



December 5, 2023

Transylvania County  
 155 Public Safety Way  
 Brevard, NC 28712  
 Attn: David McNeill, Assistant County Manager

Subject: Mold Assessment  
 Brevard Elementary School  
 Brevard, 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 28, 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 two exterior air samples to be averaged and used 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 NUMBER	LOCATON	LABORATORY RESULTS Total Mold
BE-1	Exterior #1	3530 count/m <sup>3</sup> (3420 count/m <sup>3</sup> - Average Exterior)
BE-2	Interior – Corridor at Lobby	1020 count/m <sup>3</sup>
BE-3	Interior – Corridor at Classroom 182	5090 count/m <sup>3</sup>
BE-4	Interior - Library	940 count/m <sup>3</sup>
BE-5	Interior – Corridor at 173	3450 count/m <sup>3</sup>
BE-6	Interior – Corridor at 163	5640 count/m <sup>3</sup>
BE-7	Interior – Corridor at 141	1650 count/m <sup>3</sup>
BE-8	Interior – Corridor at 147	2190 count/m <sup>3</sup>
BE-9	Interior – Breezeway at Kindergarten and Gym	2350 count/m <sup>3</sup>
BE-10	Interior – Corridor at 110	1490 count/m <sup>3</sup>
BE-11	Interior - Gymnasium	2900 count/m <sup>3</sup>
BE-12	Interior - Cafeteria	470 count/m <sup>3</sup>

Count/m<sup>3</sup> = spore count per cubic meter of air

### AIRBORNE MOLD SAMPLES

SAMPLE NUMBER	LOCATON	LABORATORY RESULTS Total Mold
BE-13	Interior – Corridor at 200	313 count/m <sup>3</sup>
BE-14	Interior – EC Classroom	3210 count/m <sup>3</sup>
BE-15	Exterior #2	3290 count/m <sup>3</sup> (3420 count/m <sup>3</sup> - Average Exterior)

Count/m<sup>3</sup> = 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 (average of two samples) with the exception of the samples collected in the Corridor at Classroom 182, Corridor at 173 and Corridor at 163.

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. Even though it is a common exterior general of mold, there were elevated levels of Myxomycete/Rust/Smut-like spores in many areas of the school that contributed to the higher total spore counts. These could exist from interior plants, or it is possible that high foot traffic between the indoors and outdoors (mulched areas or playgrounds) could be the cause of the counts. Although it is an allergen, there are no known toxins produced from these spores.

Sample analysis indicates low counts of *Aspergillus/Penicillium-like* spores on the sample collected from the interior breezeway between the Kindergarten wing and the Gym that were not identified on the exterior sample. *Aspergillus/Penicillium-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 anti-microbial 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

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

**Attn:** Suzanne Hinson

**Lab Order ID:** 10038024

**Analysis:** STA

**Date Received:** 11/29/2023

**Project:** FDG231120- Brevard Elementary

**Date Reported:** 11/29/2023

Sample ID	BE-1			BE-2			BE-3			EXTERIOR		
Lab Sample ID	10038024_0001			10038024_0002			10038024_0003			AVERAGE		
Description	Exterior			Interior- corridor @ lobby			Interior- corridor @ classroom 182			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
<i>Alternaria</i>							1	78.4	1.54%	<1	39.2	N/A
Ascospores	20	1570	44.4%	3	235	23.1%	8	627	12.3%	20	1530	46.5%
<i>Aspergillus/Penicillium-like</i>												
Basidiospores	18	1410	40.0%	4	313	30.8%	7	549	10.8%	16	1220	37.2%
<i>Cladosporium</i>	5	392	11.1%	3	235	23.1%	8	627	12.3%	6	431	14.0%
<i>Curvularia</i>												
<i>Drechslera/Bipolaris</i>												
<i>Epicoccum</i>							9	705	13.8%	<1	39.2	N/A
Myxomycete/Rust/Smut-like	1	78.4	2.22%	3	235	23.1%	30	2350	46.2%	1	78.4	2.33%
<i>Nigrospora</i>							1	78.4	1.54%	<1	39.2	N/A
<i>Pithomyces</i>							1	78.4	1.54%			
<i>Spegazzinia</i>	1	78.4	2.22%							<1	39.2	N/A
<b>TOTAL</b>	<b>45</b>	<b>3530</b>	<b>100.0%</b>	<b>13</b>	<b>1020</b>	<b>100.0%</b>	<b>65</b>	<b>5090</b>	<b>100.0%</b>	<b>43</b>	<b>3420</b>	<b>100.0%</b>
Non-Cellulosic Fibers	-	-	-	-	-	-	-	-	-	-	-	-
Hyphal Fragments	-	-	-	-	-	-	12	940	-	-	39.2	-
Insect Parts	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	2	157	-	-	-	-
Skin Cell % of Total Debris		0-20%			40-60%			40-60%			N/A	
Total Debris in Background		40-60%			40-60%			80-100%			N/A	

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Darrin Parrick (15)

Analyst

Approved Signatory



# Direct Exam: Spore Trap Analysis

SAI Method B-SOP-003



**Customer:** Fleetwood Daniels Group  
PO Box 1144  
Waynesville, NC 28786

**Attn:** Suzanne Hinson

**Lab Order ID:** 10038024

**Analysis:** STA

**Date Received:** 11/29/2023

**Project:** FDG231120- Brevard Elementary

**Date Reported:** 11/29/2023

Sample ID	BE-4			BE-5			BE-6			EXTERIOR		
Lab Sample ID	10038024_0004			10038024_0005			10038024_0006			AVERAGE		
Description	Interior- Library			Interior- corridor @ 173			Interior- corridor @ 163			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
<i>Alternaria</i>				1	78.4	2.27%	1	78.4	1.39%	<1	39.2	N/A
Ascospores	2	157	16.7%	5	392	11.4%	6	470.	8.33%	20	1530	46.5%
<i>Aspergillus/Penicillium-like</i>												
Basidiospores	1	78.4	8.33%	5	392	11.4%	4	313	5.56%	16	1220	37.2%
<i>Cladosporium</i>	1	78.4	8.33%	6	470.	13.6%	6	470.	8.33%	6	431	14.0%
<i>Curvularia</i>												
<i>Drechslera/Bipolaris</i>												
<i>Epicoccum</i>	1	78.4	8.33%	3	235	6.82%	6	470.	8.33%	<1	39.2	N/A
Myxomycete/Rust/Smut-like	6	470.	50.0%	22	1720	50.0%	49	3840	68.1%	1	78.4	2.33%
<i>Nigrospora</i>				1	78.4	2.27%				<1	39.2	N/A
<i>Pithomyces</i>				1	78.4	2.27%						
<i>Spegazzinia</i>	1	78.4	8.33%							<1	39.2	N/A
<b>TOTAL</b>	<b>12</b>	<b>940.</b>	<b>100.0%</b>	<b>44</b>	<b>3450</b>	<b>100.0%</b>	<b>72</b>	<b>5640</b>	<b>100.0%</b>	<b>43</b>	<b>3420</b>	<b>100.0%</b>
Non-Cellulosic Fibers	-	-	-	-	-	-	-	-	-	-	-	-
Hyphal Fragments	4	313	-	5	392	-	3	235	-	-	39.2	-
Insect Parts	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	1	78.4	-	-	-	-	-	-	-
Skin Cell % of Total Debris		<b>20-40%</b>			<b>40-60%</b>			<b>40-60%</b>			<b>N/A</b>	
Total Debris in Background		<b>40-60%</b>			<b>60-80%</b>			<b>60-80%</b>			<b>N/A</b>	

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Darrin Parrick (15)

Analyst

Approved Signatory



# Direct Exam: Spore Trap Analysis

SAI Method B-SOP-003



**Customer:** Fleetwood Daniels Group  
 PO Box 1144  
 Waynesville, NC 28786

**Attn:** Suzanne Hinson

**Lab Order ID:** 10038024

**Analysis:** STA

**Date Received:** 11/29/2023

**Date Reported:** 11/29/2023

**Project:** FDG231120- Brevard Elementary

Sample ID	BE-7			BE-8			BE-9			EXTERIOR		
Lab Sample ID	10038024_0007			10038024_0008			10038024_0009			AVERAGE		
Description	Interior- corridor @ 141			Interior- corridor @ 147			Interior- breezewat @ kind/ gym			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
<i>Alternaria</i>	1	78.4	4.76%	2	157	7.14%	1	78.4	3.33%	<1	39.2	N/A
Ascospores	4	313	19.0%	2	157	7.14%	6	470.	20.0%	20	1530	46.5%
<i>Aspergillus/Penicillium-like</i>							3	235	10.0%			
Basidiospores	3	235	14.3%	1	78.4	3.57%	1	78.4	3.33%	16	1220	37.2%
<i>Cladosporium</i>	3	235	14.3%	2	157	7.14%	3	235	10.0%	6	431	14.0%
<i>Curvularia</i>	1	78.4	4.76%									
<i>Drechslera/Bipolaris</i>												
<i>Epicoccum</i>	2	157	9.52%	4	313	14.3%	8	627	26.7%	<1	39.2	N/A
Myxomycete/Rust/Smut-like	6	470.	28.6%	17	1330	60.7%	8	627	26.7%	1	78.4	2.33%
<i>Nigrospora</i>	1	78.4	4.76%							<1	39.2	N/A
<i>Pithomyces</i>												
<i>Spegazzinia</i>										<1	39.2	N/A
<b>TOTAL</b>	<b>21</b>	<b>1650</b>	<b>100.%</b>	<b>28</b>	<b>2190</b>	<b>100.%</b>	<b>30</b>	<b>2350</b>	<b>100.%</b>	<b>43</b>	<b>3420</b>	<b>100.%</b>
Non-Cellulosic Fibers	-	-	-	-	-	-	-	-	-	-	-	-
Hyphal Fragments	1	78.4	-	2	157	-	1	78.4	-	-	39.2	-
Insect Parts	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-	-	-	-
<b>Skin Cell % of Total Debris</b>		<b>40-60%</b>			<b>40-60%</b>			<b>40-60%</b>			<b>40-60%</b>	N/A
<b>Total Debris in Background</b>		<b>40-60%</b>			<b>40-60%</b>			<b>40-60%</b>			<b>40-60%</b>	N/A

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# Direct Exam: Spore Trap Analysis

SAI Method B-SOP-003



**Customer:** Fleetwood Daniels Group  
 PO Box 1144  
 Waynesville, NC 28786

**Attn:** Suzanne Hinson

**Lab Order ID:** 10038024

**Analysis:** STA

**Date Received:** 11/29/2023

**Date Reported:** 11/29/2023

**Project:** FDG231120- Brevard Elementary

Sample ID	BE-10			BE-11			BE-12			EXTERIOR		
Lab Sample ID	10038024_0010			10038024_0011			10038024_0012			AVERAGE		
Description	Interior- corridor @110			Interior- gymnasium			Interior- cafeteria			N/A		
Lab Notes										N/A		
Volume (L)	75			75			75			N/A		
Analytical Sensitivity (counts/m <sup>3</sup> )	78			78			78			N/A		
IDENTIFICATION	Raw Count	Concentration (counts/m <sup>3</sup> )	% Of Total	Raw Count	Concentration (counts/m <sup>3</sup> )	% Of Total	Raw Count	Concentration (counts/m <sup>3</sup> )	% Of Total	Raw Count	Concentration (counts/m <sup>3</sup> )	% Of Total
<i>Alternaria</i>				1	78.4	2.7%				<1	39.2	N/A
Ascospores	3	235	15.8%	4	313	10.8%	2	157	33.3%	20	1530	46.5%
<i>Aspergillus/Penicillium-like</i>												
Basidiospores	4	313	21.1%	2	157	5.41%	1	78.4	16.7%	16	1220	37.2%
<i>Cladosporium</i>	2	157	10.5%	2	157	5.41%	1	78.4	16.7%	6	431	14.0%
<i>Curvularia</i>	1	78.4	5.26%									
<i>Drechslera/Bipolaris</i>				1	78.4	2.7%						
<i>Epicoccum</i>	1	78.4	5.26%	4	313	10.8%				<1	39.2	N/A
Myxomycete/Rust/Smut-like	8	627	42.1%	21	1650	56.8%	2	157	33.3%	1	78.4	2.33%
<i>Nigrospora</i>										<1	39.2	N/A
<i>Pithomyces</i>				2	157	5.41%						
<i>Spegazzinia</i>										<1	39.2	N/A
<b>TOTAL</b>	<b>19</b>	<b>1490</b>	<b>100.0%</b>	<b>37</b>	<b>2900</b>	<b>100.0%</b>	<b>6</b>	<b>470.</b>	<b>100.0%</b>	<b>43</b>	<b>3420</b>	<b>100.0%</b>
Non-Cellulosic Fibers	-	-	-	-	-	-	-	-	-	-	-	-
Hyphal Fragments	2	157	-	4	313	-	-	-	-	-	39.2	-
Insect Parts	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-	-	-	-
<b>Skin Cell % of Total Debris</b>		<b>40-60%</b>			<b>40-60%</b>			<b>20-40%</b>			<b>N/A</b>	
<b>Total Debris in Background</b>		<b>40-60%</b>			<b>60-80%</b>			<b>40-60%</b>			<b>N/A</b>	

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Darrin Parrick (15)

**Analyst**

**Approved Signatory**





# Direct Exam: Spore Trap Analysis

SAI Method B-SOP-003



**Customer:** Fleetwood Daniels Group  
PO Box 1144  
Waynesville, NC 28786

**Attn:** Suzanne Hinson

**Lab Order ID:** 10038024

**Analysis:** STA

**Date Received:** 11/29/2023

**Date Reported:** 11/29/2023

**Project:** FDG231120- Brevard Elementary

Sample ID	BE-13			BE-14			BE-15			EXTERIOR		
Lab Sample ID	10038024_0013			10038024_0014			10038024_0015			AVERAGE		
Description	Interior- corridor @ 200			Interior- classroom EC			Exterior			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
<i>Alternaria</i>							1	78.4	2.38%	<1	39.2	N/A
Ascospores				5	392	12.2%	19	1490	45.2%	20	1530	46.5%
<i>Aspergillus/Penicillium-like</i>												
Basidiospores	1	78.4	25.0%	5	392	12.2%	13	1020	31.0%	16	1220	37.2%
<i>Cladosporium</i>	1	78.4	25.0%	3	235	7.32%	6	470	14.3%	6	431	14.0%
<i>Curvularia</i>				1	78.4	2.44%						
<i>Drechslera/Bipolaris</i>												
<i>Epicoccum</i>				5	392	12.2%	1	78.4	2.38%	<1	39.2	N/A
Myxomycete/Rust/Smut-like	2	157	50.0%	22	1720	53.7%	1	78.4	2.38%	1	78.4	2.33%
<i>Nigrospora</i>							1	78.4	2.38%	<1	39.2	N/A
<i>Pithomyces</i>												
<i>Spegazzinia</i>										<1	39.2	N/A
<b>TOTAL</b>	<b>4</b>	<b>313</b>	<b>100.0%</b>	<b>41</b>	<b>3210</b>	<b>100.0%</b>	<b>42</b>	<b>3290</b>	<b>100.0%</b>	<b>43</b>	<b>3420</b>	<b>100.0%</b>
Non-Cellulosic Fibers	-	-	-	-	-	-	-	-	-	-	-	-
Hyphal Fragments	1	78.4	-	3	235	-	1	78.4	-	-	39.2	-
Insect Parts	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-	-	-	-
<b>Skin Cell % of Total Debris</b>	<b>0-20%</b>			<b>20-40%</b>			<b>0-20%</b>			<b>N/A</b>		
<b>Total Debris in Background</b>	<b>40-60%</b>			<b>60-80%</b>			<b>40-60%</b>			<b>N/A</b>		

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