Environmental Consultants and Engineers
1818 New York Avenue Suite 217
Washington, DC 20002
www.globalincusa.net

March 13, 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: Isaac J. Gourdine Middle School

Dear Mr. Baylor,

On February 15, 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 Isaac J. Gourdine Middle School located at 8700 Allentown Rd, Fort Washington, MD 20944.

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.

Observations

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

Table 1: Observations

Location	Observations
Classroom 101	No issues
Classroom 104	Missing and damaged ceiling tiles
Auxiliary Gym (#107)	Missing ceiling tile
Classroom 112	No issues
Classroom 223	Dirty floor
Classroom 228	3 chairs with visible mold growth
Classroom 216	Dust on lab table surface
Classroom 208	No issues
Room M5	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 and Table 3.

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 in lower level classrooms were below 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 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 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 February 15, 2021, the outdoor (ambient) carbon dioxide concentration was approximately 597 ppm so indoor concentrations should not exceed approximately 1297ppm (700 + 597). 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 Classrooms 101, 104, Auxiliary Gym (107), Classrooms 112, 216 and Room M5 on February 15, 2021 indicated elevated presence of *Aspergillus/Penicillium*. The horizontal surfaces of the above location were thoroughly recleaned, and air scrubbers with HEPA filters were operated for 24-36 hours. Subsequently, they were reinspected on February 21st, 2021, and the analytical results of air samples collected indicated normal fungal ecology all spaces except Room 112. This location was recleaned and reinspected on March 6, 2021, and the analytical results indicated normal fungal ecology. Laboratory analytical results are attached at the end this report.

Table 2: Air Quality Results (Inspected on 2/15/2021)

Sample Location	Temp ^{0}F	RH%	CO ppm	CO2 ppm	Normal Fungal Ecology?
Standards	**ASHRAE 68 to 75°F**	**ASHRAE <65%**	**NAAQS <9**	**ASHRAE 1297**	
Ambient	49.0	46.0	0	597	-
Classroom 101	56.0	46.0	0	605	No

Sample Location	Temp ^{0}F	RH%	CO ppm	CO2 ppm	Normal Fungal Ecology?
Standards	ASHRAE 68 to 75°F	ASHRAE <65%	NAAQS <9	ASHRAE 1297	
Classroom 104	60.0	41.0	0	590	No
Auxiliary Gym (#107)	62.0	35.0	0	605	No
Classroom 112	65.0	35.0	0	590	No
Classroom 223	67.0	30.0	0	595	Yes
Classroom 228	72.0	28	0	610	Yes
Classroom 216	71.0	28	0	575	No
Classroom 208	71.0	37	0	510	Yes
Room M5	68.0	31	0	527	No

Table 3: Air Quality Results (Inspected on 2/21/2020)

Sample Location	Temp ^{0}F	RH%	CO ppm	CO2 ppm	Normal Fungal Ecology?
Standards	ASHRAE 68 to 75°F	ASHRAE <65%	NAAQS <9	ASHRAE 1257	
Ambient	47.0	21.0	0	557	-
Classroom 101	60.0	26.0	0	464	Yes
Classroom 104	58.0	27.0	0	427	Yes
Auxiliary Gym (#107)	59.0	27.0	0	495	Yes
Classroom 112	66.0	20.0	0	540	No
Classroom 216	64.0	22.0	0	566	Yes
Classroom M5	62.0	26.0	0	473	Yes

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Table 4: Air Quality Results (Inspected on 3/6/2020)

Sample Location	Temp ^{0}F	RH%	CO ppm	CO2 ppm	Normal Fungal Ecology?
Standards	**ASHRAE 68 to 75°F**	**ASHRAE <65%**	**NAAQS <9**	**ASHRAE 1102**	
Ambient	43	35	0	402	-
Classroom 112	50	42	0	426	Yes

Conclusions and Recommendations

Among the comfort parameters, the indoor temperature in the lower level classrooms were lower than the ASHRAE standard for winter. The indoor temperature should be maintained at the ASHRAE standards for general comfort.

The indoor mold samples collected from several rooms indicated elevated presence of *Aspergillus/Penicillium* during the screening performed on February 15, 2021. These locations were thoroughly recleaned and reinspected, and the analytical results indicated normal fungal ecology.

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,

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

HAYES MICROBIAL CONSULTING

#21005157

Analysis Report prepared for

Global, Inc.

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

Phone: **(443) 691-0455**

20-058
Isaac J. Gourdine Middle School
8700 Allentown Rd
Fort Washington, MD 20944

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 11 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

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20-058
Isaac J. Gourdine Middle School
8700 Allentown Rd
Fort Washington, MD 20944

#21005157

Spore Trap, Spore Trap Blank
SOP - HMC#101

Sample Number	1	20-058-01		2	20-058-02		3	20-058-03		4	20-058-04	
Sample Name	**Ambient**			**Room 101 (Lower Level) (Classroom #101)**			**Room 104**			**Auxiliary Gym (#107)**		
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	8	107	88.9%	1	13	<1%						
Aspergillus|Penicillium				960	12800	99.9%	30	400	93.8%	28	373	100.0%
Basidiospores	1	13	11.1%									
Bipolaris|Drechslera												
Chaetomium												
Cladosporium							2	27	6.3%			
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Total	9	120	100%	961	12813	100%	32	427	100%	28	373	100%

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

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

Project Analyst: Ramesh Poluri, PhD P. Ramesh Date: **02 - 16 - 2021**

Reviewed By: Steve Hayes, BSMT Stephen N. Hayes Date: **02 - 16 - 2021**

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Isaac J. Gourdine Middle School
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Spore Trap, Spore Trap Blank
SOP - HMC#101

Sample Number	5	20-058-05		6	20-058-06		7	20-058-07		8	20-058-08	
Sample Name	Room 112			Room 223			Room 228 (Classroom 228)			Room 216		
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			13/m^3		
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	5.9%	1	13	50.0%				1	13	2.8%
Aspergillus|Penicillium	16	213	94.1%				9	120	100.0%	35	467	97.2%
Basidiospores				1	13	50.0%						
Bipolaris|Drechslera												
Chaetomium												
Cladosporium												
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Total	17	226	100%	2	26	100%	9	120	100%	36	480	100%

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

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

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Project Analyst: Ramesh Poluri, PhD P. Ramesh Date: **02 - 16 - 2021**

Reviewed By: Steve Hayes, BSMT Stephen N. Hayes Date: **02 - 16 - 2021**

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Isaac J. Gourdine Middle School
8700 Allentown Rd
Fort Washington, MD 20944

#21005157

Spore Trap, Spore Trap Blank
SOP - HMC#101

Sample Number	9	20-058-09		10	20-058-10		11	20-058-11	
Sample Name	**Room 208**			**Room M5**			**Field Blank**		
Sample Volume	75.00 liter			75.00 liter			0.00 liter		
Reporting Limit	13 spores/m³			13 spores/m³			1 spore/m³		
Background	2			2			NBD		
Fragments	ND			ND			ND		
Organism	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**
Alternaria									
Ascospores	1	13	25.0%	2	27	<1%			
Aspergillus|Penicillium	3	40	75.0%	1120	14933	99.8%			
Basidiospores									
Bipolaris|Drechslera									
Chaetomium									
Cladosporium									
Curvularia									
Epicoccum									
Fusarium									
Memnoniella									
Myxomycetes									
Pithomyces									
Stachybotrys									
Stemphylium									
Torula									
Ulocladium									
Total	4	53	100%	1122	14960	100%	ND	ND	

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

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

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#21005157

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	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: **NBD:** No background detected due to possible pump or cassette malfunction. Recollect sample. (Field Blanks will display NBD) **1 :** <5% of field occluded. No spores will be uncountable. **2 :** 5-25% of field occluded. **3 :** 25-75% of field occluded. **4 :** 75-90% of field occluded. **5 :** >90% of field occluded. Suggested recollection of sample.
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.
Water Damage Indicator Common Allergen Slightly Higher than Baseline Significantly Higher than Baseline Ratio Abnormality	**Blue:** These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem. **Green:** Although all molds are potential allergens, these are the most common allergens that may be found indoors. **Orange:** The spore count is slightly higher than the outside count and may or may not indicate a source of contamination. **Red:** The spore count is significantly higher than the baseline count and probably indicates a source of contamination. **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.
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.

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20-058
Isaac J. Gourdine Middle School
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Fort Washington, MD 20944

#21005157

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.

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.

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MICROBIAL CONSULTING

Company: Global, Inc
Address: 1818 New York Ave # 217
Washington DC 20002

P
SHIP: FEDEX - BOX SO
DATE: 02-16-2021
8160 4411 5635

MOLD
21005157

Job Number: 20-058	Job Name: Isaac J. Gourdine Middle School 8700 Allentown Rd, Fort Washington MD 20744 (Indoor Air Quality Assessment)
Collector: Amila Wijayarathne	Mobile: 443-691-0455 Email: channab@globalincusa.net
Date Collected: 02/15/2021	Note: amilaw@globalincusa.net

Analysis Type		Analysis Description	Turnaround	Accepted Media Types
Spore Trap	S	Identification & Enumeration of Fungal Spores	24 Hour	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	(T)	(RH)	(CO_2)	(CO_{2n})	Notes
1	20-058-01	Ambient	S	75L	49	46%	597	0	
2	20-058-02	Room 101 (Lower Level) (Class Room #101)	S	75L	56	46%	605	0	
3	20-058-03	Room 104 (" ")	S	75L	60	41%	590	0	
4	20-058-04	Auxiliary gym (#107)	S	75L	62	35%	605	0	
5	20-058-05	Room 112	S	75L	65	35%	590	0	
6	20-058-06	Room 223	S	75L	67	30%	595	0	
7	20-058-07	Room 228 (class Room 228)	S	75L	72	28%	610	0	
8	20-058-08	Room 216	S	75L	71	28%	575	0	
9	20-058-09	Room 208	S	75L	71	37%	510	0	
10	20-058-10	Room M5	S	75L	68	31%	527	0	
11	20-058-11	Field Blank							
12									
13									
14									
15									
16									

Released by: A. C. Wijay Date: 02/15/21 Received By: CB Date: 2/16/21

HAYES MICROBIAL CONSULTING

#21005721

Analysis Report prepared for

Global, Inc.

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

Phone: **(443) 691-0455**

20-064
IAQ Reinspection
Isaac Gourdine MS

Collected: **February 21, 2021**
Received: **February 23, 2021**
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We would like to thank you for trusting Hayes Microbial for your analytical needs!
We received 8 samples by FedEx in good condition for this project on February 23rd, 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

Shane Prabuddha
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20-064
IAQ Reinspection
Isaac Gourdine MS

#21005721

Spore Trap, Spore Trap Blank

SOP - HMC#101

Sample Number	1	01		2	02		3	03		4	04	
Sample Name	Ambient			Room 101			Room 104			Room 107		
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	11	147	68.8%	1	13	25.0%						
Aspergillus|Penicillium	2	27	12.5%	3	40	75.0%	1	13	50.0%	2	27	100.0%
Basidiospores												
Bipolaris|Drechslera												
Chaetomium												
Cladosporium	3	40	18.8%				1	13	50.0%			
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Total	16	214	100%	4	53	100%	2	26	100%	2	27	100%

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

Collected: **Feb 21, 2021** Received: **Feb 23, 2021** Reported: **Feb 23, 2021**

Project Analyst: Steve Hayes, BSMT — Date: **02 - 23 - 2021**

Reviewed By: Ramesh Poluri, PhD — Date: **02 - 23 - 2021**

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20-064
IAQ Reinspection
Isaac Gourdine MS

#21005721

Spore Trap, Spore Trap Blank

SOP - HMC#101

Sample Number	5	05		6	06		7	07		8	08	
Sample Name	Room 112			Room 216			Room M5			Field Blank		
Sample Volume	75.00 liter			75.00 liter			75.00 liter			0.00 liter		
Reporting Limit	13 spores/m^3			13 spores/m^3			13 spores/m^3			1 spore/m^3		
Background	2			2			1			NBD		
Fragments	13/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	25.0%	1	13	100.0%			
Aspergillus|Penicillium	39	520	95.1%	1	13	25.0%						
Basidiospores												
Bipolaris|Drechslera												
Chaetomium												
Cladosporium	2	27	4.9%	2	27	50.0%						
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Total	41	547	100%	4	53	100%	1	13	100%	ND	ND	

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

Collected: **Feb 21, 2021** Received: **Feb 23, 2021** Reported: **Feb 23, 2021**

Project Analyst: Steve Hayes, BSMT — Date: **02 - 23 - 2021**

Reviewed By: Ramesh Poluri, PhD — Date: **02 - 23 - 2021**

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Shane Prabuddha
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1818 New York Ave. Suite 217
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20-064
IAQ Reinspection
Isaac Gourdine MS

#21005721

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	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: **NBD:** No background detected due to possible pump or cassette malfunction. Recollect sample. (Field Blanks will display NBD) **1 :** <5% of field occluded. No spores will be uncountable. **2 :** 5-25% of field occluded. **3 :** 25-75% of field occluded. **4 :** 75-90% of field occluded. **5 :** >90% of field occluded. Suggested recollection of sample.
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.
Water Damage Indicator Common Allergen Slightly Higher than Baseline Significantly Higher than Baseline Ratio Abnormality	**Blue:** These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem. **Green:** Although all molds are potential allergens, these are the most common allergens that may be found indoors. **Orange:** The spore count is slightly higher than the outside count and may or may not indicate a source of contamination. **Red:** The spore count is significantly higher than the baseline count and probably indicates a source of contamination. **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.
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.

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20-064
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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.

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.

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.

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8160 4411 5587

MOLD
21005721

Job Number: 20-064	Job Name: IAQ Reinspection Isaac Gourdine MS	Mobile: 443-691-0455	Email: Channab@globalincusa.net
Collector: Shane Prabuddha		Note:	
Date Collected: 02/21/21			

Analysis Type		Analysis Description	Turnaround	Accepted Media Types
Spore Trap	S	Identification & Enumeration of Fungal Spores	24 Hour X	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:47 RH:21 CO2:557 CO:0
2	02	Room 101	S	75L	T:60 RH:26 CO2:464 CO:0
3	03	Room 104	S	75L	T:58 RH:27 CO2:471 CO:0
4	04	Room 107	S	75L	T:59 RH:27 CO2:495 CO:0
5	05	Room 112	S	75L	T:66 RH:20 CO2:540 CO:0
6	06	Room 216	S	75L	T:64 RH:22 CO2:566 CO:0
7	07	Room M5	S	75L	T:62 RH:26 CO2:473 CO:0
8	08	Field blank	S		
9					
10					
11					
12					
13					
14					
15					
16					

Released by: Shane Prabuddha	Date: 02/21/21	Received By: CB	Date: 2/23/21

HAYES MICROBIAL CONSULTING

#21007926

Analysis Report prepared for

Global, Inc.

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

Phone: **(443) 691-0455**

20-064
IAQ Assessment - PGCPS
Isaac Gourdine

Collected: **March 6, 2021**
Received: **March 9, 2021**
Reported: **March 9, 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 March 9th, 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

Channa Bambaradeniya
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20-064
IAQ Assessment - PGCPS
Isaac Gourdine

#21007926

Spore Trap
SOP - HMC#101

Sample Number	1	IG-01		2	IG-02	
Sample Name	**Ambient**			**Room 112**		
Sample Volume	75.00 liter			75.00 liter		
Reporting Limit	13 spores/m^3			13 spores/m^3		
Background	2			1		
Fragments	ND			ND		
Organism	**Raw Count**	**Count / m^3**	**% of Total**	**Raw Count**	**Count / m^3**	**% of Total**
Alternaria						
Ascospores				2	27	100.0%
Aspergillus|Penicillium						
Basidiospores	1	13	16.7%			
Bipolaris|Drechslera						
Chaetomium						
Cladosporium	4	53	66.7%			
Curvularia						
Epicoccum						
Fusarium						
Memnoniella						
Myxomycetes	1	13	16.7%			
Pithomyces						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Total	6	79	100%	2	27	100%

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

Collected: **Mar 6, 2021** Received: **Mar 9, 2021** Reported: **Mar 9, 2021**

Project Analyst: Shareef Abdelgadir, MS Date: **03 - 09 - 2021**

Reviewed By: Steve Hayes, BSMT Date: **03 - 09 - 2021**

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20-064
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Isaac Gourdine

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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.
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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.
Water Damage Indicator Common Allergen Slightly Higher than Baseline Significantly Higher than Baseline Ratio Abnormality	**Blue:** These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem. **Green:** Although all molds are potential allergens, these are the most common allergens that may be found indoors. **Orange:** The spore count is slightly higher than the outside count and may or may not indicate a source of contamination. **Red:** The spore count is significantly higher than the baseline count and probably indicates a source of contamination. **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.
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.

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20-064
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#21007926

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.

Effects: Health affects are poorly studied, but many are likely to be allergenic.

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.

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.

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DATE: 03-09-2021

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MOLD
21007926

Job Number: 20-064	Job Name: IAQ Assessment- PGCPS Isaac Gourdine	Mobile: 443-691-0455	Email: Channab@globalincusa.net
Collector: Channa Bambaradeniya		Note:	
Date Collected: 3/6/2021			

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
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Culture	C1	Identification & Enumeration of Mold only	7 Day	Air Plate, Agar Plate, Swab, Bulk
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	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	IG-01	Ambient	S	75L	
2	IG-02	Room 112	S	75L	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Released by: Channa Bambaradeniya	Date: 3/6/2021	Received By:	Date: 3.9.21