



# MATRIX

Health & Safety Consultants, L.L.C.

March 15, 2023

JBG, LLC  
PO Box 90846  
Raleigh, NC 27675

Attn: Darrell Janezic

Subject: Mold Assessment  
Sanford Train Depot  
106 Charlotte Avenue  
Sanford, North Carolina 27330  
Matrix Project # 230347

Dear Mr. Janezic:

Matrix Health & Safety Consultants, L.L.C. (Matrix) is pleased to present this report of the limited mold assessment at the referenced project site. This report includes a description of the scope of services performed, results of the survey, and recommendations where necessary.

## PROJECT INFORMATION

The limited mold assessment was performed on March 9, 2023, by Gregg E. Heppert, Industrial Hygienist with Matrix Health & Safety. Matrix was present at the subject building for the purpose of collecting mold air samples from the building, which is used as office space and events.

## GENERAL OBSERVATIONS

It is our understanding that water collects beneath the building resulting in possible degradation of the kitchen flooring. Supply ductwork is a slab level. No visible mold was observed during the site visit.

During our inspection, Matrix collected data for relative humidity. The inside relative humidity was 30%. ASHRAE standards recommend an interior humidity level between 40% - 60% to promote healthy air quality. Humidity levels above 60% will likely promote mold growth.

## MOLD SURVEY PROCEDURES AND RESULTS

The scope of the survey included collection of air samples for the purpose of determining potential exposure to mold. Four air samples were collected from inside the building and submitted for analysis. One background air sample was used for comparative purposes. All office doors were open during sampling. All samples collected were shipped to Eurofins-CEI for analysis and is accredited by the American Industrial Hygiene Association (AIHA) for environmental microbiology. Laboratory analysis reports are attached.

The following table provides a brief summary of the fungi air sampling results:

SAMPLE #	LOCATON	LABORATORY RESULTS
<b>AIR-O-CELL AIR SAMPLES</b>		
STD-1	Conference Room/Kitchen	270 spores/m <sup>3</sup> <b>Aspergillus/Penicillium 93 spores/m<sup>3</sup></b>
STD-2	HVAC Room	<b>3,200 spores/m<sup>3</sup></b> <b>Aspergillus/Penicillium 2,880 spores/m<sup>3</sup></b>
STD-3	Office Area	490 spores/m <sup>3</sup> <b>Aspergillus/Penicillium 293 spores/m<sup>3</sup></b>
STD-4	Storage Area	<b>4,000 spores/m<sup>3</sup></b> <b>Aspergillus/Penicillium 3,380 spores/m<sup>3</sup></b>
EX-1	Exterior – Front of Building	710 spores/m <sup>3</sup> Aspergillus/Penicillium 27 spores/m <sup>3</sup>

Spores/m<sup>3</sup> – Fungal spore count per cubic meter of air.

Air sampling analysis indicated **higher** concentrations of total airborne fungi inside the building as compared to outside. Additionally, elevated levels of **Aspergillus/Penicillium** were found inside the building, indicating an airborne mold amplification is present. This type of mold is generally indicative of a past or ongoing moisture intrusion issue, and is a possible cause for concern as a potential health risk to sensitive individuals.

#### DISCUSSION/RECOMMENDATIONS

Based on observations and testing data collected during our site visit, it is our opinion that a potential mold exposure issue is present inside the building.

- 1) The most crucial step in addressing any mold remediation project is correcting moisture issues that promote mold growth and contamination. Investigation and repairs are recommended to prevent water from entering building below slab.
- 2) Additional investigation to determine if mold is growing on original plaster or wood walls located behind existing drywall.
- 3) It is recommended that the HVAC unit, ductwork and supply vents be cleaned. Servicing each unit by a licensed HVAC contractor is also recommended to ensure proper functioning.
- 4) An approved cleaning agent (Fosters 40-80 or equivalent) and HEPA equipped vacuums should be used to clean hard surfaces inside the building, including, but not limited to, walls, floors, ceilings, and furniture. HEPA vacuum remaining items in the building that cannot be wet wiped.
- 5) Install air filtration fans equipped with HEPA filters and dehumidifiers for the duration of the remediation and cleaning.
- 6) Matrix recommends that mold remediation and duct cleaning be performed by an experienced mold remediation contractor.

- 7) A final inspection and mold air sampling are recommended at the completion of remediation activities.

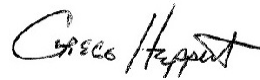
Additionally, conditions reported in this report were based on the time of the inspection only and circumstances may change following the inspection. Should further issues occur or conditions change, it may be necessary to re-evaluate the unit and consider more in-depth testing. An effort was made to provide as complete and comprehensive an evaluation as professionally practical. Observations, findings, results, and conclusions are limited to those conditions apparent at the time of the inspection. It should not be construed that actions taken as a result of this work will achieve complete compliance with every regulatory standard. Neither should it be considered that any recommendations noted are the only possible actions to be taken.

Matrix appreciates the opportunity to have provided these services. We would be glad to discuss any of the results contained in this report, at your convenience. If there are any questions concerning this report or results, please contact us.

Sincerely,  
**MATRIX HEALTH & SAFETY CONSULTANTS, L.L.C.**



C. Britt Wester, CIH  
Principal



Gregg E. Heppert  
Project Principal

Attachments: Site Photographs  
Laboratory Analytical Reports

## Photos





Sagging kitchen floor.



Debris in floor vents.

## **Laboratory Analysis Reports**

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## MOLD SPORE TRAP REPORT

### Nonviable Direct Microscopy

Prepared for

**Matrix Health & Safety Consultants**

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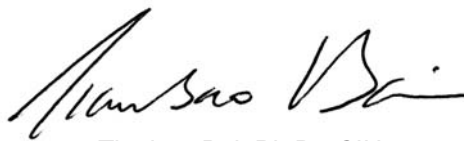
CLIENT PROJECT: Sanford Train Depot

LAB CODE: M230910

TEST METHOD: CEI Method 110

RECEIVED DATE: 03/10/23

REPORT DATE: 03/10/23



Tianbao Bai, Ph.D., CIH  
Laboratory Director

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All samples received in acceptable condition. Information provided by customer includes customer sample ID, location and volume. Analytical results are not corrected for field and laboratory blanks.

Test results relate only to the items tested and cannot be extrapolated to anything larger than their original intent. This report may not be reproduced, except in full, without written approval by Eurofins CEI (CEI). CEI bears no responsibility for client sampling methods and makes no warranty representation regarding the accuracy of client-supplied information in preparing and presenting analytical results. CEI maintains liability limited to the cost of analysis, except for CEI's own willful misconduct or gross negligence. Interpretation of the analytical results is the sole responsibility of the customer.

The overall intralaboratory relative standard deviation (Sr) for the lab = 0.24.

The intralaboratory Sr for each spore range are as follows:  
10-100 spores: 0.30; 101-350 spores: 0.21; >350 spores: 0.14



**MOLD SPORE TRAP REPORT: NONVIABLE DIRECT MICROSCOPY**

**CLIENT** Matrix Health & Safety Consultants  
 2900 Yonkers Road  
 Raleigh, NC 27604

**Lab Code:** M230910  
**Date Received:** 03-09-23  
**Date Analyzed:** 03-10-23  
**Date Reported:** 03-10-23

**PROJECT:** Sanford Train Depot

	Client ID	STD-1				STD-2				STD-3			
	Lab ID	M003063				M003064				M003065			
	Location	Conference Room				HVAC Room				Offices			
	Volume (L)	75				75				75			
IDENTIFICATION		Raw Counts	% Analyzed	Spores per m <sup>3</sup>	% of Total	Raw Counts	% Analyzed	Spores per m <sup>3</sup>	% of Total	Raw Counts	% Analyzed	Spores per m <sup>3</sup>	% of Total
Predominantly Outdoor	<i>Alternaria</i>												
	<i>Arthrinium</i>												
	Ascospores	5	100	67	25	15	100	200	6	3	100	40	8
	Basidiospores	2	100	27	10	3	100	40	1	6	100	80	16
	<i>Bipolaris/Drechslera</i>												
	<i>Cercospora</i>												
	<i>Curvularia</i>												
	<i>Epicoccum</i>												
	<i>Helicomyces*</i>												
	<i>Nigrospora</i>												
	<i>Oidium/Peronospora</i>												
	<i>Periconia/Smuts**</i>												
	<i>Pithomyces</i>												
	Rusts												
	<i>Spegazzinia</i>												
	<i>Stemphylium</i>												
	<i>Tetraploa</i>												
<i>Torula</i>										1	100	13	3
Unspecified spores													
Indoor / Outdoor	<i>Aspergillus/Penicillium</i>	7	100	93	35	216	100	2880	91	22	100	293	59
	<i>Cladosporium</i>	6	100	80	30	3	100	40	1	5	100	67	14
	<i>Fusarium</i>												
Water Indicator	<i>Chaetomium</i>												
	<i>Stachybotrys</i>												
	<i>Trichoderma</i>												
	<i>Ulocladium</i>												
<b>Total</b>		<b>20</b>		<b>270</b>	<b>100%</b>	<b>240</b>		<b>3200</b>	<b>100%</b>	<b>37</b>		<b>490</b>	<b>100%</b>
<b>Background Debris</b>				3				3				2	
<b>Pollen Count</b>				1									
<b>Hyphal Fragments</b>				1				1					
<b>Analytical Sensitivity (Spores/m<sup>3</sup>)</b>				13				13				13	

\* *Helicomyces* includes *Helicosporium*; \*\* *Periconia/Smuts* includes *Myxomycetes*

Spores per m<sup>3</sup> ( final counts ) reported to 2 significant figures

Spores of *Aspergillus*, *Penicillium*, and others are small with few distinguishing features and therefore can not be differentiated.

If % analyzed is <100%, spores per m<sup>3</sup> is based on extrapolation and not actual count.

Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

ANALYST: \_\_\_\_\_

Vidya Natarajan

APPROVED BY: \_\_\_\_\_

Tianbao Bai, Ph.D., Laboratory Director



**MOLD SPORE TRAP REPORT: NONVIABLE DIRECT MICROSCOPY**

**CLIENT** Matrix Health & Safety Consultants  
 2900 Yonkers Road  
 Raleigh, NC 27604

**Lab Code:** M230910  
**Date Received:** 03-09-23  
**Date Analyzed:** 03-10-23  
**Date Reported:** 03-10-23

**PROJECT:** Sanford Train Depot

	Client ID	STD-4				EX-1							
	Lab ID	M003066				M003067							
	Location	Storage				Exterior							
	Volume (L)	75				75							
IDENTIFICATION		Raw Counts	% Analyzed	Spores per m <sup>3</sup>	% of Total	Raw Counts	% Analyzed	Spores per m <sup>3</sup>	% of Total	Raw Counts	% Analyzed	Spores per m <sup>3</sup>	% of Total
Predominantly Outdoor	<i>Alternaria</i>												
	<i>Arthrinium</i>												
	Ascospores	6	100	80	2	10	100	133	19				
	Basidiospores	3	100	40	1	23	100	307	43				
	<i>Bipolaris/Drechslera</i>												
	<i>Cercospora</i>												
	<i>Curvularia</i>												
	<i>Epicoccum</i>												
	<i>Helicomyces*</i>												
	<i>Nigrospora</i>												
	<i>Oidium/Peronospora</i>												
	<i>Periconia/Smuts**</i>												
	<i>Pithomyces</i>												
	Rusts												
	<i>Spegazzinia</i>												
	<i>Stemphylium</i>												
<i>Tetraploa</i>													
<i>Torula</i>													
Unspecified spores													
Indoor / Outdoor	<i>Aspergillus/Penicillium</i>	109	43	3380	85	2	100	27	4				
	<i>Cladosporium</i>	35	100	467	12	18	100	240	34				
	<i>Fusarium</i>												
Water Indicator	<i>Chaetomium</i>	1	100	13	<1								
	<i>Stachybotrys</i>												
	<i>Trichoderma</i>												
	<i>Ulocladium</i>												
<b>Total</b>		<b>150</b>		<b>4000</b>	<b>100%</b>	<b>53</b>		<b>710</b>	<b>100%</b>				
<b>Background Debris</b>				3				3					
<b>Pollen Count</b>								9					
<b>Hyphal Fragments</b>								4					
<b>Analytical Sensitivity (Spores/m<sup>3</sup>)</b>				13				13					

\* *Helicomyces* includes *Helicosporium*; \*\* *Periconia/Smuts* includes *Myxomycetes*

Spores per m<sup>3</sup> ( final counts ) reported to 2 significant figures

Spores of *Aspergillus*, *Penicillium*, and others are small with few distinguishing features and therefore can not be differentiated.

If % analyzed is <100%, spores per m<sup>3</sup> is based on extrapolation and not actual count.

Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

ANALYST: \_\_\_\_\_

Vidya Natarajan

APPROVED BY: \_\_\_\_\_

Tianbao Bai, Ph.D., Laboratory Director

## SPORE CLASSIFICATION:

For purposes of this report, identified mold spores are classified into three general categories depending on environmental conditions the spore is most commonly associated with:

- 1) **PREDOMINANTLY OUTDOOR:** Most commonly found growing outdoors and are not usually associated with indoor mold sources.
- 2) **INDOOR / OUTDOOR:** Commonly grow in both indoor and outdoor environments.
- 3) **WATER INDICATOR:** Most commonly associated with indoor mold growth in buildings with long-term water intrusion issues.

**PREDOMINANTLY  
OUTDOOR**

**INDOOR / OUTDOOR**

**WATER  
INDICATOR**

## BACKGROUND DEBRIS:

Background debris is the amount of non-fungal particulates present in the trace including dust, fibers, skin scales, dust mites, and insect parts. A debris rating is assigned each trace from 0 (lowest) to 5 (highest). A higher debris rating means samples are more difficult to analyze, and spores, especially smaller spores like *Aspergillus* / *Penicillium*, may be obscured. Counts with debris ratings of 4 or 5 should be regarded as minimal counts with actual counts assumed to be significantly higher. A further explanation of the debris rating is listed below:

- 0 - **None Detected.** No debris observed.
- 1 - **Trace.** Field of view obscured < 5%. Counts unaffected.
- 2 - **Light.** Field of view obscured 5% to 25%. Counts slightly affected.
- 3 - **Moderate.** Field of view obscured 25% to 75% . Actual counts may be higher than reported counts.
- 4- **Heavy.** Field of view obscured 75% to 90% . Actual counts may be significantly higher than reported counts.
- 5 - **Very Heavy.** Field of view obscured > 90% . Actual counts may be significantly higher than reported counts. Resampling may be necessary.

## DEFINITION OF TERMS:

**Analytical Sensitivity:** Spore per cubic meter (concentration) divided by raw count.

**Limit of Detection:** One Spore

**Hyphal Fragments:** Hyphal fragments are broken pieces of fungal hyphae and constitute the vegetative structure of the fungus.

**Pollen Count:** Pollen grains (Pollen) are the male reproductive structures of Angiosperm plants. These are counted only as pollen and not classified to Genus level.

**Raw Counts:** The number of spores counted by the analyst.

**% Analyzed:** The amount of the trace that was analyzed for each individual spore type. If large amounts of any spore type(s) exist, counts may be extrapolated.

**% of Total:** Percentage of the sample that is made up of each spore type.

## INDOOR AND OUTDOOR COMPARISONS:

There are no current Federal standards regarding permissible levels of airborne fungi that may be present in buildings. Mold spores are ubiquitous to our planet and it is expected that some spores will be present in normal indoor environments. A general guideline that is widely accepted in the industrial hygiene industry is that the types and numbers of mold spores present in the indoor environment should be similar to those present in the outdoor environment. If inside spore counts are significantly higher than outside counts this may indicate a potential mold problem. The comparison of outdoor and indoor spore types and concentrations is a useful tool in assessing abnormal mold contamination; however, it should not be the sole determining factor in evaluating health risks and remediation strategies.

	SPORE NAME	COMMON HABITAT	ALLERGENIC POTENTIAL	MYCOTOXIN POTENTIAL
Predominantly Outdoor	<i>Alternaria</i>	Soil, seeds, plants, carpet, textiles, window frames, air	X	X
	<i>Arthrinium</i>	Soil, plant materials, decaying wood	X	
	Ascospores	Plants, soil, cellulose-containing materials, air		
	Basidiospores	Soil, plants, wood, cellulose-containing materials, air		
	<i>Bipolaris/Drechslera</i>	Grasses, plant material, decaying food, soil		
	<i>Cercospora</i>	Plants		
	<i>Curvularia</i>	Soil, plant materials, cellulose-containing materials	X	
	<i>Epicoccum</i>	Plants, soil, seeds, carpet, air	X	
	<i>Helicomyces*</i>	Plants		
	<i>Nigrospora</i>	Plants, soil		
	<i>Oidium/Peronospora</i>	Plants		
	<i>Periconia/Smuts**</i>	Plants, air	X	
	<i>Pithomyces</i>	Soil, plant material, air		
	Rusts	Grasses, trees, other plants	X	
	<i>Spegazzinia</i>	Soil, plants		
	<i>Stemphylium</i>	Dead plants, cellulose-containing materials		
	<i>Tetraploa</i>	Plants		
	<i>Torula</i>	Soil, plants		
Unspecified spores	Various			
* <i>Helicomyces</i> includes <i>Helicosporium</i> ; * <i>Periconia/Smuts</i> includes <i>Myxomycetes</i>				
Indoor / Outdoor	<i>Aspergillus/Penicillium</i>	Soil, food, carpet, HVAC, air	X	X
	<i>Cladosporium</i>	Plants, woody plants, food, soil, paint, textiles, carpet, HVAC, air	X	
	<i>Fusarium</i>	Soil, plants, seed, fruits, grains		X
Water Indicator	<i>Chaetomium</i>	Cellulose-containing materials, soil, seeds, dung	X	X
	<i>Stachybotrys</i>	Paper, wallpaper, gypsum board	X	X
	<i>Trichoderma</i>	Soil, decaying wood, plant material, cellulose-containing materials	X	X
	<i>Ulocladium</i>	Soil, grasses, wood, paper		



# MOLD / MATERIALS IDENTIFICATION CHAIN OF CUSTODY

5

CEI

730 SE Maynard Road, Cary, NC 27511  
Tel: 866-481-1412; Fax: 919-481-1442

<b>LAB USE ONLY:</b>
ECEI Lab Code: <i>M230910</i>
ECEI Lab I.D. Range: <i>M003063</i>

COMPANY INFORMATION		PROJECT INFORMATION	
<b>ECEI CLIENT #:</b>		Job Contact: Gregg E. Heppert	
Matrix Health & Safety Consultants, LLC		Email / Tel: <i>Sanford Train Dept</i>	
2900 Yonkers Road Raleigh, NC 27604		Project Name: <i>Wesley Brown</i>	
<a href="mailto:Gregg@matrixhsc.com">Gregg@matrixhsc.com</a>		Project ID# <i>Attorney Facility</i>	
Tel: 919.833.2520 Fax:		PO #: <i>Cross Country Lumber</i>	
STATE SAMPLES COLLECTED IN: NC			

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

MICROBIOLOGY	METHOD	TURN AROUND TIME						
		4 HR*	8 HR*	24 HR	2 DAY	3 DAY	5 DAY	7-10 DAY
MOLD NON-VIABLE *	TAPE LIFT, BULK, SWAB	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MOLD NON-VIABLE *	SPORETRAP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MOLD VIABLE	IMPACTOR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MOLD VIABLE	BULK, SWAB, DUST	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DUST CHARACTERIZATION	PLM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PARTICLE IDENTIFICATION	PLM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMBUSTION-BY-PRODUCTS	ASTM D6602-13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMBUSTION-BY-PRODUCTS WITH TEM CONFIRMATION OF SOOT	ASTM D6602-13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\*Blanks should be taken from the same sample lot as field samples.

FIELD ID #	SAMPLE LOCATION	AREA (in <sup>2</sup> )	VOLUME(L)
<i>STD-1</i>	<i>Conference Room</i>		<i>75L</i>
<i>STD-2</i>	<i>HVAC Room</i>		<i>1</i>
<i>STD-3</i>	<i>OFFICES</i>		<i>1</i>
<i>STD-4</i>	<i>STORAGE</i>		<i>1</i>
<i>EX-1</i>	<i>EXTERIOR</i>		<i>1</i>

REMARKS: 3/9/2023

Accept Samples  
 Reject Samples

Relinquished By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	<i>3/9/23</i>	<i>WT</i>	<i>3/9 3:30</i>

By submitting samples, you are agreeing to ECEI's Terms and Conditions.  
Samples will be disposed of 30 days after analysis.