



Certificate of Laboratory Analysis

Non-Viable Spore Trap Analysis

Dare County Schools
 Ian Adams
 3020 S Wrightsville Ave.
 Nags Head, NC

Project #: 25-2452
Project Location: Kitty Hawk Elementary
 16 S Dogwood Trail
 Kitty Hawk, NC
Project Type: IAQ
PO/Claim #: -

Table 1: Non-Viable Air Samples

| Date Collected: | 11/8/25 | 11/8/25 | 11/8/25 | 11/8/25 | 11/8/25 |
|---|---------------------|-----------------|-----------------|-----------------|-----------------|
| Spore Identification | 1 | 2 | 3 | 4 | 5 |
| | Hall at Return | Media Center | Hall at D116 | Hall at D129 | CR D102 |
| <i>Cladosporium</i> | 107 | 13 | 13 | 27 | - |
| Ascospores | 13 | - | 27 | 27 | 27 |
| Basidiospores ² | 53 | 40 | - | 13 | - |
| Smuts, <i>Periconia</i> , <i>Myxomycetes</i> ⁴ | 53 | - | 13 | - | 27 |
| <i>Penicillium/Aspergillus</i> Group ¹ | 67 | - | 13 | - | - |
| Hyphal Elements ³ | 67 | - | - | 13 | - |
| <i>Alternaria</i> | - | - | - | - | - |
| <i>Curvularia</i> | 13 | - | - | - | - |
| <i>Epicoccum</i> | - | - | - | - | - |
| <i>Cercospora</i> | 13 | - | - | - | - |
| <i>Arthrimum</i> | - | - | - | - | - |
| Clear Brown | - | - | - | - | - |
| Colorless | - | - | - | - | - |
| Trichocladium | - | - | - | - | - |
| Unidentified | - | - | - | 13 | - |
| <i>Ulocladium</i> | - | - | - | - | - |
| Torula | - | - | - | - | - |
| Pithomyces | - | - | - | - | - |
| Rust ⁵ | - | - | - | - | - |
| <i>Drechslera/Bipolaris</i> | 27 | - | - | - | - |
| <i>Tetraploa</i> | - | - | - | - | - |
| <i>Chaetomium</i> | - | - | - | - | - |
| <i>Stachybotrys</i> | - | - | - | - | - |
| | - | - | - | - | - |
| Total Spores/m³ | 413 | 53 | 67 | 93 | 53 |
| Particulate Level | low-moderate | low | low | low | low |
| Date Analyzed: | 11/15/25 | 11/15/25 | 11/15/25 | 11/15/25 | 11/15/25 |

Analyzed by: Cathy A. Richmond, B.S.

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| Date Collected: | 11/8/25 | 11/8/25 | 11/8/25 | 11/8/25 | 11/8/25 |
|---|-----------------|---------------------|---------------------|-----------------|-----------------|
| | 6 | 7 | 8 | 9 | 10 |
| Spore Identification | CR D124 | Hall at GYM | Gym | Cafeteria | Hall at A100F |
| <i>Cladosporium</i> | 53 | 53 | 13 | 13 | 40 |
| Ascospores | 13 | 27 | 13 | 13 | 27 |
| Basidiospores ² | 13 | 40 | 27 | - | 27 |
| Smuts, <i>Periconia</i> , <i>Myxomycetes</i> ⁴ | 27 | - | 13 | - | 13 |
| <i>Penicillium/Aspergillus</i> Group ¹ | 27 | 13 | 13 | - | 27 |
| Hyphal Elements ³ | 40 | 53 | - | - | 40 |
| <i>Alternaria</i> | - | - | - | - | - |
| <i>Curvularia</i> | - | 13 | - | - | - |
| <i>Epicoccum</i> | - | - | - | - | 13 |
| <i>Cercospora</i> | - | - | - | - | - |
| <i>Arthrimum</i> | - | - | - | - | - |
| Clear Brown | - | - | - | - | - |
| Colorless | - | - | - | - | - |
| <i>Trichocladium</i> | - | - | - | - | - |
| Unidentified | - | - | - | - | - |
| <i>Ulocladium</i> | - | - | - | - | - |
| Torula | - | - | - | - | - |
| <i>Pithomyces</i> | - | 27 | - | - | - |
| Rust ⁵ | - | - | - | - | - |
| <i>Drechslera/Bipolaris</i> | - | - | - | - | - |
| <i>Tetraploa</i> | - | - | - | - | - |
| <i>Chaetomium</i> | - | - | - | - | - |
| <i>Stachybotrys</i> | - | - | - | - | - |
| | - | - | - | - | - |
| Total Spores/m³ | 173 | 227 | 80 | 27 | 187 |
| Particulate Level | low | low-moderate | low-moderate | low | low |
| Date Analyzed: | 11/15/25 | 11/15/25 | 11/15/25 | 11/15/25 | 11/15/25 |

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Table 1: Non-Viable Air Samples

| Date Collected: | 11/8/25 | 11/8/25 | 11/8/25 | 11/8/25 | 11/8/25 |
|---|-----------------|---------------------|---------------------|---------------------|-----------------|
| | 11 | 12 | 13 | 14 | 15 |
| Spore Identification | Hall at A109 | Hall at A104 | CR A101 | CR A105 | Hall at B107 |
| <i>Cladosporium</i> | 27 | 40 | 40 | 53 | 13 |
| Ascospores | 13 | 13 | 53 | - | 27 |
| Basidiospores ² | - | 13 | 27 | 13 | - |
| Smuts, <i>Periconia</i> , <i>Myxomycetes</i> ⁴ | - | 13 | - | - | - |
| <i>Penicillium/Aspergillus</i> Group ¹ | - | 53 | 27 | 13 | - |
| Hyphal Elements ³ | - | 13 | - | 13 | 13 |
| <i>Alternaria</i> | - | - | - | - | - |
| <i>Curvularia</i> | - | - | - | - | - |
| <i>Epicoccum</i> | - | - | - | - | - |
| <i>Cercospora</i> | - | - | - | - | - |
| <i>Arthrimum</i> | - | - | - | - | - |
| Clear Brown | - | - | - | - | - |
| Colorless | - | - | - | - | - |
| Trichocladium | - | - | - | - | - |
| Unidentified | - | 13 | - | - | - |
| <i>Ulocladium</i> | - | - | - | - | - |
| Torula | - | - | - | - | - |
| Pithomyces | - | - | - | - | - |
| Rust ⁵ | - | - | - | - | - |
| <i>Drechslera/Bipolaris</i> | - | - | - | - | - |
| <i>Tetraploa</i> | - | - | - | - | - |
| <i>Chaetomium</i> | - | - | - | - | - |
| <i>Stachybotrys</i> | - | - | - | - | - |
| | - | - | - | - | - |
| Total Spores/m³ | 40 | 160 | 147 | 93 | 53 |
| Particulate Level | low | low-moderate | low-moderate | low-moderate | low |
| Date Analyzed: | 11/15/25 | 11/15/25 | 11/15/25 | 11/15/25 | 11/15/25 |

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Project Type: IAQ

PO/Claim #: -

Table 1: Non-Viable Air Samples

| Date Collected: | 11/8/25 | 11/8/25 | 11/8/25 | 11/8/25 |
|---|---------------------|-----------------|---------------------|-----------------|
| | 16 | 17 | 18 | 19 |
| Spore Identification | Hall at B103 | Cr B101 | CR B109 | Outdoor Air |
| <i>Cladosporium</i> | 27 | - | 27 | 1413 |
| Ascospores | - | - | 13 | 187 |
| Basidiospores ² | 40 | - | 13 | 347 |
| Smuts, <i>Periconia</i> , <i>Myxomycetes</i> ⁴ | 13 | - | - | 267 |
| <i>Penicillium/Aspergillus</i> Group ¹ | 13 | - | 13 | 267 |
| Hyphal Elements ³ | - | - | - | 80 |
| <i>Alternaria</i> | - | - | - | 107 |
| <i>Curvularia</i> | - | - | - | 187 |
| <i>Epicoccum</i> | - | - | - | 53 |
| <i>Cercospora</i> | - | - | - | 160 |
| <i>Arthrimum</i> | - | - | - | - |
| Clear Brown | - | - | - | - |
| Colorless | - | - | - | - |
| <i>Trichocladium</i> | - | - | - | - |
| Unidentified | - | - | - | - |
| <i>Ulocladium</i> | - | - | - | - |
| Torula | - | - | - | - |
| <i>Pithomyces</i> | - | - | - | 80 |
| Rust ⁵ | - | - | - | - |
| <i>Drechslera/Bipolaris</i> | - | - | - | 533 |
| <i>Tetraploa</i> | - | - | - | - |
| <i>Chaetomium</i> | - | - | - | - |
| <i>Stachybotrys</i> | - | - | - | - |
| | - | - | - | - |
| Total Spores/m³ | 93 | 0 | 67 | 3680 |
| Particulate Level | low-moderate | low | low-moderate | moderate |
| Date Analyzed: | 11/15/25 | 11/15/25 | 11/15/25 | 11/15/25 |

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Sample Number: 7
Sample Location: Hall at GYM
Date Collected: 11/8/25
Test Requested: Non-viable spore trap analysis
Date Analyzed: 11/15/25

Volume (L): 75
Percentage of Slide Read: 100.0%
Detection Limit: 13.33
Particulate Level: low-moderate
Notes:

| Spore Identification | Count | Results | Units | Percentage |
|---------------------------------------|-----------|------------|-----------------------------|------------|
| <i>Cladosporium</i> | 4 | 53 | spores/m ³ | 24% |
| Ascospores | 2 | 27 | spores/m ³ | 12% |
| Basidiospores | 3 | 40 | spores/m ³ | 18% |
| Smuts, <i>Periconia</i> , Myxomycetes | | - | spores/m ³ | - |
| <i>Penicillium/Aspergillus</i> Group | 1 | 13 | spores/m ³ | 6% |
| Hyphal Elements | 4 | 53 | spores/m ³ | 24% |
| <i>Alternaria</i> | | - | spores/m ³ | - |
| <i>Curvularia</i> | 1 | 13 | spores/m ³ | 6% |
| <i>Epicoccum</i> | | - | spores/m ³ | - |
| <i>Cercospora</i> | | - | spores/m ³ | - |
| <i>Arthrinium</i> | | - | spores/m ³ | - |
| Clear Brown | | - | spores/m ³ | - |
| Colorless | | - | spores/m ³ | - |
| <i>Trichocladium</i> | | - | spores/m ³ | - |
| Unidentified | | - | spores/m ³ | - |
| <i>Ulocladium</i> | | - | spores/m ³ | - |
| Torula | | - | spores/m ³ | - |
| <i>Pithomyces</i> | 2 | 27 | spores/m ³ | 12% |
| Rust | | - | spores/m ³ | - |
| <i>Drechslera/Bipolaris</i> | | - | spores/m ³ | - |
| <i>Tetraploa</i> | | - | spores/m ³ | - |
| <i>Chaetomium</i> | | - | spores/m ³ | - |
| <i>Stachybotrys</i> | | - | spores/m ³ | - |
| | | - | spores/m ³ | - |
| Total Spores | 17 | 227 | spores/m³ | |

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Report Information:

DETECTION LIMITS (DL) for samples are the minimum number of spores or colonies forming units that can be satisfactorily identified for each sample type.

SPORE TRAP SAMPLES: Calculations based on volume of air sampled & percentage of slide counted, i.e. DL = 1000 L / 75 L if 100% of the slide is counted.

CODE 11: Fungal content and/or particulate level on slide too heavy to identify and enumerate fungal content.

Footnotes:

- 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. Several common examples would be Acremonium, Paecilomyces, and Trichoderma. Although the majority of spores placed in this group are Penicillium, Aspergillus, or a combination of both, these are not the only two possibilities.
2. Basidiospores are primarily transported indoors from outdoor sources and rarely grow indoors. A high basidiospore count indoors can be indicative of a wood decay problem or wet soil, and should be verified if and an outdoor source of the spores is not present.
3. Hyphae are the tubular filaments of fungi. Hyphae can fragment and become airborne much like spores and are potentially allergenic.
4. The Smut, Periconia, Myxomycete group is a group composed of three different types of organisms whose spores have similar morphologies. Smuts are plant pathogens, Periconia is a relatively uncommon mold indoors, and Myxomycetes are not fungi, but slime molds. Although these organisms do not typically proliferate indoors, their spores are potentially allergenic.
5. Rusts are plant pathogens. These fungi do not typically grow indoors unless an infected plant is present. Rust spores are potentially allergenic.

Direct Microscopic Exam Reporting:

We use a 400x-600x magnification microscope.

Reporting Quantification Levels are as follows:

Table with 2 columns: Reporting Level, Quantitative Description. Rows include Occasional (1-10 per square inch), Few (11-100 per square inch), Moderate (101-1000 per square inch), and Numerous (More than 1,000 per square inch).

Submitted By Analyst:

Cathy A. Richmond (handwritten signature)

Cathy A. Richmond, BS

11/15/2025