



Environmental Consultants and Engineers

1818 New York Avenue Suite 217
Washington, DC 20002

www.globalincusa.net

February 24, 2021

Prince Georges County
Environmental Safety Office
13306 Old Marlboro Pike
Upper Marlboro, MD 20772

Attention: Mr. Alex Baylor

RE: Indoor Air Quality Screening Report

Global Project Number: 20-064
School: Frederick Douglass High School

Dear Mr. Baylor,

On January 25, 2021, Global Inc.'s (GLOBAL) team of Industrial Hygienists under the supervision of Certified Industrial Hygienist, Dr. Channa Bambaradeniya, conducted an Indoor Air Quality Screening at Frederick Douglass High School located at 8000 Croom Road Upper Marlboro, MD 20772.

Methodology

The IAQ evaluation included a visual assessment, sampling for non-viable mold spores in air, and measurement of comfort parameters (temperature, humidity, carbon dioxide, and carbon monoxide) in randomly selected representative locations within the building. GLOBAL's inspector conducted a walkthrough with Prince Georges County Public School (PGCPS) personnel present. Rooms were selected in a random manner throughout the building so as to prevent sampling bias.

During the visual assessment of representative locations, and when noted, GLOBAL documented those areas with suspected mold growth, water intrusions, and wet conditions that have the potential to lead to mold growth. GLOBAL also noted any unusual odors. At least one microbial air sample was collected for every 10,000 Square Feet (SF) of space in the building and the analytical results for the interior spaces were compared to an outdoor (ambient) sample collected on the same day.

Microbial samples (including a field blank for quality control) were delivered under strict chain-of-custody procedures were to Hayes Microbial Consulting - an AIHA EMPAT-certified laboratory in Midlothian, Virginia for analysis by microscopy. The sample chain-of-custody and laboratory report is attached.



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Observations

The general observations in the fourteen indoor locations inspected are summarized in Table 1 below:

Table 1: Observations

Location	Observations
Gym	Water damage on ceiling tiles
Dance room	No issues
Guidance office	No issues
Room 104	No issues
Room 107	No issues
Room 114	No issues
Room 118	No issues
Room 127	No issues
Room 122	No issues
Cafeteria	No issues
Band room 131	No issues
Room 205	No issues
Room 210	No issues
Room 223	No issues

Comfort Parameter Measurements and Mold-in-Air Sample Results

The comfort parameter measurements and status of fungal ecology is summarized in Table 2, Table 3 and Table 4.

Temperature

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) have published recommendations for year-round acceptable temperatures in Standard 55-2016 (*Thermal Environmental Conditions for Human Occupancy*). The winter comfort range is 68 to 75°F and the summer comfort range is 73 to 79°F. It is important to note that ASHRAE standards are intended as a suggested guideline as opposed to a regulation. The indoor temperature readings of room 127, room 122, and cafeteria were above the ASHRAE Standard for winter.

Relative Humidity (RH)

Relative humidity is a key factor for mold growth. Mold has the potential of growing on suitable surfaces with humidity levels above 60%. ASHRAE standard 62.1-2013 (*Ventilation for Acceptable*



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Indoor Air Quality) recommends a maximum indoor relative humidity of 65% to preclude the likelihood of condensation on cool surfaces encouraging mold growth. All the indoor relative humidity readings were below the maximum ASHRAE recommended level of 65%.

Carbon Monoxide

Carbon monoxide (CO) is a colorless and odorless gas that is produced by the incomplete combustion of carbon-containing fuels. Oil, gasoline, diesel fuels, wood, coke, and coal are the major sources of CO. All registered CO concentrations were below the EPA National Ambient Air Quality Standard (NAAQS) of 9 ppm.

Carbon Dioxide

Under conditions of maximum occupancy, ASHRAE Standard 62.1-2013, Appendix C, infers that the acceptable carbon dioxide upper limit is the prevailing outdoor carbon dioxide concentration plus 700 parts per million (ppm). On January 25, 2021, the outdoor (ambient) carbon dioxide concentration was approximately 393 ppm so indoor concentrations should not exceed approximately 1093 ppm (700 + 393). All indoor carbon dioxide measurements were within the ASHRAE standards.

Mold-in-Air Samples

There are no definitive regulations or standardized guidelines for addressing airborne mold in an indoor setting. If building systems (ventilation, envelope) are functioning properly, the indoor fungal ecology profile should be consistent with what is encountered outdoors and the spore concentrations should be below the ambient levels.

The analytical results of indoor air samples collected from room 114, 122, Band room 131 on January 25, 2021 indicated elevated presence of *Aspergillus/Penicillium*. The horizontal surfaces of room 114, 122, Band room 131 were thoroughly recleaned, and air scrubbers with HEPA filters were operated for 24-36 hours. Subsequently, these rooms were reinspected, and the analytical results of air samples collected indicated normal fungal ecology. Laboratory analytical results are attached at the end of this report.



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Table 2: Air Quality Results (Inspected on January 25, 2021)

Sample Location	Temp °F	RH%	CO ppm	CO2 ppm	Normal Fungal Ecology?
Standards	ASHRAE 68 to 75°F	ASHRAE <65%	NAAQS <9	ASHRAE 1093	
Ambient	37.0	53.0	0	393	N/A
Big Gym	65.5	31.8	0	394	Yes
Dance room	67.3	34.9	0	409	Yes
Guidance office	66.9	48.9	0	413	Yes
Room 104	70.7	51.1	0	408	Yes
Room 107	71.5	39.8	0	418	Yes
Room 114	68.7	33.1	0	449	No
Room 118	66.4	38.5	0	440	Yes
Room 127	76.5	50.5	0	408	Yes
Room 122	77.3	48.4	0	486	No
Cafeteria	75.8	51.2	0	405	Yes
Band room 131	73.2	40.6	0	424	No
Room 205	71.4	41.5	0	413	Yes
Room 210	72.4	50.5	0	405	Yes
Room 223	71.2	47.0	0	399	Yes



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Table 3: Air Quality Results (Inspected on February 15, 2021)

Sample Location	Temp °F	RH%	CO ppm	CO2 ppm	Normal Fungal Ecology?
Standards	ASHRAE 68 to 75°F	ASHRAE <65%	NAAQS <9	ASHRAE 1128	
Ambient	63.0	32.0	0	428	N/A
Room 114	75.0	28.0	0	528	No
Room 122	72.0	25.0	0	437	Yes
Band room 131	51.0	43.0	0	489	Yes

Table 4: Air Quality Results (Inspected on February 23, 2021)

Sample Location	Temp °F	RH%	CO ppm	CO2 ppm	Normal Fungal Ecology?
Standards	ASHRAE 68 to 75°F	ASHRAE <65%	NAAQS <9	ASHRAE 1121	
Ambient	60.0	27.0	0	421	N/A
Room 114	76.0	18.0	0	437	Yes

Conclusions and Recommendations

Among the comfort parameters measured, the indoor temperature readings of room 127, room 122, and cafeteria were above the ASHRAE Standard. The indoor temperature should be maintained at the ASHRAE recommended range for general comfort.

The indoor mold samples collected from rooms 114, 122, and Band room 131 on January 25, 2021 indicated an elevated presence of mold spores, while the other mold sample was found to have a normal fungal ecology for an indoor environment. These three rooms were thoroughly recleaned and reinspected in February 2021. The reinspection air sample analytical results indicated normal fungal ecology for rooms 114, 122 and Band room 131.



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It has been our pleasure to conduct these IAQ Screening services for the Prince Georges County Public School system. If you have any questions, please feel free to contact us.

Regards,

A handwritten signature in blue ink, appearing to read "Channa Bambaradeniya".

Channa Bambaradeniya, Ph.D., CIH, CSP, CHMM
Certified Industrial Hygienist
Global, Inc.
Mobile: 443-691-0455



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ATTACHMENT I

Air Sample Analytical Results and Chain-Of-Custody Form

Analysis Report prepared for

Global, Inc.

1818 New York Ave.
Suite 217
Washington, DC, 20002

Phone: (443) 691-0455

BB203
Indoor Air Quality Assessment
PGCPS Fredrick Douglass HS

Collected: **January 25, 2021**
Received: **January 27, 2021**
Reported: **January 27, 2021**

We would like to thank you for trusting Hayes Microbial for your analytical needs!
We received 15 samples by FedEx in good condition for this project on January 27th, 2021.

The results in this analysis pertain only to this job, collected on the stated date, and should not be used in the interpretation of any other job. This report may not be duplicated, except in full, without the written consent of Hayes Microbial Consulting, LLC..

This laboratory bears no responsibility for sample collection activities, analytical method limitations, or your use of the test results. Interpretation and use of test results are your responsibility. Any reference to health effects or interpretation of mold levels is strictly the opinion of Hayes Microbial. In no event, shall Hayes Microbial or any of its employees be liable for lost profits or any special, incidental or consequential damages arising out of the use of these test results.



Steve Hayes, BSMT(ASCP)
Laboratory Director
Hayes Microbial Consulting, LLC.



EPA Laboratory ID: VA01419



Lab ID: #188863



DPH License: #PH-0198

Sample Number	1 FDHS-0125-01			2 FDHS-0125-02			3 FDHS-0125-03			4 FDHS-0125-04		
Sample Name	Ambient Outdoors			Large Gym			Dance Room			Guidance Office		
Sample Volume	75.00 liter			75.00 liter			75.00 liter			75.00 liter		
Reporting Limit	13 spores/m ³			13 spores/m ³			13 spores/m ³			13 spores/m ³		
Background	2			1			1			2		
Fragments	ND			ND			ND			ND		
Organism	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total
Alternaria										1	13	25.0%
Ascospores	4	53	40.0%	1	13	100.0%	1	13	50.0%	1	13	25.0%
Aspergillus Penicillium												
Basidiospores	4	53	40.0%				1	13	50.0%			
Bipolaris Drechslera												
Chaetomium												
Cladosporium	1	13	10.0%									
Curvularia												
Epicoccum										1	13	25.0%
Fusarium												
Memnoniella												
Myxomycetes	1	13	10.0%							1	13	25.0%
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Total	10	132	100%	1	13	100%	2	26	100%	4	52	100%

Water Damage Indicator	Common Allergen	Slightly Higher than Baseline	Significantly Higher than Baseline	Ratio Abnormality
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Collected: Jan 25, 2021

Received: Jan 27, 2021

Reported: Jan 27, 2021



Project Analyst:
 Ramesh Poluri, PhD

P. Ramesh

Date:
 01 - 27 - 2021

Reviewed By:
 Steve Hayes, BSMT

Stephen N. Hayes

Date:
 01 - 27 - 2021

Sample Number	5	FDHS-0125-05			6	FDHS-0125-06			7	FDHS-0125-07			8	FDHS-0125-08		
Sample Name	Room 104			Room 107			Room 114			Room 118						
Sample Volume	75.00 liter			75.00 liter			75.00 liter			75.00 liter						
Reporting Limit	13 spores/m ³			13 spores/m ³			13 spores/m ³			13 spores/m ³						
Background	2			1			2			2						
Fragments	27/m ³			ND			ND			ND						
Organism	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total				
Alternaria																
Ascospores	1	13	11.1%	1	13	100.0%	1	13	2.4%	1	13	20.0%				
Aspergillus Penicillium							40	533	97.6%	3	40	60.0%				
Basidiospores																
Bipolaris Drechslera																
Chaetomium																
Cladosporium	8	107	88.9%							1	13	20.0%				
Curvularia																
Epicoccum																
Fusarium																
Memnoniella																
Myxomycetes																
Pithomyces																
Stachybotrys																
Stemphylium																
Torula																
Ulocladium																
Total	9	120	100%	1	13	100%	41	546	100%	5	66	100%				

Water Damage Indicator Common Allergen Slightly Higher than Baseline Significantly Higher than Baseline Ratio Abnormality

Collected: Jan 25, 2021

Received: Jan 27, 2021

Reported: Jan 27, 2021



Project Analyst:
Ramesh Poluri, PhD

P. Ramesh

Date:
01 - 27 - 2021

Reviewed By:
Steve Hayes, BSMT

Stephen N. Hayes

Date:
01 - 27 - 2021

Sample Number	9	FDHS-0125-09			10	FDHS-0125-10			11	FDHS-0125-11			12	FDHS-0125-12		
Sample Name	Room 127			Room 122			Cafeteria			Band Room 131						
Sample Volume	75.00 liter			75.00 liter			75.00 liter			75.00 liter						
Reporting Limit	13 spores/m ³			13 spores/m ³			13 spores/m ³			13 spores/m ³						
Background	2			2			2			2						
Fragments	ND			ND			ND			ND						
Organism	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total				
Alternaria																
Ascospores	1	13	50.0%				1	13	33.3%							
Aspergillus Penicillium				15	200	100.0%	1	13	33.3%	256	3413	100.0%				
Basidiospores																
Bipolaris Drechslera																
Chaetomium																
Cladosporium	1	13	50.0%													
Curvularia																
Epicoccum																
Fusarium																
Memnoniella																
Myxomycetes							1	13	33.3%							
Pithomyces																
Stachybotrys																
Stemphylium																
Torula																
Ulocladium																
Total	2	26	100%	15	200	100%	3	39	100%	256	3413	100%				

Water Damage Indicator Common Allergen Slightly Higher than Baseline Significantly Higher than Baseline Ratio Abnormality

Collected: Jan 25, 2021

Received: Jan 27, 2021

Reported: Jan 27, 2021



Project Analyst:
Ramesh Poluri, PhD

P. Ramesh

Date:
01 - 27 - 2021

Reviewed By:
Steve Hayes, BSMT

Stephen N. Hayes

Date:
01 - 27 - 2021

Sample Number	13	FDHS-0125-13			14	FDHS-0125-14			15	FDHS-0125-15					
Sample Name	Room 205			Room 210			Room 223								
Sample Volume	75.00 liter			75.00 liter			75.00 liter								
Reporting Limit	13 spores/m ³			13 spores/m ³			13 spores/m ³								
Background	1			1			1								
Fragments	ND			ND			ND								
Organism	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total						
Alternaria															
Ascospores	1	13	100.0%	1	13	50.0%	2	27	100.0%						
Aspergillus Penicillium															
Basidiospores															
Bipolaris Drechslera															
Chaetomium															
Cladosporium				1	13	50.0%									
Curvularia															
Epicoccum															
Fusarium															
Memnoniella															
Myxomycetes															
Pithomyces															
Stachybotrys															
Stemphylium															
Torula															
Ulocladium															
Total	1	13	100%	2	26	100%	2	27	100%						

Water Damage Indicator Common Allergen Slightly Higher than Baseline Significantly Higher than Baseline Ratio Abnormality



Collected: **Jan 25, 2021** Received: **Jan 27, 2021** Reported: **Jan 27, 2021**

Project Analyst: Ramesh Poluri, PhD *P. Ramesh* Date: **01 - 27 - 2021** Reviewed By: Steve Hayes, BSMT *Stephen N. Hayes* Date: **01 - 27 - 2021**

Spore Trap Information

Reporting Limit	The Reporting Limit is the lowest number of spores that can be detected based on the total volume of the sample collected and the percentage of the slide that is counted. At Hayes Microbial, 100% of the slide is read so the LOD is based solely on the total volume. Raw spore counts that exceed 500 spores will be estimated.					
Blanks	Results have not been corrected for field or laboratory blanks.					
Background	<p>The Background is the amount of debris that is present in the sample. This debris consists of skin cells, dirt, dust, pollen, drywall dust and other organic and non-organic matter. As the background density increases, the likelihood of spores, especially small spores such as those of Aspergillus and Penicillium may be obscured. The background is rated on a scale of 1 to 5 and each level is determined as follows:</p> <p>NBD: No background detected due to possible pump or cassette malfunction. Recollect sample. (Field Blanks will display NBD)</p> <p>1 : <5% of field occluded. No spores will be uncountable.</p> <p>2 : 5-25% of field occluded.</p> <p>3 : 25-75% of field occluded.</p> <p>4 : 75-90% of field occluded.</p> <p>5 : >90% of field occluded. Suggested recollection of sample.</p>					
Fragments	Fragments are small pieces of fungal mycelium or spores. They are not identifiable as to type and when present in very large numbers, may indicate the presence of mold amplification.					
Control Comparisons	There are no national standards for the numbers of fungal spores that may be present in the indoor environment. As a general rule and guideline that is widely accepted in the indoor air quality field, the numbers and types of spores that are present in the indoor environment should not exceed those that are present outdoors at any given time. There will always be some mold spores present in "normal" indoor environments. The purpose of sampling and counting spores is to help determine whether an abnormal condition exists within the indoor environment and if it does, to help pinpoint the area of contamination. Spore counts should not be used as the sole determining factor of mold contamination. There are many factors that can cause anomalies in the comparison of indoor and outdoor samples due to the dynamic nature of both of those environments.					
<table border="1"> <tr><td>Water Damage Indicator</td></tr> <tr><td>Common Allergen</td></tr> <tr><td>Slightly Higher than Baseline</td></tr> <tr><td>Significantly Higher than Baseline</td></tr> <tr><td>Ratio Abnormality</td></tr> </table>	Water Damage Indicator	Common Allergen	Slightly Higher than Baseline	Significantly Higher than Baseline	Ratio Abnormality	<p>Blue: These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem.</p> <p>Green: Although all molds are potential allergens, these are the most common allergens that may be found indoors.</p> <p>Orange: The spore count is slightly higher than the outside count and may or may not indicate a source of contamination.</p> <p>Red: The spore count is significantly higher than the baseline count and probably indicates a source of contamination.</p> <p>Violet: The types of spores found indoors should be similar to the ones that were identified in the baseline sample. Significant increases (more than 25%) in the ratio of a particular spore type may indicate the presence of abnormal levels of mold, even if the total number of spores of that type is lower in the indoor environment than it was outdoors.</p>
Water Damage Indicator						
Common Allergen						
Slightly Higher than Baseline						
Significantly Higher than Baseline						
Ratio Abnormality						
Color Coding	Fungi that are present in indoor samples at levels lower than 200 per cubic meter are not color coded on the report, unless they are one of the water damage indicators.					

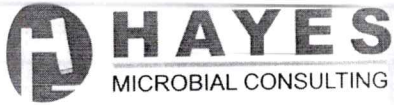
Organism Descriptions

Alternaria	Habitat: Commonly found outdoors in soil and decaying plants. Indoors, it is commonly found on window sills and other horizontal surfaces. Effects: A common allergen and has been associated with hypersensitivity pneumonitis. Alternaria is capable of producing toxic metabolites which may be associated with disease in humans or animals. Occasionally an agent of onychomycosis, ulcerated cutaneous infection and chronic sinusitis, principally in the immunocompromised patient.
Ascospores	Habitat: A large group consisting of more than 3000 species of fungi. Common plant pathogens and outdoor numbers become very high following rain. Most of the genera are indistinguishable by spore trap analysis and are combined on the report. Effects: Health affects are poorly studied, but many are likely to be allergenic.
Aspergillus Penicillium	Habitat: The most common fungi isolated from the environment. Very common in soil and on decaying plant material. Are able to grow well indoors on a wide variety of substrates. Effects: This group contains common allergens and many can cause hypersensitivity pneumonitis. They may cause extrinsic asthma, and many are opportunistic pathogens. Many species produce mycotoxins which may be associated with disease in humans and other animals. Toxin production is dependent on the species, the food source, competition with other organisms, and other environmental conditions.
Basidiospores	Habitat: A common group of Fungi that includes the mushrooms and bracket fungi. They are saprophytes and plant pathogens. In wet conditions they can cause structural damage to buildings. Effects: Common allergens and are also associated with hypersensitivity pneumonitis.
Cladosporium	Habitat: One of the most common genera worldwide. Found in soil and plant debris and on the leaf surfaces of living plants. The outdoor numbers are lower in the winter and often relatively high in the summer, especially in high humidity. The outdoor numbers often spike in the late afternoon and evening. Indoors, it can be found growing on textiles, wood, sheetrock, moist window sills and in HVAC supply ducts. Effects: A common allergen, producing more than 10 allergenic antigens and a common cause of hypersensitivity pneumonitis.
Epicoccum	Habitat: It is found in soil and plant litter and is a plant pathogen. It can grow indoors on a variety of substrates, including paper and textiles and is commonly found on wet drywall. Effects: It is a common allergen. No cases of infection have been reported in humans.

Myxomycetes

Habitat: Found on decaying plant material and as a plant pathogen.

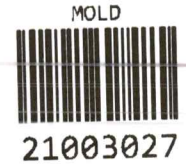
Effects: Some allergenic properties reported, but generally pose no health concerns to humans.



Company: Global Inc
 Address: 1818 New York Ave NE Suite 217
Washington DC 20002

N

SHIP: FEDEX - BOX 50
 DATE: 01-27-2021



Job Number: BB203
 Collector: JUDI DARNELL
 Date Collected: 01/25/21
 Job Name: **Indoor Air Quality Assessment-
 PGCPs FREDRICK DOUGLASS HS**

Mobile: 443-691-0455
 Email: Channab@globalincusa.net
 Note:

Analysis Type	Analysis Description	Turnaround	Accepted Media Types
Spore Trap	S	24 Hour	Air Cassettes, Impact Slides
	S+	24 Hour	Air Cassettes, Impact Slides
Direct ID	D	24 Hour	Bio-Tape, Tape, Swab, Bulk, Agar Plate
	D+	24 Hour	Bio-Tape, Tape, Swab, Bulk, Agar Plate
Culture	C1	7 Day	Air Plate, Agar Plate, Swab, Bulk
	C2	4 Day	Air Plate, Agar Plate, Swab, Bulk
	C3	7 Day	Air Plate, Agar Plate, Swab, Bulk
	C5	2 Day	Agar Plate, Swab, Bulk
Particle	TPA	24 Hour	Air Cassettes, Impact Slides, Bio-Tape
			Total Particulate Analysis, ID & Count (Does Not Include Mold)

#	Number	Sample	Analysis	Volume	Notes
1	FDHS-0125-01	AMBIENT-OUTDOORS	S	75L	
2	FDHS-0125-02	LARGE GYM	S	75L	
3	FDHS-0125-03	DANCE ROOM	S	75L	
4	FDHS-0125-04	GUIDANCE OFFICE	S	75L	
5	FDHS-0125-05	ROOM 104	S	75L	
6	FDHS-0125-06	ROOM 107	S	75L	
7	FDHS-0125-07	ROOM 114	S	75L	
8	FDHS-0125-08	ROOM 118	S	75L	
9	FDHS-0125-09	ROOM 127	S	75L	
10	FDHS-0125-10	ROOM 122	S	75L	
11	FDHS-0125-11	CAFETERIA	S	75L	
12	FDHS-0125-12	BAND ROOM 131	S	75L	
13	FDHS-0125-13	ROOM 205	S	75L	
14	FDHS-0125-14	ROOM 210	S	75L	
15	FDHS-0125-15	ROOM 223	S	75L	
16					

Released by: **Judi Darnell** *[Signature]* Date: **1/25/21** Received By: *[Signature]* Date: **1.27.21**

Analysis Report prepared for

Global, Inc.

1818 New York Ave.
Suite 217
Washington, DC, 20002

Phone: (443) 691-0455

20-064
IAQ - Fredrick Douglas ES
8000 Croom Road
Upper Marlboro, MD 20772

Collected: **February 15, 2021**
Received: **February 16, 2021**
Reported: **February 16, 2021**

We would like to thank you for trusting Hayes Microbial for your analytical needs!
We received 5 samples by FedEx in good condition for this project on February 16th, 2021.

The results in this analysis pertain only to this job, collected on the stated date, and should not be used in the interpretation of any other job. This report may not be duplicated, except in full, without the written consent of Hayes Microbial Consulting, LLC..

This laboratory bears no responsibility for sample collection activities, analytical method limitations, or your use of the test results. Interpretation and use of test results are your responsibility. Any reference to health effects or interpretation of mold levels is strictly the opinion of Hayes Microbial. In no event, shall Hayes Microbial or any of its employees be liable for lost profits or any special, incidental or consequential damages arising out of the use of these test results.



Steve Hayes, BSMT(ASCP)
Laboratory Director
Hayes Microbial Consulting, LLC.



EPA Laboratory ID: VA01419



Lab ID: #188863



DPH License: #PH-0198

Sample Number	1	01				2	02				3	03				4	04			
Sample Name	Ambient			Room 114			Room 122			Room 131										
Sample Volume	75.00 liter			75.00 liter			75.00 liter			75.00 liter										
Reporting Limit	13 spores/m ³			13 spores/m ³			13 spores/m ³			13 spores/m ³										
Background	2			2			2			2										
Fragments	ND			ND			ND			ND										
Organism	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total								
Alternaria																				
Ascospores	1	13	11.1%				2	27	100.0%											
Aspergillus Penicillium				148	1973	97.4%														
Basidiospores	5	67	55.6%	2	27	1.3%				1	13	50.0%								
Bipolaris Drechslera																				
Chaetomium																				
Cladosporium	3	40	33.3%	2	27	1.3%				1	13	50.0%								
Curvularia																				
Epicoccum																				
Fusarium																				
Memnoniella																				
Myxomycetes																				
Pithomyces																				
Stachybotrys																				
Stemphylium																				
Torula																				
Ulocladium																				
Total	9	120	100%	152	2027	100%	2	27	100%	2	26	100%								

Water Damage Indicator	Common Allergen	Slightly Higher than Baseline	Significantly Higher than Baseline	Ratio Abnormality
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Collected: Feb 15, 2021

Received: Feb 16, 2021

Reported: Feb 16, 2021



Project Analyst:
Connor Gailliot, BS

Date:
02 - 16 - 2021

Reviewed By:
Ramesh Poluri, PhD

Date:
02 - 16 - 2021

Sample Number	5	05			
Sample Name	Field Blank				
Sample Volume	0.00 liter				
Reporting Limit	1 spore/m ³				
Background	NBD				
Fragments	ND				
Organism	Raw Count	Count / m³	% of Total		
Alternaria					
Ascospores					
Aspergillus Penicillium					
Basidiospores					
Bipolaris Drechslera					
Chaetomium					
Cladosporium					
Curvularia					
Epicoccum					
Fusarium					
Memnoniella					
Myxomycetes					
Pithomyces					
Stachybotrys					
Stemphylium					
Torula					
Ulocladium					
Total	ND	ND			

Water Damage Indicator	Common Allergen	Slightly Higher than Baseline	Significantly Higher than Baseline	Ratio Abnormality
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Collected: **Feb 15, 2021**

Received: **Feb 16, 2021**

Reported: **Feb 16, 2021**



Project Analyst:
Connor Gailliot, BS

Date:
02 - 16 - 2021

Reviewed By:
Ramesh Poluri, PhD

Date:
02 - 16 - 2021

Spore Trap Information

Reporting Limit	The Reporting Limit is the lowest number of spores that can be detected based on the total volume of the sample collected and the percentage of the slide that is counted. At Hayes Microbial, 100% of the slide is read so the LOD is based solely on the total volume. Raw spore counts that exceed 500 spores will be estimated.										
Blanks	Results have not been corrected for field or laboratory blanks.										
Background	<p>The Background is the amount of debris that is present in the sample. This debris consists of skin cells, dirt, dust, pollen, drywall dust and other organic and non-organic matter. As the background density increases, the likelihood of spores, especially small spores such as those of Aspergillus and Penicillium may be obscured. The background is rated on a scale of 1 to 5 and each level is determined as follows:</p> <p>NBD: No background detected due to possible pump or cassette malfunction. Recollect sample. (Field Blanks will display NBD)</p> <p>1 : <5% of field occluded. No spores will be uncountable.</p> <p>2 : 5-25% of field occluded.</p> <p>3 : 25-75% of field occluded.</p> <p>4 : 75-90% of field occluded.</p> <p>5 : >90% of field occluded. Suggested recollection of sample.</p>										
Fragments	Fragments are small pieces of fungal mycelium or spores. They are not identifiable as to type and when present in very large numbers, may indicate the presence of mold amplification.										
Control Comparisons	There are no national standards for the numbers of fungal spores that may be present in the indoor environment. As a general rule and guideline that is widely accepted in the indoor air quality field, the numbers and types of spores that are present in the indoor environment should not exceed those that are present outdoors at any given time. There will always be some mold spores present in "normal" indoor environments. The purpose of sampling and counting spores is to help determine whether an abnormal condition exists within the indoor environment and if it does, to help pinpoint the area of contamination. Spore counts should not be used as the sole determining factor of mold contamination. There are many factors that can cause anomalies in the comparison of indoor and outdoor samples due to the dynamic nature of both of those environments.										
<table border="1"> <tr> <td style="background-color: #ADD8E6;">Water Damage Indicator</td> <td>Blue: These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem.</td> </tr> <tr> <td style="background-color: #90EE90;">Common Allergen</td> <td>Green: Although all molds are potential allergens, these are the most common allergens that may be found indoors.</td> </tr> <tr> <td style="background-color: #FFDAB9;">Slightly Higher than Baseline</td> <td>Orange: The spore count is slightly higher than the outside count and may or may not indicate a source of contamination.</td> </tr> <tr> <td style="background-color: #FFB6C1;">Significantly Higher than Baseline</td> <td>Red: The spore count is significantly higher than the baseline count and probably indicates a source of contamination.</td> </tr> <tr> <td style="background-color: #DDA0DD;">Ratio Abnormality</td> <td>Violet: The types of spores found indoors should be similar to the ones that were identified in the baseline sample. Significant increases (more than 25%) in the ratio of a particular spore type may indicate the presence of abnormal levels of mold, even if the total number of spores of that type is lower in the indoor environment than it was outdoors.</td> </tr> </table>	Water Damage Indicator	Blue: These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem.	Common Allergen	Green: Although all molds are potential allergens, these are the most common allergens that may be found indoors.	Slightly Higher than Baseline	Orange: The spore count is slightly higher than the outside count and may or may not indicate a source of contamination.	Significantly Higher than Baseline	Red: The spore count is significantly higher than the baseline count and probably indicates a source of contamination.	Ratio Abnormality	Violet: The types of spores found indoors should be similar to the ones that were identified in the baseline sample. Significant increases (more than 25%) in the ratio of a particular spore type may indicate the presence of abnormal levels of mold, even if the total number of spores of that type is lower in the indoor environment than it was outdoors.	
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Color Coding	Fungi that are present in indoor samples at levels lower than 200 per cubic meter are not color coded on the report, unless they are one of the water damage indicators.										

Ascospores	Habitat: A large group consisting of more than 3000 species of fungi. Common plant pathogens and outdoor numbers become very high following rain. Most of the genera are indistinguishable by spore trap analysis and are combined on the report.
	Effects: Health affects are poorly studied, but many are likely to be allergenic.

Aspergillus Penicillium	Habitat: The most common fungi isolated from the environment. Very common in soil and on decaying plant material. Are able to grow well indoors on a wide variety of substrates.
	Effects: This group contains common allergens and many can cause hypersensitivity pneumonitis. They may cause extrinsic asthma, and many are opportunistic pathogens. Many species produce mycotoxins which may be associated with disease in humans and other animals. Toxin production is dependent on the species, the food source, competition with other organisms, and other environmental conditions.

Basidiospores	Habitat: A common group of Fungi that includes the mushrooms and bracket fungi. They are saprophytes and plant pathogens. In wet conditions they can cause structural damage to buildings.
	Effects: Common allergens and are also associated with hypersensitivity pneumonitis.

Cladosporium	Habitat: One of the most common genera worldwide. Found in soil and plant debris and on the leaf surfaces of living plants. The outdoor numbers are lower in the winter and often relatively high in the summer, especially in high humidity. The outdoor numbers often spike in the late afternoon and evening. Indoors, it can be found growing on textiles, wood, sheetrock, moist window sills and in HVAC supply ducts.
	Effects: A common allergen, producing more than 10 allergenic antigens and a common cause of hypersensitivity pneumonitis.



Company: Global Inc
 Address: 1818 New York Ave NE Suite 217
Washington DC 20002

SHIP: FEDEX - BOX 50
 DATE: 02-16-2021

P



Job Number: 20-064 Job Name: IAQ - Fredrick Douglas ES
8000 Croom Road Upper Marlboro, MD 20772
 Collector: Shane Prabuddha
 Date Collected: 02/15/2021

Mobile: 443-691-0455 Email: Channab@globalincusa.net
 Note:

Analysis Type	Analysis Description	Turnaround	Accepted Media Types	
Spore Trap	S	Identification & Enumeration of Fungal Spores	24 Hour XX	Air Cassettes, Impact Slides
	S+	Spore Trap Analysis with Dander, Fiber, and Pollen counts	24 Hour	Air Cassettes, Impact Slides
Direct ID	D	ID & Semi-Quantative Enumeration of spores and mycelium	24 Hour	Bio-Tape, Tape, Swab, Bulk, Agar Plate
	D+	Direct Analysis with Fully Quantitative spore count	24 Hour	Bio-Tape, Tape, Swab, Bulk, Agar Plate
Culture	C1	Identification & Enumeration of Mold only	7 Day	Air Plate, Agar Plate, Swab, Bulk
	C2	Identification & Enumeration of Bacteria only	4 Day	Air Plate, Agar Plate, Swab, Bulk
	C3	Identification & Enumeration of Mold and Bacteria	7 Day	Air Plate, Agar Plate, Swab, Bulk
	C5	Coliform Screen for Sewage Bacteria	2 Day	Agar Plate, Swab, Bulk
Particle	TPA	Total Particulate Analysis, ID & Count (Does Not Include Mold)	24 Hour	Air Cassettes, Impact Slides, Bio-Tape

#	Number	Sample	Analysis	Volume	Notes
1	01	Ambient	S	75L	T: 63 RH: 32 CO2: 428 CO: 0
2	02	Room 114	S	75L	T: 75 RH: 28 CO2: 528 CO: 0
3	03	Room 122	S	75L	T: 72 RH: 25 CO2: 437 CO: 0
4	04	Room 131	S	75 L	T: 51 RH: 43 CO2: 489 CO: 0
5	05	Field Blank	S	75L	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Released by: Shane Prabuddha Date: 02/15/2021 Received By: Ced Date: 2/16/21

Analysis Report prepared for

Global, Inc.

1818 New York Ave.
Suite 217
Washington, DC, 20002

Phone: (443) 691-0455

20-064
IAQ Reinspection
Frederick Douglass High School

Collected: February 23, 2021
Received: February 24, 2021
Reported: February 24, 2021

We would like to thank you for trusting Hayes Microbial for your analytical needs!
We received 2 samples by FedEx in good condition for this project on February 24th, 2021.

The results in this analysis pertain only to this job, collected on the stated date, and should not be used in the interpretation of any other job. This report may not be duplicated, except in full, without the written consent of Hayes Microbial Consulting, LLC..

This laboratory bears no responsibility for sample collection activities, analytical method limitations, or your use of the test results. Interpretation and use of test results are your responsibility. Any reference to health effects or interpretation of mold levels is strictly the opinion of Hayes Microbial. In no event, shall Hayes Microbial or any of its employees be liable for lost profits or any special, incidental or consequential damages arising out of the use of these test results.



Steve Hayes, BSMT(ASCP)
Laboratory Director
Hayes Microbial Consulting, LLC.



EPA Laboratory ID: VA01419



Lab ID: #188863



DPH License: #PH-0198

Sample Number	1 01			2 02				
Sample Name	Ambient			Room 114				
Sample Volume	75.00 liter			75.00 liter				
Reporting Limit	13 spores/m ³			13 spores/m ³				
Background	2			2				
Fragments	ND			ND				
Organism	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total		
Alternaria								
Ascospores	3	40	27.3%					
Aspergillus Penicillium				2	27	100.0%		
Basidiospores	1	13	9.1%					
Bipolaris Drechslera								
Chaetomium								
Cladosporium	7	93	63.6%					
Curvularia								
Epicoccum								
Fusarium								
Memnoniella								
Myxomycetes								
Pithomyces								
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Total	11	146	100%	2	27	100%		

Water Damage Indicator Common Allergen Slightly Higher than Baseline Significantly Higher than Baseline Ratio Abnormality



Collected: Feb 23, 2021

Received: Feb 24, 2021

Reported: Feb 24, 2021

Project Analyst:
Shareef Abdelgadir, MS *Shareef Abdelgadir*

Date:
02 - 24 - 2021

Reviewed By:
Steve Hayes, BSMT *Stephen N. Hayes*

Date:
02 - 24 - 2021

Spore Trap Information

Reporting Limit	The Reporting Limit is the lowest number of spores that can be detected based on the total volume of the sample collected and the percentage of the slide that is counted. At Hayes Microbial, 100% of the slide is read so the LOD is based solely on the total volume. Raw spore counts that exceed 500 spores will be estimated.					
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Water Damage Indicator						
Common Allergen						
Slightly Higher than Baseline						
Significantly Higher than Baseline						
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Organism Descriptions

Ascospores	Habitat: A large group consisting of more than 3000 species of fungi. Common plant pathogens and outdoor numbers become very high following rain. Most of the genera are indistinguishable by spore trap analysis and are combined on the report.
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Company: Global, Inc.
 Address: 1818 New York Avenue, Svt 217
Washington, DC 20002

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SHIP: FEDEX - BOX 50
 DATE: 02-24-2021



Job Number: 20-064	Job Name: <u>IAQ Reinspection</u> <u>Frederick Douglass High School</u>	Mobile: 443-691-0455	Email: Channab@globalincusa.net
Collector: Shane Prabuddha		Note:	
Date Collected: <u>02/23/21</u>			

Analysis Type	Analysis Description	Turnaround	Accepted Media Types
Spore Trap	S	24 Hour	Air Cassettes, Impact Slides
	S+	24 Hour	Air Cassettes, Impact Slides
Direct ID	D	24 Hour	Bio-Tape, Tape, Swab, Bulk, Agar Plate
	D+	24 Hour	Bio-Tape, Tape, Swab, Bulk, Agar Plate
Culture	C1	7 Day	Air Plate, Agar Plate, Swab, Bulk
	C2	4 Day	Air Plate, Agar Plate, Swab, Bulk
	C3	7 Day	Air Plate, Agar Plate, Swab, Bulk
	C5	2 Day	Agar Plate, Swab, Bulk
Particle	TPA	24 Hour	Air Cassettes, Impact Slides, Bio-Tape

#	Number	Sample	Analysis	Volume	Notes
1	01	Ambient	S	75L	T:80 RH:27 Co2:42 Co:0
2	02	Room 114	S	75L	T:76 RH:18 Co2:437 Co:0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Released by: Shane Prabuddha	Date: <u>02/23/21</u>	Received By: <u>MG</u>	Date: <u>2/24/21</u>
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