



Certificate of Laboratory Analysis

Non-Viable Spore Trap Analysis

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

Project #: 25-2444
Project Location: Cape Hatteras Elementary School
 47500 Middle Ridge Road
 Buxton, 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
	Gym	Cafeteria	Hall at Entry	Hall at 134	CR 130
<i>Cladosporium</i>	-	-	13	-	-
Ascospores	-	-	67	-	-
Basidiospores ²	13	27	40	27	13
Smuts, <i>Periconia</i> , <i>Myxomycetes</i> ⁴	-	-	27	-	-
<i>Penicillium/Aspergillus</i> Group ¹	-	-	13	-	-
Hyphal Elements ³	-	-	40	13	13
<i>Alternaria</i>	-	-	-	-	-
<i>Curvularia</i>	-	-	-	-	-
<i>Epicoccum</i>	-	-	-	-	-
<i>Cercospora</i>	-	-	-	-	-
<i>Arthrinium</i>	-	-	-	-	-
Clear Brown	-	-	-	-	-
Colorless	-	-	-	-	-
Trichocladium	-	-	-	-	-
Unidentified	-	-	-	-	-
<i>Ulocladium</i>	-	-	-	-	-
Torula	-	-	-	-	-
Pithomyces	-	-	-	-	-
Rust ⁵	-	-	-	-	-
<i>Drechslera/Bipolaris</i>	-	-	-	-	-
<i>Tetraploa</i>	-	-	-	-	-
<i>Chaetomium</i>	-	-	-	-	-
<i>Stachybotrys</i>	-	-	-	-	-
	-	-	-	-	-
Total Spores/m³	13	27	200	40	27
Particulate Level	low	low	moderate	low	low
Date Analyzed:	11/12/25	11/12/25	11/12/25	11/12/25	11/12/25

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	Hall at 138	CR 145	Hall at 149	CR 147	Hall at 151
<i>Cladosporium</i>	-	-	-	-	-
Ascospores	-	-	-	-	40
Basidiospores ²	13	13	27	13	13
Smuts, <i>Periconia</i> , <i>Myxomycetes</i> ⁴	-	-	-	-	-
<i>Penicillium/Aspergillus</i> Group ¹	13	-	-	-	-
Hyphal Elements ³	-	13	-	-	-
<i>Alternaria</i>	-	-	-	-	-
<i>Curvularia</i>	-	-	-	-	-
<i>Epicoccum</i>	-	-	-	-	-
<i>Cercospora</i>	-	-	-	-	-
<i>Arthrimum</i>	-	-	-	-	-
Clear Brown	-	-	-	-	-
Colorless	-	-	-	-	-
<i>Trichocladium</i>	-	-	-	-	-
Unidentified	-	-	-	-	-
<i>Ulocladium</i>	-	-	-	-	-
Torula	-	-	-	-	-
Pithomyces	-	-	-	-	-
Rust ⁵	-	-	-	-	-
<i>Drechslera/Bipolaris</i>	-	13	-	-	-
<i>Tetraploa</i>	-	-	-	-	-
<i>Chaetomium</i>	-	-	-	-	-
<i>Stachybotrys</i>	-	-	-	-	-
	-	-	-	-	-
Total Spores/m³	27	40	27	13	53
Particulate Level	low	low-moderate	low	low-moderate	low-moderate
Date Analyzed:	11/12/25	11/12/25	11/12/25	11/12/25	11/12/25

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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	CR 154	Hall at 206	Hall at 208	Hall at 215	CR 203
<i>Cladosporium</i>	13	13	13	-	-
Ascospores	27	13	13	27	27
Basidiospores ²	-	-	27	-	13
Smuts, <i>Periconia</i> , <i>Myxomycetes</i> ⁴	-	40	-	13	-
<i>Penicillium/Aspergillus</i> Group ¹	-	-	-	13	-
Hyphal Elements ³	-	-	-	-	-
<i>Alternaria</i>	-	-	-	-	-
<i>Curvularia</i>	-	-	-	-	-
<i>Epicoccum</i>	-	-	-	-	-
<i>Cercospora</i>	-	-	-	-	-
<i>Arthrimum</i>	-	-	-	-	-
Clear Brown	-	-	-	-	-
Colorless	-	-	-	-	-
<i>Trichocladium</i>	-	-	-	-	-
Unidentified	-	-	-	-	-
<i>Ulocladium</i>	-	-	-	-	-
Torula	-	-	-	-	-
<i>Pithomyces</i>	-	-	-	-	-
Rust ⁵	-	-	-	-	-
<i>Drechslera/Bipolaris</i>	-	-	-	-	-
<i>Tetraploa</i>	-	-	-	-	-
<i>Chaetomium</i>	-	-	-	-	-
<i>Stachybotrys</i>	-	-	-	-	-
	-	-	-	-	-
Total Spores/m³	40	67	53	53	40
Particulate Level	low	low	low	low	low
Date Analyzed:	11/12/25	11/12/25	11/12/25	11/12/25	11/12/25

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Table 1: Non-Viable Air Samples

Date Collected:	11/8/25	11/8/25	11/8/25
	16	17	18
Spore Identification	CR 212	Media Center - 136	Outdoor Air
<i>Cladosporium</i>	-	-	320
Ascospores	13	40	1920
Basidiospores ²	13	13	2187
Smuts, <i>Periconia</i> , <i>Myxomycetes</i> ⁴	13	-	-
<i>Penicillium/Aspergillus</i> Group ¹	-	13	107
Hyphal Elements ³	-	-	160
<i>Alternaria</i>	-	-	-
<i>Curvularia</i>	-	-	-
<i>Epicoccum</i>	-	-	-
<i>Cercospora</i>	-	-	-
<i>Arthrimum</i>	-	-	-
Clear Brown	-	-	-
Colorless	-	-	-
<i>Trichocladium</i>	-	-	-
Unidentified	-	-	-
<i>Ulocladium</i>	-	-	-
Torula	-	-	160
<i>Pithomyces</i>	-	-	-
Rust ⁵	-	-	-
<i>Drechslera/Bipolaris</i>	-	-	53
<i>Tetraploa</i>	-	-	-
<i>Chaetomium</i>	-	-	-
<i>Stachybotrys</i>	-	-	-
	-	-	-
Total Spores/m³	40	67	4907
Particulate Level	low	low	low
Date Analyzed:	11/12/25	11/12/25	11/12/25

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Sample Number: 3
Sample Location: Hall at Entry
Date Collected: 11/8/25
Test Requested: Non-viable spore trap analysis
Date Analyzed: 11/12/25

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

Spore Identification	Count	Results	Units	Percentage
<i>Cladosporium</i>	1	13	spores/m ³	7%
Ascospores	5	67	spores/m ³	33%
Basidiospores	3	40	spores/m ³	20%
Smuts, <i>Periconia</i> , Myxomycetes	2	27	spores/m ³	13%
<i>Penicillium/Aspergillus</i> Group	1	13	spores/m ³	7%
Hyphal Elements	3	40	spores/m ³	20%
<i>Alternaria</i>		-	spores/m ³	-
<i>Curvularia</i>		-	spores/m ³	-
<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>		-	spores/m ³	-
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	15	200	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

11/12/2025