: ECS Mid-Atlantic

Street Address: 14026 Thunderbolt Pl Chantilly VA

Phone #: 571 324 6721

E-Mail: BRHETT@ECSLIMITED.com

Contact Name: Bobby Rhett

*Customer Project #:* 47-11652-W

*Project Name/Description:* MVCS 213

Purchase Order # (if applicable): 47:11652-W:44

Quote #:

State origin of sample(s): VA

Site Collection Info/Facility ID (as applicable):

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [X] ET

**Turn around time (TAT):**
[ ] Standard
[X] Other 24

**Rush (Pre-approval required and subject to method requirements):**
[ ] 24 Hour [ ] 4 Hour
[ ] 2 Hour [ ] Same Day
[ ] Other _____

**Air Sampler (as aplicable):**
[ ] Anderson [ ] SAS
[ ] BioCulture [ ] RCS

Collected By (Print Name): Bobby Rhett

Signature:

Customer Remarks / Special Conditions / Possible Hazards:

*** Matrix Codes (Insert in Matrix box below):** Product (P), Wipe (WP), Sponge/Swab (SB), Tape (TP), Ambient Air (A), Indoor Air (I), Bulk (B), Other (OT)

| Customer Sample ID/Location Description | Matrix* | Sample Collection Date | Sample Collection Time | Total Volume/Area (L, $cm^2$) | Container Count | Analysis/Test Code Requested | Lab Use Only - Sample receipt non-conformance identified. |
|---|---|---|---|---|---|---|---|
| W-1 Classroom 213 | SB | 2/21/25 | 4:45 PM | | 1 | 1051 | |
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| Relinquished by/Company: (Signature) | Date/Time: | Received by/Company: (Signature) | Date/Time: |
|---|---|---|---|
| | 2/24/25 | TH | 2/24/25 4:10pm |
| Relinquished by/Company: (Signature) | Date/Time: | Received by/Company: (Signature) | Date/Time: |
| Relinquished by/Company: (Signature) | Date/Time: | Received by/Company: (Signature) | Date/Time: |

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

# Appendix V: ACHS - Minnie Howard Laboratory Report

**Certificate of Analysis**
AIHA LAP EMLAP# 102977

Building Sciences
43760 Trade Center Place, Suite 100
Sterling , VA 20166
8776489150

ECS Mid Atlantic, LLC
14026 Thunderbolt Place
Chantilly VA , 20151
Attn: Bobby Rhett
Project: **47-11652-W:84 ACPS - MH (BR)**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 3/3/2025
Date Received: 3/4/2025
Date Analyzed: 3/4/2025
Date Reported: 3/5/2025
Project ID: 25007086


1054 Spore Trap Analysis SOP 3.8: 24hr TAT

| Client Sample # | A-01 | | | | Out-1 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | | | | |
| Sample Volume (L) | 75 | | | | 75 | | | |
| Lab Sample # | 25007086-001 | | | | 25007086-005 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| basidiospores | 3 | 40 | 10 | 1/3 | 8 | 107 | 57 | - |
| Cladosporium | 1 | 13 | 3 | 1/1 | 1 | 13 | 7 | - |
| hyphal elements | 2 | 27 | 7 | 1/1 | 2 | 27 | 14 | - |
| Penicillium/Aspergillus group | 23 | 307 | 79 | 23/1 | 1 | 13 | 7 | - |
| Smuts,Periconia,Myxomycetes | - | - | - | - | 2 | 27 | 14 | - |
| | Debris Rating **3** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **13** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 29 | 387 | ~100% | 2/1 | 14 | 187 | ~100% | - |

| Client Sample # | A-02 | | | | Out-1 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | | | | |
| Sample Volume (L) | 75 | | | | 75 | | | |
| Lab Sample # | 25007086-002 | | | | 25007086-005 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| basidiospores | 2 | 27 | 9 | 1/4 | 8 | 107 | 57 | - |
| Cladosporium | - | - | - | - | 1 | 13 | 7 | - |
| hyphal elements | - | - | - | - | 2 | 27 | 14 | - |
| Penicillium/Aspergillus group | 19 | 253 | 86 | 19/1 | 1 | 13 | 7 | - |
| Smuts,Periconia,Myxomycetes | 1 | 13 | 5 | 1/2 | 2 | 27 | 14 | - |
| | Debris Rating **3** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **13** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 22 | 293 | ~100% | 2/1 | 14 | 187 | ~100% | - |

Building Sciences
43760 Trade Center Place, Suite 100
Sterling , VA 20166
8776489150

ECS Mid Atlantic, LLC
14026 Thunderbolt Place
Chantilly VA , 20151
Attn: Bobby Rhett
Project: **47-11652-W:84 ACPS - MH (BR)**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 3/3/2025
Date Received: 3/4/2025
Date Analyzed: 3/4/2025
Date Reported: 3/5/2025
Project ID: 25007086


| Client Sample # | A-03 | | | | Out-1 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | | | | |
| Sample Volume (L) | 75 | | | | 75 | | | |
| Lab Sample # | 25007086-003 | | | | 25007086-005 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| basidiospores | - | - | - | - | 8 | 107 | 57 | - |
| Cladosporium | 1 | 13 | 8 | 1/1 | 1 | 13 | 7 | - |
| hyphal elements | - | - | - | - | 2 | 27 | 14 | - |
| Penicillium/Aspergillus group | 11 | 147 | 92 | 11/1 | 1 | 13 | 7 | - |
| Smuts,Periconia,Myxomycetes | - | - | - | - | 2 | 27 | 14 | - |
| | Debris Rating **3** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **13** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 12 | 160 | ~100% | 1/1 | 14 | 187 | ~100% | - |

| Client Sample # | A-04 | | | | Out-1 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | | | | |
| Sample Volume (L) | 75 | | | | 75 | | | |
| Lab Sample # | 25007086-004 | | | | 25007086-005 | | | |
| **Spore Identification** | RawCt | spr/m$^3$ | %Ttl | I/O | RawCt | spr/m$^3$ | %Ttl | I/O |
| basidiospores | 2 | 27 | 29 | 1/4 | 8 | 107 | 57 | - |
| Cladosporium | - | - | - | - | 1 | 13 | 7 | - |
| hyphal elements | 3 | 40 | 43 | 2/1 | 2 | 27 | 14 | - |
| Penicillium/Aspergillus group | 2 | 27 | 29 | 2/1 | 1 | 13 | 7 | - |
| Smuts,Periconia,Myxomycetes | - | - | - | - | 2 | 27 | 14 | - |
| | Debris Rating **3** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/m$^3$ | | | | Analytical Sensitivity: **13** spr/m$^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 7 | 93 | ~100% | 1/2 | 14 | 187 | ~100% | - |

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Project: **47-11652-W:84 ACPS - MH (BR)**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 3/3/2025
Date Received: 3/4/2025
Date Analyzed: 3/4/2025
Date Reported: 3/5/2025
Project ID: 25007086


| Client Sample # | Out-2 | | | | Out-1 | | | |
|---|---|---|---|---|---|---|---|---|
| Sample Location | | | | | | | | |
| Sample Volume (L) | 75 | | | | 75 | | | |
| Lab Sample # | 25007086-006 | | | | 25007086-005 | | | |
| **Spore Identification** | RawCt | spr/$m^3$ | %Ttl | I/O | RawCt | spr/$m^3$ | %Ttl | I/O |
| basidiospores | 9 | 120 | 82 | 1/1 | 8 | 107 | 57 | - |
| Cladosporium | 1 | 13 | 9 | 1/1 | 1 | 13 | 7 | - |
| hyphal elements | - | - | - | - | 2 | 27 | 14 | - |
| Penicillium/Aspergillus group | 1 | 13 | 9 | 1/1 | 1 | 13 | 7 | - |
| Smuts,Periconia,Myxomycetes | - | - | - | - | 2 | 27 | 14 | - |
| | Debris Rating **3** | | | | Debris Rating **3** | | | |
| Analytical Sensitivity | Analytical Sensitivity: **13** spr/$m^3$ | | | | Analytical Sensitivity: **13** spr/$m^3$ | | | |
| Comments | | | | | | | | |
| Total *See Footnotes | 11 | 147 | ~100% | 1/1 | 14 | 187 | ~100% | - |

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Project: **47-11652-W:84 ACPS - MH (BR)**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 3/3/2025
Date Received: 3/4/2025
Date Analyzed: 3/4/2025
Date Reported: 3/5/2025
Project ID: 25007086


## Footnotes and Additional Report Information

### Debris Rating Table

| | | |
|---|---|---|
| 1 | Minimal (<5%) particulate present | Reported values are minimally affected by particulate load. |
| 2 | 5% to 25% of the trace occluded with particulate | Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded. |
| 3 | 26% to 75% of the trace occluded with particulate | Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded. |
| 4 | 75% to 90% of the trace occluded with particulate | Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded. |
| 5 | Greater than 90% of the trace occluded with particulate | Quantification not possible due to large negative bias. A new sample should be collected at a shorter time interval or other measures taken to reduce particulate load. |

Pace Analytical Services, LLC shall be responsible for all the information provided in the report, except when information is provided by the customer. Data provided by a customer can affect the validity of results and shall be clearly identified. Results apply to the samples as received. Pace Analytical Services, LLC is not responsible for the sampling activity, such as air and water volume, area, and mass unit. The report shall not be reproduced except in full without the approval of the laboratory to ensure that parts of a report are not taken out of context. Data interpretation of this report will be the client responsibility based on their sampling.

1. Penicillium/Aspergillus group spores are characterized by their small size, round to ovoid shape, being unicellular, and usually colorless to lightly pigmented. There are numerous genera of fungi whose spore morphology is similar to that of the Penicillium/Aspergillus type. Two common examples would be Paecilomyces and Acremonium. Although the majority of spores placed in this group are Penicillium, Aspergillus, or a combination of both. Keep in mind that these are not the only two possibilities.

2. Ascospores are sexually produced fungal spores formed within an ascus. An ascus is a sac-like structure designed to discharge the ascospores into the environment, e.g. Ascobolus.

3. Basidiospores are typically blown indoors from outdoors and rarely have an indoor source. However, in certain situations a high basidiospore count indoors may be indicative of a wood decay problem or wet soil.

4. The colorless group contains colorless spores which were unidentifiable to a specific genus. Examples of this group include Acremonium, Aphanocladium, Beauveria, Chrysosporium, Engyodontium microconidia, yeast, some arthrospores, as well as many others.

5. Hyphae are the vegetative mode of fungi. Hyphal elements are fragments of individual Hyphae. They can break apart and become airborne much like spores and are potentially allergenic. A mass of hyphal elements is termed the mycelium. Hyphae in high concentration may be indicative of colonization.

6. Dash (-) in this report, under raw count column means 'not detected (ND)'; otherwise 'not applicable' (NA).

*7. The positive-hole correction factor is a statistical tool which calculates a probable count from the raw count, taking into consideration that multiple particles can impact on the same hole; for this reason the sum of the calculated counts may be less than the positive hole corrected total.

8. Due to rounding totals may not equal 100%.

9. Analytical Sensitivity for each spores is different for Non-viable sample when the spores are read at different percentage. Analytical Sensitivity is calculated as spr/m $^3$ divided by raw count. spr/m $^3$ = raw counts x (100/ % read) x (1000/Sample volume). If Analytical Sensitivity is 13 spr/m $^3$ at 100% read, Analytical Sensitivity at 50% read would be 27 spr/m $^3$, which is 2 times higher. Analytical Sensitivity provided on the report is based on an assumed 100% of the trace being analyzed.

*10. Minimum Reporting Limits (MRL) for BULKS, DUSTS, SWABS, and WATER samples are a calculation based on the sample size and the dilution plate on which the organism was counted. Results are a compilation of counts taken from multiple dilutions and multiple medias. This means that every genus of fungi or bacteria recovered can be counted on the plate on which it is best represented.

*11. If the final quantitative result is corrected for contamination based on the blank, the blank correction is stated in the sample comments section of the report.

12. The results in this report are related to this project and these samples only as received.

13. For samples with an air volume of < 100L, the number of significant figures in the result should be considered (2) two. For samples with air volumes between 100-999L, the number of significant figures in the result should considered (3) three. For example, a sample with a result of 55,443 spr/m$^3$ from a 75L sample using significant figures should be considered 55,000. The same result of 55,443 from a 150L sample using significant figures should be considered 55,400 spr/m $^3$.

14. If the In/Out ratio is greater than 100 times it is indicated >100/1, rather than showing the real value.

**Terminology Used in Direct Exam Reporting**

**Conidiophores are a type of modified hyphae from which spores are born. When seen on a surface sample in moderate to numerous concentrations they may be indicative of fungal growth.**

***: Applicable to the reported data for culture testing**

Dr. Michael Berg
Technical Director

# IAQ Microbiology Chain of Custody Analytical Request Document

Pace ANALYTICAL SERVICES

Chain-of-Custody is a legal document - Complete all relevant fields

Pace® Location Requested (City/State):

Scan QR Code for Instructions

25007086

25007086

**Shaded Area - Lab Use ONLY**

| Thermometer ID: | Correction Factor (°C): | Obs. Temp. (°C) | Corrected Temp. (°C) | Received On Ice: |
|---|---|---|---|---|
| | | | | |

Acct. Num. / Client ID:

Delivered by: [X] In-Person [ ] Courier [ ] FedEX [ ] UPS [ ] Other _____

Tracking Number:

Company Name: ECS Mid-Atlantic

Street Address: 14026 Thunderbolt Pl, Chantilly, VA 20151

Phone #: 571 329 2121

E-Mail: BRHETT@ECSLIMITED.COM

Site Collection Info/Facility ID (as applicable):

Contact Name: Bobby Rhett

*Customer Project #:* 47-1165Z-W

*Project Name/Description:* ACPS - MH (BR)

Purchase Order # (if applicable): 47-1165Z-W:84

Quote #:

State origin of sample(s): VA

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [X] ET

**Turn around time (TAT):**
[ ] Standard
[X] Other _____

**Rush (Pre-approval required and subject to method requirements):**
[X] 24 Hour [ ] 4 Hour
[ ] 2 Hour [ ] Same Day
[ ] Other _____

**Air Sampler (as aplicable):**
[ ] Anderson [ ] SAS
[ ] BioCulture [ ] RCS

Collected By (Print Name): B. Rhett

Signature:

Customer Remarks / Special Conditions / Possible Hazards:

*** Matrix Codes (Insert in Matrix box below):** Product (P), Wipe (WP), Sponge/Swab (SB), Tape (TP), Ambient Air (A), Indoor Air (I), Bulk (B), Other (OT)

| Customer Sample ID/Location Description | Matrix* | Sample Collection Date | Sample Collection Time | Total Volume/Area (L, $cm^2$) | Container Count | Analysis/Test Code Requested | Lab Use Only - Sample receipt non-conformance identified |
|---|---|---|---|---|---|---|---|
| A-01 | I | 3/3 | | 75 | 1 | 1054 | |
| A-02 | I | ↓ | | ↓ | 1 | ↓ | |
| A-03 | I | | | | 1 | | |
| A-04 | I | | | | 1 | | |
| OUT-1 | A | | | ↓ | 1 | | |
| OUT-2 | A | ↓ | | | 1 | | |
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| Relinquished by/Company: (Signature) | Date/Time: | Received by/Company: (Signature) | Date/Time: |
|---|---|---|---|
| | 3/4/25 | TH | 3/4/25 9:15am |
| Relinquished by/Company: (Signature) | Date/Time: | Received by/Company: (Signature) | Date/Time: |
| Relinquished by/Company: (Signature) | Date/Time: | Received by/Company: (Signature) | Date/Time: |

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf



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