



LRC Indoor Testing and Research
 200 Commonwealth Ct, Suite 101
 Cary, NC 27511
 (919) 342-4936

Certificate of Laboratory Analysis

Non-Viable Spore Trap Analysis

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

Project #: 25-1423
Project Location: Administrative Office
 3020 S. Wrightsville Avenue
 Nags Head, NC
Project Type: IAQ
PO/Claim #: -

Table 1: Non-Viable Air Samples

Date Collected:	4/21/25	4/21/25	4/21/25	4/21/25	4/21/25
Spore Identification	1	2	3	4	5
	Front Desk	Hall @ 141/142	Hall @ 136	117	Hall @ 113
<i>Cladosporium</i>	40	93	27	27	80
Ascospores	-	40	13	-	13
Basidiospores ²	13	-	-	-	13
Smuts, <i>Periconia</i> , <i>Myxomycetes</i> ⁴	53	13	13	27	-
<i>Penicillium/Aspergillus</i> Group ¹	27	13	-	-	27
Hyphal Elements ³	13	13	-	-	13
<i>Alternaria</i>	13	13	-	-	-
<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	160	187	53	53	147
Particulate Level	low	low-moderate	low	low-moderate	low-moderate
Date Analyzed:	4/24/25	4/24/25	4/24/25	4/24/25	4/24/25

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

The results reported by LRC are a record of the microbes identified by our laboratory staff. We assume responsibility over analysis conducted in the laboratory, but cannot assume responsibility for activities completed in the field by the client, other personnel associated with the samples submitted, or other activities beyond the laboratory. Any information given other than microbial information, is provided as general reference information from published sources and is not an extension of liability to LRC.



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Table 1: Non-Viable Air Samples

Date Collected:	4/21/25	4/21/25	4/21/25	4/21/25	4/21/25
	6	7	8	9	10
Spore Identification	Board Room	Hall @ 249/260	230	Kitchen	Hall @ 216/218
<i>Cladosporium</i>	40	40	40	13	80
Ascospores	27	-	13	-	13
Basidiospores ²	27	27	27	13	27
Smuts, <i>Periconia</i> , <i>Myxomycetes</i> ⁴	-	27	-	-	13
<i>Penicillium/Aspergillus</i> Group ¹	13	-	27	27	13
Hyphal Elements ³	13	-	13	13	-
<i>Alternaria</i>	-	-	-	-	-
<i>Curvularia</i>	-	-	-	-	-
<i>Epicoccum</i>	-	-	-	-	-
<i>Cercospora</i>	-	-	-	-	-
<i>Arthrinium</i>	-	-	-	-	-
Clear Brown	-	-	-	-	-
Colorless	-	-	-	-	-
<i>Trichocladium</i>	-	-	-	-	-
Unidentified	-	-	-	-	-
<i>Ulocladium</i>	-	-	-	-	-
Torula	-	-	-	-	-
Pithomyces	-	-	-	-	-
Rust ⁵	-	-	-	-	-
<i>Drechslera/Bipolaris</i>	-	-	-	-	-
<i>Tetraploa</i>	-	-	-	-	-
<i>Chaetomium</i>	-	-	-	-	-
<i>Stachybotrys</i>	-	-	-	-	-
	-	-	-	-	-
Total Spores/m³	120	93	120	67	147
Particulate Level	low-moderate	low	low-moderate	low-moderate	low-moderate
Date Analyzed:	4/24/25	4/24/25	4/24/25	4/24/25	4/24/25

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Table 1: Non-Viable Air Samples

Date Collected:	4/21/25
Spore Identification	11
	Outdoor air
<i>Cladosporium</i>	987
Ascospores	587
Basidiospores ²	133
Smuts, <i>Periconia</i> , <i>Myxomycetes</i> ⁴	107
<i>Penicillium/Aspergillus</i> Group ¹	160
Hyphal Elements ³	27
<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/m ³	2000
Particulate Level	low-moderate
Date Analyzed:	4/24/25

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Project #: 25-1423
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Project Type: IAQ
PO/Claim #: -

Sample Number: 5
Sample Location: Hall @ 113
Date Collected: 4/21/25
Test Requested: Non-viable spore trap analysis
Date Analyzed: 4/24/25

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>	6	80	spores/m ³	55%
Ascospores	1	13	spores/m ³	9%
Basidiospores	1	13	spores/m ³	9%
Smuts, <i>Periconia</i> , Myxomycetes		-	spores/m ³	-
<i>Penicillium/Aspergillus</i> Group	2	27	spores/m ³	18%
Hyphal Elements	1	13	spores/m ³	9%
<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	11	147	spores/m³	

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



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Project #: 25-1423
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Project Type: IAQ
PO/Claim #: -

Sample Number: 6
Sample Location: Board Room
Date Collected: 4/21/25
Test Requested: Non-viable spore trap analysis
Date Analyzed: 4/24/25

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>	3	40	spores/m ³	33%
Ascospores	2	27	spores/m ³	22%
Basidiospores	2	27	spores/m ³	22%
Smuts, <i>Periconia</i> , Myxomycetes		-	spores/m ³	-
<i>Penicillium/Aspergillus</i> Group	1	13	spores/m ³	11%
Hyphal Elements	1	13	spores/m ³	11%
<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	9	120	spores/m³	

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Sample Number: 7
Sample Location: Hall @ 249/260
Date Collected: 4/21/25
Test Requested: Non-viable spore trap analysis
Date Analyzed: 4/24/25

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

Spore Identification	Count	Results	Units	Percentage
<i>Cladosporium</i>	3	40	spores/m ³	43%
Ascospores		-	spores/m ³	-
Basidiospores	2	27	spores/m ³	29%
Smuts, <i>Periconia</i> , Myxomycetes	2	27	spores/m ³	29%
<i>Penicillium/Aspergillus</i> Group		-	spores/m ³	-
Hyphal Elements		-	spores/m ³	-
<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	7	93	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

4/24/2025