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Quarterly Microbial IAQ Assessment Report

Conducted At

Pembroke Community Middle School

559 School Street Pembroke, Massachusetts

November, 2024

Prepared For:

Ms. Erin Obey Superintendent of Schools Pembroke Public Schools 72 Pilgrim Road Pembroke, MA 02339

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Report Prepared By:

Paul Matuszko, CIH Paul Matuszko Environmental Consulting 79 Cedar Street Walpole, MA 02081

Report Date:

November 26, 2024

PMEC Project #:

24-163.3



November 26, 2024

Ms. Erin Obey Superintendent of Schools Pembroke Public Schools 72 Pilgrim Road Pembroke, MA 02339

RE: Quarterly Microbial (Mold) IAQ Sampling Report #1 for **Pembroke Community Middle School** 559 School Street, Pembroke, MA PMEC Project #24-163.3

Dear Ms. Obey:

Paul Matuszko Environmental Consulting (**PMEC**) is pleased to submit the enclosed report for the quarterly microbial (mold) indoor air quality (IAQ) sampling conducted at the Pembroke Community Middle School, 559 School Street, Pembroke, Massachusetts. PMEC conducted the sampling within the school on November 13, 2024. Seven (7) total air samples were collected for microbial laboratory analysis.

This limited microbial assessment report has been prepared for the exclusive use of The Pembroke Public Schools.

Certification:

PMEC certifies that the results and findings provided herein for the Pembroke Community Middle School building have been reviewed for accuracy, content, regulatory compliance and quality of presentation.

Should you have any questions regarding this report, please do not hesitate to contact me at (617) 893-4476. Thank you for providing PMEC with the opportunity to provide our services to the Pembroke Public Schools for this project.

Respectively submitted;

Paul Mature

Paul Matuszko, CIH, CIEC Project Manager CIH - Certified Industrial Hygienist (American Board of Industrial Hygiene #9236 CP) CIEC - Certified Indoor Environmental Consultant (American Council for Accredited Certification #0610006)





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Quarterly Microbial IAQ Sampling Report #1 For Pembroke Community Middle School 559 School Street Pembroke, Massachusetts

November, 2024

1.0 Introduction

- A. Paul Matuszko Environmental Consulting (*PMEC*) is pleased to submit this report for the quarterly microbial indoor air quality (IAQ) sampling assessment (#1) conducted at the Pembroke Community Middle School, 559 School Street, Pembroke, Massachusetts. PMEC was retained by the Pembroke Public Schools to conduct the air sampling and general inspection for water and microbial growth within the representative areas of the school building. The microbial sampling was conducted by PMEC on the late afternoon of November 13, 2024. The air sampling was conducted to determine existing spore levels in compliance with the on-going School system IAQ program. A summary of the sampling locations and methods, analysis methods and results are outlined within the report.
- B. PMEC conducted the sampling without escort or assistance. Locations were selected which representative of the building. In general, a mix of classrooms on the perimeter and interior were sampled in each wing or section. Member(s) of the Pembroke Schools Teachers Union were present during PMEC's sampling session. The sampling was conducted to determine existing airborne microbial spore levels in representative areas of each section or wing of the school building.
- C. During sampling, PMEC conducted a general visual inspection of representative room surfaces. Additionally, measurements baseline indoor temperature and humidity levels were collected. PMEC noted any areas or locations with atypical conditions. The following report summarizes the findings of the assessment, analysis results, and general recommendations.

2.0 Scope of Work

- A. The indoor air quality (IAQ) assessment was conducted in accordance with the following tasks:
 - 1. General inspection of the representative areas for visible water damaged materials and mold growth in the rooms being sampled.
 - Conduct representative bioaerosol (microbial) spore trap air sampling for airborne mold (fungal) analysis in the areas sampled. Six (6) interior and one (1) exterior/outdoor air samples were collected during the November 13, 2024 after school hours site visit (~2:30-3:45 pm).
 - 3. Prepare a detailed report detailing the findings of the assessment and sampling data.

3.0 Existing Conditions

- A. General Observations
 - Unit ventilators (univents) and ceiling vents (exhaust grill/vents) were observed to be clean with no accumulated dust or suspect mold spotting present.

- Classrooms horizontal surfaces were generally clean and free of accumulated dust and debris. Carpeting and ceiling tiles were generally clean and free of excessive water stains and debris.
- Brown (water damaged) stained ceiling tiles were observed in the back hallway (outside room 106) and teacher's room A114 (backside). These ceiling tiles should be replaced as required.

4.0 Air Quality Measurements

A. A direct reading, thermohygrometer (Fluke Model 971) was used to collect representative temperature and relative humidity (ratio of water vapor in air) measurements. Recommended season levels per ASHRAE are:

| • | Temperature (Temp.): | Recommended Winter Range: | 63-72 ⁰F |
|---|--------------------------|---------------------------|---------------------------------|
| | (degrees Fahrenheit °F) | Recommended Summer: | 68-78 ⁰F |
| • | Relative Humidity (RH%) | Recommended Range: | between 30%-60%; (<50% goal) |

B. The measurement results on the assessment date are provided in Table 1 below:

| Table 1 Baseline Air Quality Measurements | | | | | | | | | |
|---|-------------|------------------------|---|--|--|--|--|--|--|
| Location | Temperature | Relative Humidity % | Comments | | | | | | |
| Classroom #D116 | 70.4 °F | 30.0% | Within ASHRAE Standards | | | | | | |
| Classroom #C112 | 71.9 °F | 30.6% | Within ASHRAE Standards | | | | | | |
| Classroom #B116 | 67.4°F | 30.8% | Within ASHRAE Standards | | | | | | |
| Classroom #B143 | 67.9 °F | 32.6% | Within ASHRAE Standards | | | | | | |
| Classroom #B024 | 70.5 °F | 24.4% | Slightly lower RH% level | | | | | | |
| Classroom #221 | 70.4 °F | 22.4% | Slightly lower RH% level | | | | | | |
| Outside ambient air (outside front entrance) | 41.5°F | 32.2% | Cool, clear, dry, afternoon, typical late fall day | | | | | | |

C. Discussion

1. Temperatures were typical for a school building during the late fall season. Relative humidity levels were within or slightly lower than recommended levels. However, this is typical of occupied buildings during a dry and cool late fall season day.

5.0 Mold Sampling and Analysis Methods

- A. PMEC collected "spore trap" air samples for mold spore analysis using air-o-cell[®] brand sampling cassettes. Six (6) indoor samples and one (1) outdoor comparison sample were collected for analysis. A calibrated, battery operated Zefon IAQ 15 sampling pump was used to draw air onto the sample cassette's adhesive slide. PMEC collected the samples at 15 liters of air per minute (LPM) for a five (5) minute sample duration for a total sample collection volume of 75 liters of air. The airborne aerosols (mold, particulates, pollen, etc.) are trapped on the filter media slide for direct microscopic examination.
- B. The samples were collected on November 13, 2024 at approximately ~2:30pm 3:45 pm. Ambient conditions were cool (~41-42° F), clear, and dry. Indoor conditions were typical of the season.

- C. The samples were sent via chain of custody by Fed Ex to Hayes Microbial Laboratory (Hayes), located in Midlothian, Virginia. Hayes Laboratory is accredited by the American Industrial Hygiene Association (AIHA) for mold and bacteria identification and analysis (AIHA EMPAT Laboratory Accreditation ID # 188863).
- D. Results are reported as Total Fungi Counts in spores per cubic meter of air (**C/m**³). The samples were analyzed for both non-viable and viable fungi by direct analysis optical microscopy. A summary of analysis criteria of spore trap and direct identification analysis is provided in the lab analysis sheets. The sample results are provided as Attachment B to this report.

6.0 Laboratory Analysis Results

A. The results of the November 13, 2024 spore trap air sampling are presented in Table 2 below.

| | Table 2 Spore Trap Air Sample Analysis Results November 13, 2024 Quarterly IAQ Sampling Session #1 | | | | | | | | | |
|---------------------------|--|---|---|-------------------------------|--|--|--|--|--|--|
| Sample # | Sample Location | Total Fungi (C/m ³) | Specific Species & levels of note | Comments | | | | | | |
| 3911 3583 (01) | Classroom #D116 | Ascospores – 40 C/m ³ 106 C/m ³ Basidiospores – 53 C/m ³ Cladosporium – 13 C/m ³ | | Low and acceptable level | | | | | | |
| 3911 3650 (02) | Classroom #C112 | om #C112 67 C/m ³ Aspergillus/Penicilliur Basidiospores – 2 | | Low and acceptable level | | | | | | |
| 3911 3617 (03) | Classroom B116 | 26 C/m ³ | Basidiospores – 13 C/m³ Cladosporium – 13 C/m³ | Low and acceptable level | | | | | | |
| 3911 3596 (04) | Classroom #B143 | 54 C/m ³ | Aspergillus/Penicillium – 27 C/m³ Basidiospores – 27 C/m³ | Low and acceptable level | | | | | | |
| 3911 3605 (05) | Classroom #B024 | 53 C/m ³ | Ascospores – 27 C/m ³ Basidiospores – 13 C/m ³ Cladosporium – 13 C/m ³ | Low and acceptable level | | | | | | |
| 3911 33574 (06) | Classroom #B041 | 27 C/m ³ | Cladosporium – 13 C/m³ | Low and acceptable level | | | | | | |
| 3911 36630 (07) | Outside ambient air (outside front entrance) | 347 C/m ³ | Ascospores – 200 C/m³ Basidiospores – 67 C/m³ Cladosporium – 80 C/m³ | Typical fall season levels | | | | | | |

Notes: - Additional information on species types are provided in the Laboratory Analysis results.

- C/m^3 = spore counts per cubic meter of air
- Samples collected in middle or back middle of room unless noted
- Results in **Bold** = species or levels of concern.

7.0 Discussion of Analysis Results

- A. The analysis results for the November 13, 2024 sampling session indicate very low and acceptable indoor airborne spore levels. The species identified in the rooms sampled are typically found indoors at low levels and are not a cause for concern.
- B. The indoor sample species identified are similar to the species present on the outdoor ambient air sample analysis. No water damage indicator species were identified on each sample. The current airborne spore levels on the sampling date are not representative of an amplified airborne spore condition in the locations sampled.

C. Low levels of aspergillus/penicillium species spores were identified on two samples and are not a concern at this time.

8.0 Background Mold Information

- A. Currently, there are no standards or regulations to indicate acceptable numerical levels of airborne fungal spores derived from indoor environments. Results are also assessed for specific target species that may induce allergic reactions. Specific species are reviewed for their known potential to cause allergic reactions or as an indicator of potential water damage and moisture issues. In general, indoor mold levels should be equivalent to or lower than outdoor levels or non-complaint areas with similar types and percentages of mold species. Please note that airborne mold spores are present in most indoor environments at low levels.
- B. There are no regulations for acceptable levels of mold in the indoor environment; therefore, exact numerical limits are not supported at this time. Specific fungal species of concern are recommended to have much lower levels in the indoor environment. Existing conditions and symptoms are unique to each season, building and occupant. Airborne mold spore levels may vary greatly by location, time of day and weather conditions. However, health impacts cannot be predicted based on this information; individuals experience varying levels of allergic and non-allergic response to mold. Controlling moisture, in each form, is critical to the prevention of indoor mold growth issues.

9.0 Summary Conclusions

- A. The November 13, 2024 laboratory analysis results indicate that the airborne mold spore levels in the locations sampled were low and acceptable.
- B. Relative humidity levels were at or slightly lower than recommended during the sampling period. However, this is typical for the seasonal day with dry conditions.
- C. PMEC did not identify any accessible, visible conditions that would directly impact IAQ. Stained ceiling tiles where noted should be replaced.

10.0 Limitations

- A. The assessment provided herein is based on the professional judgment of PMEC using approved industry standards and guidelines. Not all areas of the school building were accessed for inspection during the representative general spore trap air sampling. Assessment findings are based on the investigator's careful consideration of field observations and interpretation of analysis results in accordance with industry standards, including, but not limited to, IICRC S520 guidelines for Condition 1 normal fungal ecology, 2008 AIHA (Green Book) publication "Recognition, Evaluation, and Control of Indoor Mold", and the ACGIH 1999 book "Bioaerosols Assessment and Control".
- B. The analysis results are only representative of the conditions of the date and time of sample collection and are considered a "snapshot in time". PMEC's results and discussion listed herein represent the conditions present at the time of inspection and sampling.

ATTACHMENTS

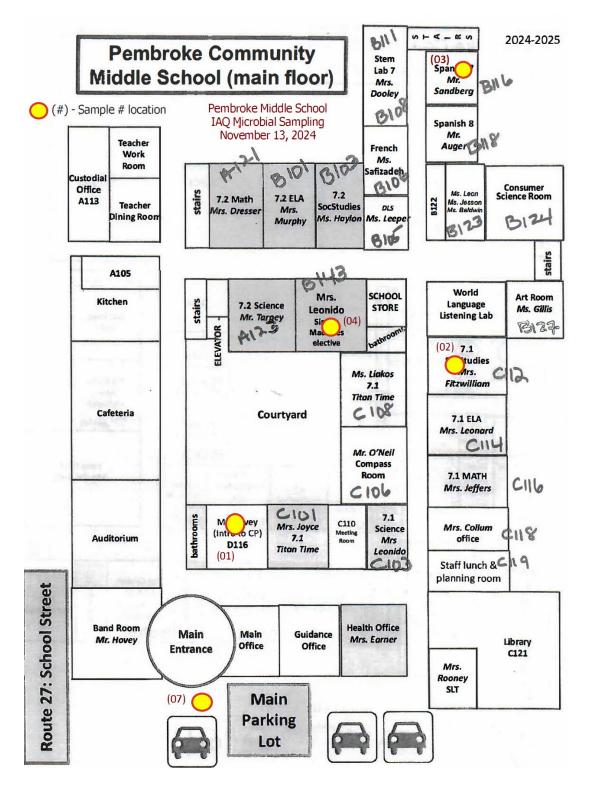
Attachment A – Sampling Floor Plan (1 page)

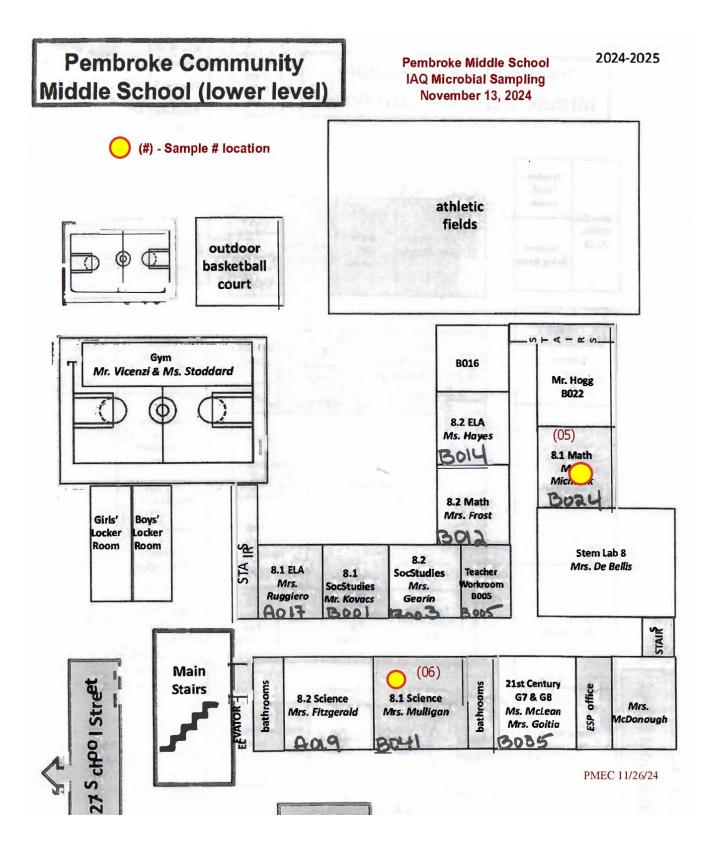
Attachment B – Hayes Microbial – November 13, 2024 Sample Analysis Results (pages 1-6)

Attachment A

Sample Location Floor Plan

(Pages 1-2)





Attachment B

Laboratory Analysis Results

Hayes Microbial Analytical Laboratory

November 13, 2024 Sampling Session (pages 1-6)



#24051880

Analysis Report prepared for

Paul Matuszko Environmental Consulting

79 Cedar Street Walpole, MA 02081

Phone: (617) 893-4476

24-163 Pembroke Middle School 559 School St. Pembroke, MA 02359

Collected: November 13, 2024 Received: November 15, 2024 Reported: November 15, 2024 We would like to thank you for trusting Hayes Microbial for your analytical needs! We received 7 samples by FedEx in good condition for this project on November 15th, 2024.

The results in this analysis pertain only to this job, collected on the stated date, and should not be used in the interpretation of any other job. Information supplied by the customer can affect the validity of results. These results apply only to the samples as received. This report may not be duplicated, except in full, without the written consent of Hayes Microbial Consulting, LLC.

All information provided to Hayes Microbial is confidential information relating to our customers and their clients. We will not disclose, copy, or distribute any information verbally or written, except to those designated by the customer(s). We take confidentiality very seriously. No changes to the distribution list will be made without the express consent of the customer.

This laboratory bears no responsibility for sample collection activities, analytical method limitations, or your use of the test results. Interpretation and use of test results are your responsibility. Any reference to health effects or interpretation of mold levels is strictly the opinion of Hayes Microbial. In no event, shall Hayes Microbial or any of its employees be liable for lost profits or any special, incidental or consequential damages arising out of the use of these test results.

Stephen N. Hayes

Steve Hayes, BSMT(ASCP) Laboratory Director Hayes Microbial Consulting, LLC.



EPA Laboratory ID: VA01419



Lab ID: #188863



DPH License: #PH-0198

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24-163 Pembroke Middle School 559 School St. Pembroke, MA 02359

#24051880

Sop - HMC#101

| Sample Number* | 1 | 3911 | 3911 3583 2 3911 3650 3 3911 36 | | 3617 | 4 3911 3596 | | | | | | | |
|--------------------------------|----------------|----------------------------------|---|----------------|--------------------------|------------------------|----------------|--------------------------|--------------|--------------------------|------------------------|----------|--|
| Sample Name* | Classroom D116 | | | Classroom C112 | | | Classroom B116 | | | Classroom B143 | | | |
| Sample Volume* | 75 L | | | 75 L | | | | 75 L | | 75 L | | | |
| Reporting Limit | | 13 spores/m ³ | | | 13 spores/m ³ | | | 13 spores/m ³ | | 13 spores/m ³ | | | |
| Background | | 2 | | | 2 | | | 2 | | | 2 | | |
| Fragments | | ND | | | ND | | | ND | | | ND | | |
| Organism | Raw Count | Count / m ³ | % of Total | Raw Count | Count / m ³ | % of Total | Raw Count | Count / m ³ | % of Total | Raw Count | Count / m ³ | % of Tot | |
| Alternaria | | | | | | | | | | | | | |
| Ascospores | 3 | 40 | 37.5% | | | | | | | | | | |
| spergillus Penicillium | | | | 3 | 40 | 60.0% | | | | 2 | 27 | 50.0 | |
| Basidiospores | 4 | 53 | 50.0% | 2 | 27 | 40.0% | 1 | 13 | 50.0% | 2 | 27 | 50.0 | |
| Bipolaris Drechslera | | | | | | | | | | | | | |
| Chaetomium | | | | | | | | | | | | | |
| Cladosporium | 1 | 13 | 12.5% | | | | 1 | 13 | 50.0% | | | | |
| Curvularia | | | | | | | | | | | | | |
| Epicoccum | | | | | | | | | | | | | |
| Fusarium | | | | | | | | | | | | | |
| Memnoniella | | | | | | | | | | | | | |
| Myxomycetes | | | | | | | | | | | | | |
| Pithomyces | | | | | | | | | | | | | |
| Stachybotrys | | | | | | | | | | | | | |
| Stemphylium | | | | | | | | | | | | | |
| Torula | | | | | | | | | | | | | |
| Ulocladium | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Total | 8 | 106 | 100% | 5 | 67 | 100% | 2 | 26 | 100% | 4 | 54 | 100 | |
| Water Damage Indicator | | Commo | n Allergen | | Slightly Higher | than Baseline | Signit | ficantly Higher t | han Baseline | | Ratio Abnormal | ity | |
| tes data provided by the custo | | Collected: Nov 1 | 3, 2024 | Rece | ived: Nov 15, 2 | 024 | Reported: | Nov 15, 2024 | | | | | |
| HAY MICROBIAL COI | ES | Project Analyst: Joseph Lape, | jungh | lig | | Date: 11 - 15 - 202 | Reviewe | ed By: ayes, BSMT 🏒 | tealer 1 | 7. Hours | Date: | 5 - 2024 | |

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79 Cedar Street

Walpole, MA 02081 (617) 893-4476

24-163 Pembroke Middle School 559 School St. Pembroke, MA 02359

#24051880

SOP - HMC#101

| Sample Number* | 5 | 3911 | 3605 | 6 | 3911 | 3574 | 7 | 3911 | 3630 | | | |
|---------------------------------------|-----------|--------------------------|----------------------------|------------------|--------------------------|---------------|---------------|--------------------------|--------------|--------------|---------------|--------------|
| Sample Name* | Cla | assroom B0 | ssroom B024 Classroom B041 | | | | Outsi | de Ambient | : Air | | | |
| Sample Volume* | | 75 L | | | 75 L | | | 75 L | | | | |
| Reporting Limit | | 13 spores/m ³ | } | | 13 spores/m ³ | | | 13 spores/m ³ | | | | |
| Background | | 2 | 2 | | 2 | | | 2 | | | | |
| Fragments | | ND | | | ND | | | ND | | | | |
| Organism | Raw Count | Count / m ³ | % of Total | Raw Count | Count / m ³ | % of Total | Raw Count | Count / m ³ | % of Total | | | |
| Alternaria | | | | | | | | | | | | |
| Ascospores | 2 | 27 | 50.0% | | | | 15 | 200 | 57.7% | | | |
| Aspergillus Penicillium | | | | | | | | | | | | |
| Basidiospores | 1 | 13 | 25.0% | | | | 5 | 67 | 19.2% | | | |
| Bipolaris Drechslera | | | | | | | | | | | | |
| Chaetomium | | | | | | | | | | | | |
| Cladosporium | 1 | 13 | 25.0% | 2 | 27 | 100.0% | 6 | 80 | 23.1% | | | |
| Curvularia | | | | | | | | | | | | |
| Epicoccum | | | | | | | | | | | | |
| Fusarium | | | | | | | | | | | | |
| Memnoniella | | | | | | | | | | | | |
| Myxomycetes | | | | | | | | | | | | |
| Pithomyces | | | | | | | | | | | | |
| Stachybotrys | | | | | | | | | | | | |
| Stemphylium | | | | | | | | | | | | |
| Torula | | | | | | | | | | | | |
| Ulocladium | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Total | 4 | 53 | 100% | 2 | 27 | 100% | 26 | 347 | 100% | | | |
| Water Damage Indicator | r | Commo | n Allergen | | Slightly Higher | than Baseline | Signi | ficantly Higher t | han Baseline | | Ratio Abnorma | lity |
| * indicates data provided by the cust | omer | Collected: Nov 1 | 13, 2024 | Rece | ived: Nov 15, 2 | 024 | Reported: | Nov 15, 2024 | | | | |
| | | Project Analyst: | | 1 | | Date: | | | 0. 1 | | Date: | |
| | EJ | Joseph Lape, | ingh | lig | | 11 - 15 - 202 | | ed By: ayes, BSMT 🏒 | toolar 1 | 1 Days | 11 - 1 | 5 - 2024 |
| MICROBIAL CO | NSULTING | | | | | | | | | | | |
| | | 3005 East Bo | oundary Terra | ce, Suite F. Mic | liothian, VA. 2 | 3112 | (804) 562-343 | so con | tact@hayesm | icrobial.com | | Page: 3 of 5 |

| Paul Matuszko | | |
|---------------|---------------|------------|
| Paul Matuszko | Environmental | Consulting |

79 Cedar Street Walpole, MA 02081 (617) 893-4476 **24-163** Pembroke Middle School 559 School St. Pembroke, MA 02359

Spore Trap Information

| Reporting Limit | The Reporting Limit is the lowest number of spores that can be detected based on the total volume of the sample collected and the percentage of the slide that is counted. At Hayes Microbial, 100% of the slide is read so the LOD is based solely on the total volume. Raw spore counts that exceed 500 spores will be estimated. |
|---------------------------------------|---|
| Blanks | Results have not been corrected for field or laboratory blanks. |
| Background | The Background is the amount of debris that is present in the sample. This debris consists of skin cells, dirt, dust, pollen, drywall dust and other organic and non-organic matter. As the background density increases, the likelihood of spores, especially small spores such as those of Aspergillus and Penicillium may be obscured. The background is rated on a scale of 1 to 5 and each level is determined as follows: |
| | NBD: No background detected due to possible pump or cassette malfunction. Recollect sample. (Field Blanks will display NBD) 1 : <5% of field occluded. No spores will be uncountable. 2 : 5-25% of field occluded. |
| | 3 : 25-75% of field occluded. |
| | 4: 75-90% of field occluded. |
| | 5 : >90% of field occluded. Suggested recollection of sample. |
| Fragments | Fragments are small pieces of fungal mycelium or spores. They are not identifiable as to type and when present in very large numbers, may indicate the presence of mold amplification. |
| Control Comparisons | There are no national standards for the numbers of fungal spores that may be present in the indoor environment. As a general rule and guideline that is widely accepted in the indoor air quality field, the numbers and types of spores that are present in the indoor environment should not exceed those that are present outdoors at any given time. There will always be some mold spores present in "normal" indoor environments. The purpose of sampling and counting spores is to help determine whether an abnormal condition exists within the indoor environment and if it does, to help pinpoint the area of contamination. Spore counts should not be used as the sole determining factor of mold contamination. There are many factors that can cause anomalies in the comparison of indoor and outdoor samples due to the dynamic nature of both of those environments. |
| | Blue: These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem. |
| Water Damage Indicator | Green: Although all molds are potential allergens, these are the most common allergens that may be found indoors. |
| Common Allergen | Green. Attrough an molds are potential anergens, these are the most common anergens that may be found indoors. |
| | Orange: The spore count is slightly higher than the outside count and may or may not indicate a source of contamination. |
| Slightly Higher than Baseline | Red : The spore count is significantly higher than the baseline count and probably indicates a source of contamination. |
| Significantly Higher than Baseline | |
| Ratio Abnormality | Violet: The types of spores found indoors should be similar to the ones that were identified in the baseline sample. Significant increases (more than 25%) i the ratio of a particular spore type may indicate the presence of abnormal levels of mold, even if the total number of spores of that type is lower in the indoor |
| · · · · · · · · · · · · · · · · · · · | environment than it was outdoors. |
| Color Coding | Fungi that are present in indoor samples at levels lower than 200 per cubic meter are not color coded on the report, unless they are one of the water damage indicators. |
| Similicant Figures | Raw counts and column totals may reflect more than 2 significant figures, but results should only be considered significant to 2 figures. |

| Paul Matuszko Paul Matuszko Enviro 79 Cedar Street | onmental Co | 159 School St. | #24051880 | | | | | |
|--|--------------------|--|--|--|--|--|--|--|
| Walpole, MA 02081 (617) 893-4476 | | Pembroke, MA 02359 | Analyte Descriptions | | | | | |
| Ascospores | Habitat: | A large group consisting of more than 3000 species of fungi. Common plant pathogens rain. Most of the genera are indistinguishable by spore trap analysis and are combined o | | | | | | |
| | Health Effects: | ······································ | | | | | | |
| Aspergillus Penicillium | Habitat: | The most common fungi isolated from the environment. Very common in soil and on decaying plant material. Are able to grow on a wide variety of substrates. | | | | | | |
| | Health Effects: | This group contains common allergens and many can cause hypersensitivity pneumonitis. They may cause extrinsic asthma, and opportunistic pathogens. Many species produce mycotoxins which may be associated with disease in humans and other animals. production is dependent on the species, the food source, competition with other organisms, and other environmental conditions. | | | | | | |
| Basidiospores | Habitat: | A common group of Fungi that includes the mushrooms and bracket fungi. They are saprophytes and plant pathogens. In wet cor they can cause structural damage to buildings. | | | | | | |
| | Health Effects: | Common allergens and are also associated with hypersensitivity pneumonitis. | | | | | | |
| Cladosporium | Habitat: | One of the most common genera worldwide. Found in soil and plant debris and on the le are lower in the winter and often relatively high in the summer, especially in high humidit afternoon and evening. Indoors, it can be found growing on textiles, wood, sheetrock, mo | y. The outdoor numbers often spike in the late | | | | | |
| | Health Effects: | A common allergen, producing more than 10 allergenic antigens and a common cause of | f hypersensitivity pneumonitis. | | | | | |



| | AYE BIAL CONSULT | S 7 | aul Matuszko Environme 9 Cedar Street /alpole, MA 02081 | | | N | DATE | : FEDEX - PAK : 11-15-2024 49 1288 8029 | | 24 | 051880 |
|-----------------|---|--|---|-------------|--------------------|-----------|--|---|-------------------------------------|----------------|---------------|
| Job Number: 2 | 4-163 | | Job Name: Pen broke, | Middle Co | harla | | | | | 1 | |
| Collector: Paul | Matuszko | | 559 Schoo | 1 Staget | 1001 - | Мо | bile: 617 | 8934476 | Email: | pmatuszk | o@pmecsolutio |
| Date Collected: | 11/13/2 | 24 | Pembroke, MA | 02359 | \bigtriangledown | Not | te: clear | cool, 451 | EUA | | |
| Analysis 1 | | and the second | Analysis Description | n | | | naround | / | | ed Media Types | 3 |
| Spore Trap | S | Identification | & Enumeration of Fungal Spores | | | 24 Ho | our | Air Cassettes | s, Impact Sl | ides | |
| | S+ | Spore Trap A | nalysis with Dander, Fiber, and Po | llen counts | | 24 Ho | our | Air Cassettes | s, Impact SI | ides | |
| Direct ID | D | ID & Semi-Qu | antative Enumeration of spores a | nd mycelium | | 24 Ho | bur | Віо-Таре, Тар | be, Swab, B | ulk, Agar Plat | e |
| | D+ | Direct Analys | sis with Fully Quantitative spore c | ount | | 24 Ho | our | Bio-Tape, Tap | oe, Swab, B | ulk, Agar Plat | e |
| Culture | C1 | Identification | & Enumeration of Mold only | | | 7 Day | / | Air Plate, Aga | ar Plate, Sw | ab, Bulk | |
| | C2 | Identification | & Enumeration of Bacteria only | ж. | | 4 Day | / | Air Plate, Aga | ar Plate, Sw | ab, Bulk | |
| | C3 | Identification | on & Enumeration of Mold and Bacteria | | | | / | Air Plate, Aga | ar Plate, Sw | ab, Bulk | |
| | C5 | Coliform Scre | reen for Sewage Bacteria | | | | 2 Day Agar Plate, Swab, Bull | | | ulk | |
| Particle | TPA | Total Particu | iculate Analysis, ID & Count (Does Not Include Mold) | | | 24 Ho | 24 Hour Air Cassettes, Impact Slides, Bio-Tape | | | e | |
| # Nu | mber | | Sample Analysis | | | is Volume | | | Notes | | |
| 1 3911 | 3583 | | SrOOM DI16 | | 5 | | 75L | 5 Mino | 152PM | Backgr | ound Sampling |
| 2 3911 | 3650 | | SNOUM CI12 | 1 | 5 | | 1 | | | / | |
| 3 3911 | 3617 | Clas | 55100M B116 | | 5 | | | | | | |
| 4 3911 | 3596 | c/a | 6SPOOM BILL3 | | 2 | | | | | | |
| 5 3911 | 3605 | | STOOM BOal | | S | | | | 1 | | |
| 6 3911 | 3574 | c/a | SSTOOM BOY(| | S | | | | 2 | | 6 |
| 7 3911 | 3630 | <i>du</i> | tside Ambien | + Air | S | | d | a | | | |
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| Released by: | 1 11/ | | - Date: [[][4]]24 | C Receive | | | | 6 | | Date: | 11 |