



December 6, 2023

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

Subject: Mold Assessment
 Rosman High and Middle 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 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
RMH-1	Exterior #1	4390 count/m ³ (3920 count/m ³ - Average Exterior)
RMH-2	Interior – Gymnasium	4230 count/m ³
RMH-3	Interior – Corridor at Shop/Bathrooms	3290 count/m ³
RMH-4	Interior – Corridor at 213	3130 count/m ³
RMH-5	Interior – Lobby at Main Office	1800 count/m ³
RMH-6	Interior – Main Office	470 count/m ³
RMH-7	Interior – Theater	470 count/m ³
RMH-8	Interior – Corridor at Cafeteria	3370 count/m ³
RMH-9	Interior – Corridor at 243	1020 count/m ³
RMH-10	Interior – Library	2040 count/m ³
RMH-11	Interior – Corridor at 312	1800 count/m ³
RMH-12	Interior – Corridor at 300	1570 count/m ³
RMH-13	Interior – Lower Level Gym	4860 count/m ³
RMH-14	Interior – Band Room	2660 count/m ³
RMH-15	Interior – Field House	157 count/m ³
RMH-16	Exterior #2	3450 count/m ³ (3920 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 samples collected in the Gymnasium and the Lower Level Gymnasium.

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/Penicillium-like* spores on the sample collected at the Corridor at the Shop Area, that were not identified on the exterior sample. These could be from current or prior water damaged areas such as ceiling tiles. FDG would recommend replacing any tiles that have water damaged areas with signs of mold growth. *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. Significant counts of *Aspergillus/Penicillium-like* spores were identified on the sample in the Lower Level Gymnasium. FDG would recommend investigation in this area to ensure there are no high moisture levels and take measures to reduce the spore counts.

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.

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.

A handwritten signature in black ink that reads "Suzanne Hinson". The signature is written in a cursive style with a large, looped initial 'S'.

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: 10038124

Analysis: STA

Date Received: 11/30/2023

Date Reported: 12/01/2023

Project: FDG231120 - Rosman Middle/High

Sample ID	RMH-1	RMH-2	RMH-3	EXTERIOR								
Lab Sample ID	10038124_0001	10038124_0002	10038124_0003	AVERAGE								
Description	Exterior	Interior - gym.	Interior - corridor	N/A								
Lab Notes				N/A								
Volume (L)	75	75	75	N/A								
Analytical Sensitivity (counts/m ³)	78	78	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	1.79%				<1	39.2	N/A			
Ascospores	23	1800	41.1%	11	862	20.4%	9	705	21.4%	21	1650	42.9%
<i>Aspergillus/Penicillium-like</i>							12	940.	28.6%			
Basidiospores	14	1100	25.0%	8	627	14.8%	6	470.	14.3%	12	942	24.5%
<i>Cladosporium</i>	13	1020	23.2%	7	549	13.0%	3	235	7.14%	12	941	24.5%
<i>Curvularia</i>												
<i>Drechslera/Bipolaris</i>												
<i>Epicoccum</i>	1	78.4	1.79%	5	392	9.26%				1	78.4	2.04%
Myxomycete/Rust/Smut-like	4	313	7.14%	19	1490	35.2%	3	235	7.14%	3	235	6.12%
<i>Nigrospora</i>							7	549	16.7%			
<i>Pithomyces</i>				3	235	5.56%	1	78.4	2.38%			
<i>Pyricularia</i>							1	78.4	2.38%			
<i>Spegazzinia</i>												
<i>Tetraploa</i>				1	78.4	1.85%						
Unknown/Other										<1	39.2	N/A
TOTAL	56	4390	100.0%	54	4230	100.0%	42	3290	100.0%	49	3920	100.0%
Non-Cellulosic Fibers	-	-	-	-	-	-	-	-	-	-	-	-
Hyphal Fragments	6	470.	-	6	470.	-	5	392	-	4	313.5	-
Insect Parts	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	1	78.4	-	-	-	-	-	-	-
Skin Cell % of Total Debris		0-20%			40-60%			40-60%			N/A	
Total Debris in Background		40-60%			80-100%			80-100%			N/A	

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Darrin Parrick (16)

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: 10038124

Analysis: STA

Date Received: 11/30/2023

Date Reported: 12/01/2023

Project: FDG231120 - Rosman Middle/High

Sample ID	RMH-4			RMH-5			RMH-6			EXTERIOR		
Lab Sample ID	10038124_0004			10038124_0005			10038124_0006			AVERAGE		
Description	Interior - corridor @ 213			Interior - lobby @ off.			Interior - offices			N/A		
Lab Notes										N/A		
Volume (L)	75			75			75			N/A		
Analytical Sensitivity (counts/m ³)	78			78			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	2.5%	1	78.4	4.35%				<1	39.2	N/A
Ascospores	10	784	25.0%	7	549	30.4%	3	235	50.0%	21	1650	42.9%
<i>Aspergillus/Penicillium-like</i>												
Basidiospores	8	627	20.0%	9	705	39.1%	3	235	50.0%	12	942	24.5%
<i>Cladosporium</i>	4	313	10.0%	4	313	17.4%				12	941	24.5%
<i>Curvularia</i>												
<i>Drechslera/Bipolaris</i>												
<i>Epicoccum</i>	1	78.4	2.5%							1	78.4	2.04%
Myxomycete/Rust/Smut-like	6	470.	15.0%	1	78.4	4.35%				3	235	6.12%
<i>Nigrospora</i>	8	627	20.0%	1	78.4	4.35%						
<i>Pithomyces</i>	2	157	5.00%									
<i>Pyricularia</i>												
<i>Spegazzinia</i>												
<i>Tetraploa</i>												
Unknown/Other										<1	39.2	N/A
TOTAL	40	3130	100.0%	23	1800	100.0%	6	470.	100.0%	49	3920	100.0%
Non-Cellulosic Fibers	-	-	-	-	-	-	-	-	-	-	-	-
Hyphal Fragments	4	313	-	3	235	-	-	-	-	4	313.5	-
Insect Parts	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-	-	-	-
Skin Cell % of Total Debris		40-60%			20-40%			0-20%			N/A	
Total Debris in Background		80-100%			40-60%			20-40%			N/A	

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Darrin Parrick (16)

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: 10038124

Analysis: STA

Date Received: 11/30/2023

Date Reported: 12/01/2023

Project: FDG231120 - Rosman Middle/High

Sample ID	RMH-7	RMH-8	RMH-9	EXTERIOR								
Lab Sample ID	10038124_0007	10038124_0008	10038124_0009	AVERAGE								
Description	Interior - theater	Interior - cafeteria/corridor	Interior - corridor @ 243	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>				2	157	4.65%				<1	39.2	N/A
Ascospores	1	78.4	16.7%	8	627	18.6%	2	157	15.4%	21	1650	42.9%
<i>Aspergillus/Penicillium-like</i>												
Basidiospores	3	235	50.0%	5	392	11.6%	2	157	15.4%	12	942	24.5%
<i>Cladosporium</i>				6	470.	14.0%	1	78.4	7.69%	12	941	24.5%
<i>Curvularia</i>												
<i>Drechslera/Bipolaris</i>				1	78.4	2.33%						
<i>Epicoccum</i>				2	157	4.65%	2	157	15.4%	1	78.4	2.04%
Myxomycete/Rust/Smut-like	2	157	33.3%	17	1330	39.5%	5	392	38.5%	3	235	6.12%
<i>Nigrospora</i>				2	157	4.65%						
<i>Pithomyces</i>												
<i>Pyricularia</i>												
<i>Spegazzinia</i>							1	78.4	7.69%			
<i>Tetraploa</i>												
Unknown/Other										<1	39.2	N/A
TOTAL	6	470.	100.0%	43	3370	100.0%	13	1020	100.0%	49	3920	100.0%
Non-Cellulosic Fibers	-	-	-	-	-	-	-	-	-	-	-	-
Hyphal Fragments	-	-	-	4	313	-	1	78.4	-	4	313.5	-
Insect Parts	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	2	157	-	-	-	-	-	-	-
Skin Cell % of Total Debris		20-40%			40-60%			20-40%			N/A	
Total Debris in Background		20-40%			80-100%			60-80%			N/A	

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Darrin Parrick (16)

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: 10038124

Analysis: STA

Date Received: 11/30/2023

Date Reported: 12/01/2023

Project: FDG231120 - Rosman Middle/High

Sample ID	RMH-10			RMH-11			RMH-12			EXTERIOR		
Lab Sample ID	10038124_0010			10038124_0011			10038124_0012			AVERAGE		
Description	Interior - library			Interior - corridor @ 312			Interior - corridor @ 300			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	3.85%	1	78.4	4.35%	1	78.4	5.00%	<1	39.2	N/A
Ascospores	7	549	26.9%	4	313	17.4%	5	392	25.0%	21	1650	42.9%
<i>Aspergillus/Penicillium-like</i>												
Basidiospores	6	470.	23.1%	3	235	13.0%	2	157	10.0%	12	942	24.5%
<i>Cladosporium</i>	4	313	15.4%	5	392	21.7%	6	470.	30.0%	12	941	24.5%
<i>Curvularia</i>				1	78.4	4.35%						
<i>Drechslera/Bipolaris</i>												
<i>Epicoccum</i>				2	157	8.7%	1	78.4	5.00%	1	78.4	2.04%
Myxomycete/Rust/Smut-like	7	549	26.9%	6	470.	26.1%	5	392	25.0%	3	235	6.12%
<i>Nigrospora</i>	1	78.4	3.85%	1	78.4	4.35%						
<i>Pithomyces</i>												
<i>Pyricularia</i>												
<i>Spegazzinia</i>												
<i>Tetraploa</i>												
Unknown/Other										<1	39.2	N/A
TOTAL	26	2040	100.0%	23	1800	100.0%	20	1570	100.0%	49	3920	100.0%
Non-Cellulosic Fibers	-	-	-	-	-	-	-	-	-	-	-	-
Hyphal Fragments	7	549	-	2	157	-	3	235	-	4	313.5	-
Insect Parts	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-	-	-	-
Skin Cell % of Total Debris		40-60%			40-60%			40-60%			N/A	
Total Debris in Background		60-80%			40-60%			60-80%			N/A	

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Darrin Parrick (16)

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: 10038124

Analysis: STA

Date Received: 11/30/2023

Date Reported: 12/01/2023

Project: FDG231120 - Rosman Middle/High

Sample ID	RMH-13			RMH-14			RMH-15			EXTERIOR		
Lab Sample ID	10038124_0013			10038124_0014			10038124_0015			AVERAGE		
Description	Interior - lower level gym			Interior - band room			Interior - field house			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	2.94%				<1	39.2	N/A
Ascospores	6	470.	9.68%	10	784	29.4%	1	78.4	50.0%	21	1650	42.9%
<i>Aspergillus/Penicillium-like</i>	31	2430	50.0%									
Basidiospores	9	705	14.5%	11	862	32.4%	1	78.4	50.0%	12	942	24.5%
<i>Cladosporium</i>	5	392	8.06%	6	470.	17.6%				12	941	24.5%
<i>Curvularia</i>	1	78.4	1.61%									
<i>Drechslera/Bipolaris</i>												
<i>Epicoccum</i>	1	78.4	1.61%	1	78.4	2.94%				1	78.4	2.04%
Myxomycete/Rust/Smut-like	7	549	11.3%	3	235	8.82%				3	235	6.12%
<i>Nigrospora</i>	1	78.4	1.61%	1	78.4	2.94%						
<i>Pithomyces</i>	1	78.4	1.61%	1	78.4	2.94%						
<i>Pyricularia</i>												
<i>Spegazzinia</i>												
<i>Tetraploa</i>												
Unknown/Other										<1	39.2	N/A
TOTAL	62	4860	100.0%	34	2660	100.0%	2	157	100.0%	49	3920	100.0%
Non-Cellulosic Fibers	-	-	-	-	-	-	-	-	-	-	-	-
Hyphal Fragments	4	313	-	-	-	-	-	-	-	4	313.5	-
Insect Parts	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-	-	-	-
Skin Cell % of Total Debris		40-60%			0-20%			0-20%			N/A	
Total Debris in Background		60-80%			20-40%			20-40%			N/A	

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Darrin Parrick (16)

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: 10038124

Analysis: STA

Date Received: 11/30/2023

Date Reported: 12/01/2023

Project: FDG231120 - Rosman Middle/High

Sample ID	RMH-16									EXTERIOR		
Lab Sample ID	10038124_0016									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	39.2	N/A
Ascospores	19	1490	43.2%							21	1650	42.9%
<i>Aspergillus/Penicillium-like</i>												
Basidiospores	10	784	22.7%							12	942	24.5%
<i>Cladosporium</i>	11	862	25.0%							12	941	24.5%
<i>Curvularia</i>												
<i>Drechslera/Bipolaris</i>												
<i>Epicoccum</i>	1	78.4	2.27%							1	78.4	2.04%
Myxomycete/Rust/Smut-like	2	157	4.55%							3	235	6.12%
<i>Nigrospora</i>												
<i>Pithomyces</i>												
<i>Pyricularia</i>												
<i>Spegazzinia</i>												
<i>Tetraploa</i>												
Unknown/Other	1	78.4	2.27%							<1	39.2	N/A
TOTAL	44	3450	100.0%	-	-	-	-	-	-	49	3920	100.0%
Non-Cellulosic Fibers	-	-	-	-	-	-	-	-	-	-	-	-
Hyphal Fragments	2	157	-	-	-	-	-	-	-	4	313.5	-
Insect Parts	-	-	-	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-	-	-	-
Skin Cell % of Total Debris		0-20%			N/A			N/A			N/A	
Total Debris in Background		20-40%			N/A			N/A			N/A	

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Darrin Parrick (16)

Analyst

Approved Signatory