



LRC Indoor Testing and Research
 140 Iowa Lane, Suite 102
 Cary, NC 27511
 (919) 342-4936

Certificate of Laboratory Analysis
Non-Viable Spore Trap Analysis

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

Project #: 23-2210
Project Location: Administrative Offices

Project Type: IEQ
PO/Claim #:

Table 1: Non-Viable Air Samples

Date Collected:	11/11/23	11/11/23	11/11/23	11/11/23	11/11/23
	1	2	3	4	5
Spore Identification	Lobby	Hall at 143	Office 142\	Hall at 115	Office 134
<i>Cladosporium</i>	67	53	40	67	67
Ascospores	-	13	-	-	13
Basidiospores ²	13	13	13	40	27
Smuts, <i>Periconia</i> , <i>Myxomycetes</i> ⁴	13	67	13	-	-
<i>Penicillium/Aspergillus</i> Group ¹	40	67	40	27	67
Hyphal Elements ³	-	27	40	-	-
<i>Alternaria</i>	-	27	13	-	-
<i>Curvularia</i>	13	-	-	-	-
<i>Epicoccum</i>	-	-	-	13	-
<i>Cercospora</i>	-	-	-	-	-
<i>Arthrinium</i>	-	-	-	-	-
Clear Brown	-	-	-	-	-
Colorless	-	-	-	-	-
Trichocladium	-	-	-	-	-
Unidentified	-	-	13	13	-
<i>Ulocladium</i>	-	-	-	-	-
Torula	-	-	-	-	-
Pithomyces	-	-	-	-	-
Rust ⁵	-	-	-	-	-
<i>Drechslera/Bipolaris</i>	-	13	27	-	-
<i>Tetraploa</i>	-	-	-	-	-
<i>Chaetomium</i>	-	-	-	-	-
<i>Stachybotrys</i>	-	-	-	-	-
	-	-	-	-	-
Total Spores/m³	147	280	200	160	173
Particulate Level	low-moderate	moderate	low-moderate	low-moderate	low-moderate
Date Analyzed:	11/14/23	11/14/23	11/14/23	11/14/23	11/14/23

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.



Certificate of Laboratory Analysis
Non-Viable Spore Trap Analysis

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

Project #: 23-2210
Project Location: Administrative Offices

Project Type: IEQ
PO/Claim #:

Table 1: Non-Viable Air Samples

Date Collected:	11/11/23	11/11/23	11/11/23	11/11/23	11/11/23
	6	7	8	9	10
Spore Identification	Board Room	Hall at 247	Hall at 272	Hall at 220	Office 214
<i>Cladosporium</i>	27	67	40	53	40
Ascospores	-	-	-	-	13
Basidiospores ²	-	13	40	27	40
Smuts, <i>Periconia</i> , <i>Myxomycetes</i> ⁴	-	13	-	-	-
<i>Penicillium/Aspergillus</i> Group ¹	-	120	13	27	53
Hyphal Elements ³	-	40	-	13	13
<i>Alternaria</i>	-	-	-	-	13
<i>Curvularia</i>	-	27	-	-	-
<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>	13	-	-	-	-
<i>Tetraploa</i>	-	-	-	-	-
<i>Chaetomium</i>	-	-	-	-	-
<i>Stachybotrys</i>	-	-	-	-	-
	-	-	-	-	-
Total Spores/m³	40	280	93	120	173
Particulate Level	low	low-moderate	low	low-moderate	low-moderate
Date Analyzed:	11/14/23	11/14/23	11/14/23	11/14/23	11/14/23

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.



LRC Indoor Testing and Research
 140 Iowa Lane, Suite 102
 Cary, NC 27511
 (919) 342-4936

Certificate of Laboratory Analysis
Non-Viable Spore Trap Analysis

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

Project #: 23-2210
Project Location: Administrative Offices

Project Type: IEQ
PO/Claim #: -

Table 1: Non-Viable Air Samples

Date Collected:	11/11/23
Spore Identification	11
	Outdoor Air
<i>Cladosporium</i>	813
Ascospores	600
Basidiospores ²	533
Smuts, <i>Periconia</i> , <i>Myxomycetes</i> ⁴	40
<i>Penicillium/Aspergillus</i> Group ¹	120
Hyphal Elements ³	27
<i>Alternaria</i>	40
<i>Curvularia</i>	-
<i>Epicoccum</i>	13
<i>Cercospora</i>	-
<i>Arthrinium</i>	-
Clear Brown	-
Colorless	-
Trichocladium	-
Unidentified	-
<i>Ulocladium</i>	-
Torula	-
Pithomyces	-
Rust ⁵	13
<i>Drechslera/Bipolaris</i>	-
<i>Tetraploa</i>	-
<i>Chaetomium</i>	-
<i>Stachybotrys</i>	-
	-
Total Spores/m ³	2200
Particulate Level	moderate
Date Analyzed:	11/14/23

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.



Certificate of Laboratory Analysis

Non-Viable Spore Trap Analysis

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

Project #: 23-2210
Project Location: Adminstrative Offices
 -
Project Type: IEQ
PO/Claim #: -

Sample Number: 5
Sample Location: Office 134
Date Collected: 11/11/23
Test Requested: Non-viable spore trap analysis
Date Analyzed: 11/14/23

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>	5	67	spores/m ³	38%
Ascospores	1	13	spores/m ³	8%
Basidiospores	2	27	spores/m ³	15%
Smuts, <i>Periconia</i> , Myxomycetes		-	spores/m ³	-
<i>Penicillium/Aspergillus</i> Group	5	67	spores/m ³	38%
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	13	173	spores/m³	

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.



Certificate of Laboratory Analysis

Non-Viable Spore Trap Analysis

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

Project #: 23-2210
Project Location: Adminstrative Offices
Project Type: - IEQ
PO/Claim #: -

Sample Number: 9
Sample Location: Hall at 220
Date Collected: 11/11/23
Test Requested: Non-viable spore trap analysis
Date Analyzed: 11/14/23

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	44%
Ascospores		-	spores/m ³	-
Basidiospores	2	27	spores/m ³	22%
Smuts, <i>Periconia</i> , Myxomycetes		-	spores/m ³	-
<i>Penicillium/Aspergillus</i> Group	2	27	spores/m ³	22%
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	

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



Certificate of Laboratory Analysis

Project #: **23-2210**

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:

Reporting Level	Quantitative Description
Occasional	1-10 per square inch
Few	11-100 per square inch
Moderate	101-1000 per square inch
Numerous	More than 1,000 per square inch

Submitted By Analyst:

Cathy A. Richmond, BS

11/14/2023