



December 7, 2023

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

Subject: Mold Assessment
 TC Henderson Elementary School
 Lake Toxaway, 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 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
TC-1	Exterior #1	2510 count/m ³ (3840 count/m ³ · Average Exterior)
TC-2	Interior – Office and Lobby Area	862 count/m ³
TC-3	Interior – Corridor at 5/6	1800 count/m ³
TC-4	Interior – Corridor at Library	705 count/m ³
TC-5	Interior – Gymnasium	2900 count/m ³
TC-6	Interior – Library	5640 count/m ³
TC-7	Exterior #2	5170 count/m ³ (3840 count/m ³ · Average Exterior)

Count/m³ = 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 sample collected in the Library.

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 significant counts of *Aspergillus/Penicillium-like* spores on the samples collected in the Gymnasium and Library, 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. FDG would recommend investigation in this area to ensure there are no high moisture levels and take measures to reduce the spore counts. FDG also recommends installing a dehumidifier in these areas to help maintain proper humidity levels.

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: 10038122
Analysis: STA
Date Received: 11/30/2023
Date Reported: 12/01/2023

Project: FDG231120 - TC Henderson

Sample ID	TC-1			TC-2			TC-3			EXTERIOR		
Lab Sample ID	10038122_0001			10038122_0002			10038122_0003			AVERAGE		
Description	Exterior			Interior - off./lobby area			Interior - corridor @ 5/6			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	4.35%	<1	39.2	N/A
Ascospores	19	1490	59.4%	1	78.4	9.09%	9	705	39.1%	24	1840	48.0%
<i>Aspergillus/Penicillium-like</i>												
Basidiospores	9	705	28.1%	1	78.4	9.09%	3	235	13.0%	10	745	20.0%
<i>Cladosporium</i>	4	313	12.5%	1	78.4	9.09%	2	157	8.7%	13	982	26.0%
<i>Epicoccum</i>				1	78.4	9.09%	1	78.4	4.35%			
Myxomycete/Rust/Smut-like				4	313	36.4%	4	313	17.4%	3	196	6.00%
<i>Nigrospora</i>				3	235	27.3%	3	235	13.0%	<1	39.2	N/A
<i>Pithomyces</i>												
TOTAL	32	2510	100.0%	11	862	100.0%	23	1800	100.0%	50	3840	100.0%
Non-Cellulosic Fibers	-	-	-	-	-	-	-	-	-	-	-	-
Hyphal Fragments	4	313	-	1	78.4	-	1	78.4	-	-	156.5	-
Insect Parts	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-	-	-	-
Skin Cell % of Total Debris		0-20%			40-60%			40-60%			N/A	
Total Debris in Background		40-60%			60-80%			60-80%			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.

Darrin Parrick (7)

 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: 10038122

Analysis: STA

Date Received: 11/30/2023

Date Reported: 12/01/2023

Project: FDG231120 - TC Henderson

Sample ID	TC-4			TC-5			TC-6			EXTERIOR		
Lab Sample ID	10038122_0004			10038122_0005			10038122_0006			AVERAGE		
Description	Interior - corridor @ library			Interior - gym.			Interior - library			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	39.2	N/A
Ascospores	1	78.4	11.1%	5	392	13.5%	1	78.4	1.39%	24	1840	48.0%
<i>Aspergillus/Penicillium-like</i>				14	1100	37.8%	67	5250	93.1%			
Basidiospores	2	157	22.2%	6	470.	16.2%	2	157	2.78%	10	745	20.0%
<i>Cladosporium</i>	4	313	44.4%	5	392	13.5%	1	78.4	1.39%	13	982	26.0%
<i>Epicoccum</i>	1	78.4	11.1%									
Myxomycete/Rust/Smut-like	1	78.4	11.1%	4	313	10.8%	1	78.4	1.39%	3	196	6.00%
<i>Nigrospora</i>				2	157	5.41%				<1	39.2	N/A
<i>Pithomyces</i>				1	78.4	2.7%						
TOTAL	9	705	100.0%	37	2900	100.0%	72	5640	100.0%	50	3840	100.0%
Non-Cellulosic Fibers	-	-	-	-	-	-	-	-	-	-	-	-
Hyphal Fragments	2	157	-	6	470.	-	2	157	-	-	156.5	-
Insect Parts	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	1	78.4	-	-	-	-	-	-	-
Skin Cell % of Total Debris		20-40%			40-60%			20-40%			N/A	
Total Debris in Background		40-60%			80-100%			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.

Darrin Parrick (7)

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: 10038122

Analysis: STA

Date Received: 11/30/2023

Date Reported: 12/01/2023

Project: FDG231120 - TC Henderson

Sample ID	TC-7									EXTERIOR		
Lab Sample ID	10038122_0007									AVERAGE		
Description	Exterior									N/A		
Lab Notes										N/A		
Volume (L)	75									N/A		
Analytical Sensitivity (counts/m ³)	78									N/A		
IDENTIFICATION	Raw Count	Concentration (counts/m ³)	% Of Total	Raw Count	Concentration (counts/m ³)	% Of Total	Raw Count	Concentration (counts/m ³)	% Of Total	Raw Count	Concentration (counts/m ³)	% Of Total
<i>Alternaria</i>	1	78.4	1.52%				<1	39.2	N/A			
Ascospores	28	2190	42.4%				24	1840	48.0%			
<i>Aspergillus/Penicillium-like</i>												
Basidiospores	10	784	15.2%				10	745	20.0%			
<i>Cladosporium</i>	21	1650	31.8%				13	982	26.0%			
<i>Epicoccum</i>												
Myxomycete/Rust/Smut-like	5	392	7.58%				3	196	6.00%			
<i>Nigrospora</i>	1	78.4	1.52%				<1	39.2	N/A			
<i>Pithomyces</i>												
TOTAL	66	5170	100.0%	-	-	-	-	-	-	50	3840	100.0%
Non-Cellulosic Fibers	-	-	-	-	-	-	-	-	-	-	-	-
Hyphal Fragments	-	-	-	-	-	-	-	-	-	-	156.5	-
Insect Parts	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-	-	-	-
Skin Cell % of Total Debris		0-20%			N/A			N/A			N/A	
Total Debris in Background		40-60%			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.

Darrin Parrick (7)

Analyst

Darrin Parrick

Approved Signatory