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

April 2, 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: Bladensburg High School

Dear Mr. Baylor,

On January 26, 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 Bladensburg High School located at 4200 57th Ave, Bladensburg, MD 20710.

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 indoor locations inspected are summarized in Table 1 below:

Table 1: Observations

Location	Observations
Room CC1153	Water damage on ceiling tiles
Room D1112	No issues
Room CC1174C	Discolored ceiling tiles
Room CC1122	No issues
Activity Center	No issues
Gymnasium	No issues
Cafeteria	No issues
Girls Locker	No issues
Room D2109	No issues
Room D2104	No issues
Room D2141	No issues
Room D2105	Discolored air diffusers
Room D2108	No issues
Room 3132	No issues
Room 3121	Discolored ceiling tiles
Room 3112	Discolored ceiling tiles, spots on ceiling tiles
Room 3100	Spots on ceiling tiles and air diffusers
Basic Design	No issues
Room C4128	No issues
Room C4112	Discolored air diffusers
Room C4100	Spots on ceiling tiles, discolored air diffusers
Room C5100	Spots on ceiling tiles, warped ceiling tiles
Room C5110	Spots on ceiling tiles, warped ceiling tiles
Room C5129	Spots on ceiling tiles

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 of most of the rooms 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 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 26, 2021, the outdoor (ambient) carbon dioxide concentration was approximately 416 ppm so indoor concentrations should not exceed approximately 1116 ppm (700 + 416). 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. Laboratory analytical results are attached at the end of this report.

The analytical results of indoor air samples collected from room E2104 and C4100 indicate elevated presence of *Aspergillus/Penicillium* and indoor air samples collected from room D2109 indicates elevated presence of *Stachybotrys.* The horizontal surfaces of the above locations were thoroughly recleaned, and air scrubbers with HEPA filters were operated for 24-36 hours.

Subsequently, they were reinspected on April 1, 2021, and the analytical results of air samples collected from all three locations indicated normal fungal ecology. Laboratory analytical results are attached at the end of this report.

Table 2: Air Quality Results (Inspected on January 26, 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 1116	
Ambient	34.0	47.8	0	416	Yes
Room CC1153	63.5	37.8	0	404	Yes
Room D1112	70.7	50.6	0	411	Yes
Room CC1174C	67.7	50.0	0	401	Yes
Room CC1122	64.7	51.2	0	408	Yes
Activity Center	62.4	41.3	0	411	Yes
Gymnasium	57.0	31.3	0	392	Yes
Cafeteria	67.2	44.2	0	445	Yes
Girls Locker	66.1	50.1	0	414	Yes
Room D2109	66.1	39.5	0	406	No
Room D2104	58.4	33.7	0	413	No
Room D2141	43.0	51.1	0	423	Yes
Room D2105	64.1	48.9	0	409	Yes
Room D2108	60.8	31.2	0	401	Yes
Room 3132	65.4	48.0	0	415	Yes
Room 3121	67.9	49.4	0	406	Yes
Room 3112	64.6	48.7	0	426	Yes
Room 3100	65.3	50.0	0	405	Yes
Basic Design	68.3	33.8	0	411	Yes

Sample Location	Temp ^{0}F	RH%	CO ppm	CO2 ppm	Normal Fungal Ecology?
Standards	**ASHRAE 68 to 75°F**	**ASHRAE <65%**	**NAAQS <9**	**ASHRAE 1116**	
Room C4128	66.7	39.4	0	409	Yes
Room C4112	65.6	48.9	0	409	Yes
Room C4100	63.4	46.9	0	402	No
Room C5100	62.5	32.1	0	409	Yes
Room C5110	64.3	31.8	0	405	Yes
Room C5129	65.9	50.7	0	405	Yes

Table 3: Air Quality Results (Inspected on April 2, 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 1251**	
Ambient	55.0	43.0	0	551	N/A
Room D2109	65.0	43.0	0	489	Yes
Room D2104	64.0	57.0	0	530	Yes
Room C4100	71.0	40.0	0	469	Yes

Conclusions and Recommendations

Among the comfort parameters measured, the indoor temperature readings were below the range of the ASHRAE recommended range for winter. The indoor temperature should be regulated at the ASHRAE recommended range for general comfort.

The indoor mold samples collected from room E2104 and C4100 indicated elevated presence of *Aspergillus/Penicillium* and indoor air samples collected from room D2109 indicates elevated presence of *Stachybotrys* during the screening performed on January 26, 2021. These locations were thoroughly recleaned and reinspected, and the analytical results indicated normal fungal ecology.

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Based on the observations and results of air quality parameters screened in representative locations at Bladensburg High School, GLOBAL recommends the following corrective measures:

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

#21003024

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 Bladensburg High School

Collected: **January 26, 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 25 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

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BB203
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PGCPS Bladensburg High School

#21003024

Spore Trap
SOP - HMC#101

Sample Number	1	BHS-0126-01		2	BHS-0126-02		3	BHS-0126-03		4	BHS-0126-04	
Sample Name	**Ambient**			**Room CC1153**			**Room D1112**			**Room CC1174C**		
Sample Volume	75.00 liter			75.00 liter			75.00 liter			75.00 liter		
Reporting Limit	13 spores/m³			13 spores/m³			13 spores/m³			13 spores/m³		
Background	2			2			2			2		
Fragments	13/m³			ND			ND			ND		
Organism	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**
Alternaria												
Ascospores	2	27	25.0%				1	13	33.3%	1	13	50.0%
Aspergillus|Penicillium				14	187	93.3%						
Basidiospores	6	80	75.0%				2	27	66.7%			
Bipolaris|Drechslera												
Chaetomium												
Cladosporium										1	13	50.0%
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Tetraploa				1	13	6.7%						
Polythrincium												
Total	8	107	100%	15	200	100%	3	40	100%	2	26	100%

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

Collected: **Jan 26, 2021** Received: **Jan 27, 2021** Reported: **Jan 27, 2021**

Project Analyst: Connor Gailliot, BS — Date: **01 - 27 - 2021**

Reviewed By: Steve Hayes, BSMT — Date: **01 - 27 - 2021**

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Spore Trap
SOP - HMC#101

Sample Number	5	BHS-0126-05		6	BHS-0126-06		7	BHS-0126-07		8	BHS-0126-08	
Sample Name	**Room CC1122**			**Activity Center**			**Gymnasium**			**Cafeteria**		
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	33.3%				3	40	100.0%	2	27	50.0%
Aspergillus|Penicillium												
Basidiospores	1	13	33.3%	2	27	66.7%				2	27	50.0%
Bipolaris|Drechslera												
Chaetomium												
Cladosporium	1	13	33.3%	1	13	33.3%						
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Tetraploa												
Polythrincium												
Total	3	39	100%	3	40	100%	3	40	100%	4	54	100%

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

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Spore Trap
SOP - HMC#101

Sample Number	9	BHS-0126-09		10	BHS-0126-10		11	BHS-0126-11		12	BHS-0126-12	
Sample Name	**Girls Locker Room**			**Rood D2109**			**Room E2104**			**Room C2141**		
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	33.3%				1	13	4.3%			
Aspergillus|Penicillium				10	133	55.6%	21	280	91.3%	2	27	100.0%
Basidiospores				2	27	11.1%						
Bipolaris|Drechslera												
Chaetomium												
Cladosporium	2	27	66.7%	4	53	22.2%	1	13	4.3%			
Curvularia												
Epicoccum				1	13	5.6%						
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys				1	13	5.6%						
Stemphylium												
Torula												
Ulocladium												
Tetraploa												
Polythrincium												
Total	3	40	100%	18	239	100%	23	306	100%	2	27	100%

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

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Spore Trap
SOP - HMC#101

Sample Number	13	BHS-0126-13		14	BHS-0126-14		15	BHS-0126-15		16	BHS-0126-16	
Sample Name	Room C2105			Room C2108			Room C3132			Room C3121		
Sample Volume	75.00 liter			75.00 liter			75.00 liter			75.00 liter		
Reporting Limit	13 spores/m³			13 spores/m³			13 spores/m³			13 spores/m³		
Background	2			2			2			2		
Fragments	ND			13/m³			ND			ND		
Organism	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**
Alternaria												
Ascospores				1	13	100.0%	1	13	14.3%	1	13	50.0%
Aspergillus|Penicillium							6	80	85.7%			
Basidiospores												
Bipolaris|Drechslera												
Chaetomium												
Cladosporium	2	27	100.0%									
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes										1	13	50.0%
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Tetraploa												
Polythrincium												
Total	2	27	100%	1	13	100%	7	93	100%	2	26	100%

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

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Spore Trap
SOP - HMC#101

Sample Number	17	BHS-0126-17		18	BHS-0126-18		19	BHS-0126-19		20	BHS-0126-20	
Sample Name	Room C3112			Room C3100			Basic Design Room			Room C4128		
Sample Volume	75.00 liter			75.00 liter			75.00 liter			75.00 liter		
Reporting Limit	13 spores/m³			13 spores/m³			13 spores/m³			13 spores/m³		
Background	2			2			2			2		
Fragments	ND			ND			13/m³			ND		
Organism	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**
Alternaria				1	13	33.3%						
Ascospores												
Aspergillus|Penicillium	3	40	100.0%	2	27	66.7%	14	187	93.3%	8	107	66.7%
Basidiospores												
Bipolaris|Drechslera												
Chaetomium												
Cladosporium							1	13	6.7%	4	53	33.3%
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Tetraploa												
Polythrincium												
Total	3	40	100%	3	40	100%	15	200	100%	12	160	100%

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

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Spore Trap
SOP - HMC#101

Sample Number	21	BHS-0126-21		22	BHS-0126-22		23	BHS-0126-23		24	BHS-0126-24	
Sample Name	Room C4112			Room C4100			Room C5100			Room C5110		
Sample Volume	75.00 liter			75.00 liter			75.00 liter			75.00 liter		
Reporting Limit	13 spores/m³			13 spores/m³			13 spores/m³			13 spores/m³		
Background	2			2			2			2		
Fragments	ND			ND			ND			ND		
Organism	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**
Alternaria												
Ascospores							1	13	14.3%			
Aspergillus|Penicillium				36	480	100.0%	3	40	42.9%			
Basidiospores	2	27	100.0%				1	13	14.3%			
Bipolaris|Drechslera												
Chaetomium												
Cladosporium							2	27	28.6%	1	13	50.0%
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes										1	13	50.0%
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Tetraploa												
Polythrincium												
Total	2	27	100%	36	480	100%	7	93	100%	2	26	100%

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

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#21003024

Spore Trap
SOP - HMC#101

Sample Number	25	BHS-0126-25
Sample Name	**Room C5129**	
Sample Volume	75.00 liter	
Reporting Limit	13 spores/m^3	
Background	2	
Fragments	ND	

Organism	Raw Count	Count / m^3	% of Total
Alternaria			
Ascospores	2	27	28.6%
Aspergillus|Penicillium	2	27	28.6%
Basidiospores	1	13	14.3%
Bipolaris|Drechslera			
Chaetomium			
Cladosporium	1	13	14.3%
Curvularia			
Epicoccum			
Fusarium			
Memnoniella			
Myxomycetes			
Pithomyces			
Stachybotrys			
Stemphylium			
Torula			
Ulocladium			
Tetraploa			
Polythrincium	1	13	14.3%
Total	7	93	100%

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

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#21003024

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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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.

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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.
Polythrincium	**Habitat:**	Found in soil and occasionally on plants.
	Effects:	No known health effects. Allergenic properties are poorly studied.
Stachybotrys	**Habitat:**	Commonly found in soil and on decaying plant material. It is cellulolytic, and can be found indoors on wet materials containing cellulose, such as wallboard, ceiling tile, and other paper-based materials. It is found outdoors on decaying plant material although it is rarely detected on outdoor air samples.
	Effects:	Allergenic properties are poorly studied and no cases of infection have been reported in humans. They do however produce potent tricothecene mycotoxins. The toxins produced by this fungus can suppress the immune system affecting the lymphoid tissue and the bone marrow. The mycotoxin is also reported to be a liver and kidney carcinogen.
Tetraploa	**Habitat:**	Found in soil and decaying plant material. Rarely found growing indoors.
	Effects:	Allergenic properties are not well studied.

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

8160 4410 5586

MOLD
21003024

Job Number: BB203	Job Name: Indoor Air Quality Assessment- PGCPS Bladensburg High School
Collector: Shanka Dissanayake	
Date Collected: 01/26/2021	

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	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	BHS-0126-01	Ambient	S	75L	
2	BHS-0126-02	Room CC1153	S	75L	
3	BHS-0126-03	Room D1112	S	75L	
4	BHS-0126-04	Room CC1174C	S	75L	
5	BHS-0126-05	Room CC1122	S	75L	
6	BHS-0126-06	Activity Center	S	75L	
7	BHS-0126-07	Gynasium	S	75L	
8	BHS-0126-08	Cafeteria	S	75L	
9	BHS-0126-09	Girls Locker Room	S	75L	
10	BHS-0126-10	Rood D2109	S	75L	
11	BHS-0126-11	Room E2104	S	75L	
12	BHS-0126-12	Room C2141	S	75L	
13	BHS-0126-13	Room C2105	S	75L	
14	BHS-0126-14	Room C2108	S	75L	
15	BHS-0126-15	Room C3132	S	75L	
16	BHS-0126-16	Room C3121	S	75L	

Released by:	Date:	Received By: TM	Date: 1.27.21

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Washington DC 20002

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

8160 4410 5586

MOLD
21003024

Job Number: BB203	Job Name: Indoor Air Quality Assessment- PGCPS Bladensburg High School
Collector: Shanka Dissanayake	
Date Collected: 01/26/2021	

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	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	BHS-0126-17	Room C3112	S	75L	
2	BHS-0126-18	Room C3100	S	75L	
3	BHS-0126-19	BASIC DESIGN ROOM	S	75L	
4	BHS-0126-20	Room C4128	S	75L	
5	BHS-0126-21	Room C4112	S	75L	
6	BHS-0126-22	Room C4100	S	75L	
7	BHS-0126-23	Room C5100	S	75L	
8	BHS-0126-24	Room C5110	S	75L	
9	BHS-0126-25	Room C5129	S	75L	
10					
11					
12					
13					
14					
15					
16					

Released by:	Date:	Received By:	Date: 1.27.21

HAYES MICROBIAL CONSULTING

#21011216

Analysis Report prepared for

Global, Inc.

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

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

20-064
IAQ Reinspections
Bladensburg High School

Collected: **April 1, 2021**
Received: **April 2, 2021**
Reported: **April 2, 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 April 2nd, 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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20-064
IAQ Reinspections
Bladensburg High School

#21011216

Spore Trap, Spore Trap Blank

SOP - HMC#101

Sample Number	1	01		2	02		3	03		4	04	
Sample Name	**Ambient**			**Classroom E2104**			**Classroom C4100**			**Classroom D2109**		
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	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	15	200	68.2%	3	40	75.0%	1	13	100.0%	2	27	66.7%
Aspergillus|Penicillium												
Basidiospores	5	67	22.7%	1	13	25.0%				1	13	33.3%
Bipolaris|Drechslera												
Chaetomium												
Cladosporium	2	27	9.1%									
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Total	22	294	100%	4	53	100%	1	13	100%	3	40	100%

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

Collected: **Apr 1, 2021** Received: **Apr 2, 2021** Reported: **Apr 2, 2021**

Project Analyst: Ramesh Poluri, PhD P. Ramesh Date: **04 - 02 - 2021**

Reviewed By: Steve Hayes, BSMT Stephen N. Hayes Date: **04 - 02 - 2021**

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20-064
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Bladensburg High School

#21011216

Spore Trap, Spore Trap Blank

SOP - HMC#101

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 / m^3	% 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

Collected: **Apr 1, 2021** Received: **Apr 2, 2021** Reported: **Apr 2, 2021**

Project Analyst: Ramesh Poluri, PhD P. Ramesh Date: **04 - 02 - 2021**

Reviewed By: Steve Hayes, BSMT Stephen N. Hayes Date: **04 - 02 - 2021**

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Bladensburg High School

#21011216

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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Bladensburg High School

#21011216

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.

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N

SHIP: FEDEX - BOX 50
DATE: 04-02-2021

8160 4410 5690

MOLD

21011216

Job Number: 20-064	Job Name: IAQ Reinspections Bladensburg High school
Collector: Shane Prabuddha	
Date Collected: 04/01/21	

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	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:55 RH:43 CO2:551 CO: 0
2	02	Class Room E2104	S	75L	T:64 RH: 47 CO2:530 CO: 0
3	03	class Room C4100	S	75L	T:71 RH. 40 CO2:449 CO: 0
4	04	class Room D2109	S	75L	T:65 RH:43 CO2:489 CO:0
5	05	Field blank	S		
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Released by: Shane Prabuddha	Date: 04/01/21	Received By: CRP	Date: 4/7/21