PO Box 1144 Waynesville, NC 28786

December 7, 2023

Transylvania County 155 Public Safety Way Brevard, NC 28712

Attn: David McNeill, Assistant County Manager

Subject: Mold Assessment

Rosman Elementary School

Rosman, NC

Project Number: FDG231120

Mr. McNeill:

At your request, Fleetwood Daniels Group, LLC (FDG) performed an indoor air quality assessment at the above referenced project location on November 29, 2023. The assessment included collection of mold spore trap air samples throughout the school buildings. Sampling was conducted under the recommendations of FDG and was under the direction of the client representative. Additionally, FDG collected an exterior air sample to use for comparative analysis. The sample locations are identified on the attached drawing.

Sampling was requested in order to assess the general conditions of the building as it relates to mold. The air sampling was performed by Mrs. Suzanne Hinson and Mr. Clay Hinson, Industrial Hygienists with FDG.

### Results - Sampling & Analysis

### AIRBORNE MOLD SAMPLES

SAMPLE	LOCATON	LABORATORY RESULTS
NUMBER		Total Mold
RE-1	Exterior	3450 count/m <sup>3</sup>
RE-2	Interior – Front Office Area	470 count/m <sup>3</sup>
RE-3	Interior – Room 7 Pod Area	2980 count/m <sup>3</sup>
RE-4	Interior – Corridor at Gym	1180 count/m <sup>3</sup>
RE-5	Interior – Room 15 Pod Area	1490 count/m <sup>3</sup>
RE-6	Interior – Cafeteria	627 count/m <sup>3</sup>
RE-7	Interior – Library	470 count/m <sup>3</sup>

 $Count/m^3$  = spore count per cubic meter of air

### **Conclusions**

The analysis of the air samples collected show total spore counts on the interior samples collected were lower than those on the exterior of the building.

Analysis shows that the spore types were generally consistent with those found on the exterior of the building. Common plant molds were present on the interior samples collected throughout the building. These common exterior genera of molds and are typically found in soils and decaying plant matter, but can also grow indoors given the right conditions. Given the right conditions, indoor growth can be widespread on damp substrates as some will grow indoors at low temperatures.

Sample analysis indicates low counts of *Aspergillus/Penicillum-like* spores on the sample collected from the Corridor at the Gym that were not identified on the exterior sample. *Aspergillus/Penicillum-like* spores are typically indicators of water damaged building materials and are not commonly found naturally outside. These types of mold have been shown to have the possibility of causing respiratory issues especially in people with allergies or immune deficiencies when found in indoor areas. Given the low counts it is likely that they are residual, FDG recommends observation of these areas to ensure that there is not a water loss contributing that could cause future indoor air quality concerns.

In general, all areas of potential moisture intrusion should be addressed and corrected prior to remediation efforts where recommended. All areas should have HVAC units that provide an indoor environment with temperature and humidity levels in accordance with ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) Standards. In the future all areas with visibly water damaged materials should be remediated as discovered to prevent an air quality concern in the future. Ways to reduce spore counts include, but are not limited to, HEPA air filtration, HEPA vacuum cleaning and/or surface cleaning with antimicrobial serum.

Observations, findings, results, and conclusions are limited to those conditions apparent at the time of the site visit. It should not be construed that actions taken as a result of this work will achieve complete compliance with every regulatory standard nor prevent every possible accident or loss. Neither should it be considered that any recommendations noted are the only possible actions to be taken.

### **QUALIFICATIONS**

This report summarizes FDG's evaluation of the conditions observed at the subject building during the course of the survey. Our findings are based upon our observations at the building and analyses of the samples obtained at the time of this survey. Asbestos-containing materials may exist in the building, if materials are to be disturbed they should be tested for the presence of asbestos prior to disturbing. Any conditions discovered which deviate from the data contained in this report should be presented for our evaluation.

Attached with this report you will find the laboratory analytical results for each sample collected will be attached.

Fleetwood Daniels Group, L.L.C. is pleased to have provided our professional services for this project. If you have any questions or comments, please do not hesitate to call at (828) 400-1509.

Sincerely,

FLEETWOOD DANIELS GROUP, L.L.C.

Suzanne Hinson Principal

Sujanne Hinou

Principal Attachments: Laboratory Analytical Reports

# **Laboratory Analytical Reports**



## **Direct Exam: Spore Trap Analysis**

SAI Method B-SOP-003



Customer: Fleetwood Daniels Group

PO Box 1144

Waynesville, NC 28786

**Project:** FDG231120 - Rosman Elementary

Attn: Suzanne Hinson

Lab Order ID:

10038126

**Analysis:** 

STA

**Date Received:** 

11/30/2023

**Date Reported:** 

12/01/2023

Sample ID	RE-1			RE-2			RE-3			EXTERIOR		
Lab Sample ID	10038126 0001			10038126 0002			10038126	0003		AVERAGE		
•	_			Inteiror - office area								
Description	Exterior			Interror - 0	office area		Interior - i	rm 7 pod area		N/A		
Lab Notes											N/A	
Volume (L)	75			75			75				N/A	
Analytical Sensitivity (counts/m³)	78			78			78				N/A	
IDENTIFICATION	Raw Count	Concentration (counts/m³)	% Of Total	Raw Count	Concentration (counts/m³)	% Of Total	Raw Count	Concentration (counts/m³)	% Of Total	Raw Count	Concentration (counts/m³)	% Of Total
Alternaria							2	157	5.26%			
Ascospores	21	1650	47.7%							21	1650	47.7%
Aspergillus/Penicillium-like												
Basidiospores	9	705	20.5%							9	705	20.5%
Cladosporium	11	862	25.0%				6	470.	15.8%	11	862	25.0%
Curvularia							111	78.4 862	2.63%			
Epicoccum Myxomycete/Rust/Smut-like	3	235	6.82%	6	470.	100.%	11	1250	42.1%	3	235	6.82%
Pithomyces	3	233	0.8270	0	470.	100.70	2	157	5.26%	3	233	0.8270
- monyee								107	0.2070			
TOTAL	44	3450	100.%	6	470.	100.%	38	2980	100.%	44	3450	100.%
Non-Cellulosic Fibers	-	-	-	-	-	-	-	-	-	-	-	-
Hyphal Fragments	2	157	-	1	78.4	-	-	=	-	2	157	=
Insect Parts	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-	-	-	-
Skin Cell % of Total Debris		0-20%			80-100%			80-100%			N/A	
Total Debris in Background	20-40%			80-100%				80-100%		N/A		

Disclaimer: This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. Unless otherwise noted blank sample correction was not performed on analytical results. Scientific Analytical Institute participates in the AIHA EMPAT program for fungi. EMPAT Laboratory ID: 173190. Reporting Limit equals Analytical Sensitivity. Unless indicated, areas and volumes were provided by the customer.

Palmer Hines (7) Analyst



## **Direct Exam: Spore Trap Analysis**

SAI Method B-SOP-003



Customer: Fleetwood Daniels Group

PO Box 1144

Waynesville, NC 28786

**Project:** FDG231120 - Rosman Elementary

10038126 Attn: Suzanne Hinson Lab Order ID:

> STA **Analysis:**

**Date Received:** 11/30/2023

**Date Reported:** 12/01/2023

Sample ID	10038126_0004			RE-5 10038126_0005 Interior - room 15 pod area			RE-6			EXTERIOR			
Lab Sample ID							10038126	0006		AVERAGE			
Description							Interior - o	eafeteria		N/A			
Lab Notes					-						N/A		
Volume (L)	75			75			75				N/A		
Analytical Sensitivity (counts/m³)	78			78			78				N/A		
IDENTIFICATION	Raw Count	Concentration (counts/m³)	% Of Total	Raw Count	Concentration (counts/m³)	% Of Total	Raw Count	Concentration (counts/m³)	% Of Total	Raw Count	Concentration (counts/m³)	% Of Total	
Alternaria													
Ascospores										21	1650	47.7%	
Aspergillus/Penicillium-like	4	313	26.7%										
Basidiospores										9	705	20.5%	
Cladosporium	3	235	20.0%							11	862	25.0%	
Curvularia													
Epicoccum	6	470.	40.0%	4	313	21.1%	2	157	25.0%				
Myxomycete/Rust/Smut-like	2	157	13.3%	15	1180	78.9%	6	470.	75.0%	3	235	6.82%	
Pithomyces													
TOTAL	15	1180	100.%	19	1490	100.%	8	627	100.%	44	3450	100.%	
Non-Cellulosic Fibers	-	=	-	-	-	-	-	-	-	-	=	-	
Hyphal Fragments	-	-	-	-	-	-	1	78.4	-	2	157	-	
Insect Parts	-	-	-	-	-	-	-	-	-	-	=	-	
Pollen	-	=	-	-	-	-	-	-	-	-	=	-	
Skin Cell % of Total Debris		80-100%			80-100%			60-80%			N/A		
Total Debris in Background		80-100%			60-80%			40-60%		N/A			

Disclaimer: This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. Unless otherwise noted blank sample correction was not performed on analytical results. Scientific Analytical Institute participates in the AIHA EMPAT program for fungi. EMPAT Laboratory ID: 173190. Reporting Limit equals Analytical Sensitivity. Unless indicated, areas and volumes were provided by the customer.

Palmer Hines (7) Analyst



## **Direct Exam: Spore Trap Analysis**

SAI Method B-SOP-003



Customer: Fleetwood Daniels Group

PO Box 1144

Waynesville, NC 28786 **Project:** FDG231120 - Rosman Elementary

Attn: Suzanne Hinson

Lab Order ID:

10038126

Analysis:

STA

**Date Received:** 

11/30/2023

Date Reported:

12/01/2023

Sample ID	RE-7										EXTERIOR	
Lab Sample ID	10038126	0007									AVERAGE	
Description	Interior - library									N/A	N/A	
Lab Notes											N/A	
Volume (L)	75										N/A	
Analytical Sensitivity (counts/m³)	78										N/A	
IDENTIFICATION	Raw Count	Concentration (counts/m³)	% Of Total	Raw Count	Concentration (counts/m³)	% Of Total	Raw Count	Concentration (counts/m³)	% Of Total	Raw Count	Concentration (counts/m³)	% Of Total
Alternaria												
Ascospores	1	78.4	16.7%							21	1650	47.7%
Aspergillus/Penicillium-like										0	505	20.50/
Basidiospores Cladosporium	2	157	33.3%							9	705 862	20.5% 25.0%
Curvularia	2	137	33.370							11	802	23.070
Epicoccum	1	78.4	16.7%									
Myxomycete/Rust/Smut-like	2	157	33.3%							3	235	6.82%
Pithomyces												
TOTAL	6	470.	100.%	-	-	-	-		-	44	3450	100.%
Non-Cellulosic Fibers	-	-	-	-	-	-	-	-	-	-	-	-
Hyphal Fragments	-	=	-	-	-	-	-	=	-	2	157	-
Insect Parts	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-	-	-	-
Skin Cell % of Total Debris Total Debris in Background		60-80% 40-60%			N/A N/A			N/A N/A			N/A N/A	

Disclaimer: This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. Unless otherwise noted blank sample correction was not performed on analytical results. Scientific Analytical Institute participates in the AIHA EMPAT program for fungi. EMPAT Laboratory ID: 173190. Reporting Limit equals Analytical Sensitivity. Unless indicated, areas and volumes were provided by the customer.

Palmer Hines (7)
Analyst
Approved Signatory