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

March 4, 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: Crossland High School

Dear Mr. Baylor,

On January 27, 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 Crossland High School located at 6901 Temple Hill Rd, Camp Springs, MD 20748.

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 thirty indoor locations inspected are summarized in Table 1 below:

Table 1: Observations

Location	Observations
Room 202	No issues
Room 205	No issues
Room 228	Discolored ceiling tiles, spots on ceiling tiles
Room 223	No issues
Room 233	Discolored ceiling tiles, spots on ceiling tiles
Room 211	No issues
Media center	No issues
Room 318	No issues
Room 313	No issues
Room 311	No issues
Room 308	No issues
Room 307	No issues
Room 305	No issues
Room 303	No issues
Room 301	No issues
Room 321A	No issues
Room 321	No issues
Room 125	No issues
Room 128	No issues
Room 111	No issues
Room 113	No issues
Room 108	No issues
Room 104	No issues
Room 122	No issues
Room 115	No issues
Gymnasium	No issues
Career center	No issues
Multipurpose room	No issues
Main office	No issues
Principal's office	No issues

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Comfort Parameter Measurements and Mold-in-Air Sample Results

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

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 308 was below and the Gymnasium and the career center were above the ASHRAE Standard.

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 January 27, 2021, the outdoor (ambient) carbon dioxide concentration was approximately 428 ppm so indoor concentrations should not exceed approximately 1128 ppm (700 + 428). 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 311 indicated elevated presence of *Cladosporium*. The horizontal surfaces of Room 311 were thoroughly recleaned, and air scrubbers with HEPA filters were operated for 24-36 hours. Subsequently, Room 311 was reinspected on March 3, 2021, and the analytical results of air samples collected indicated normal fungal ecology. Laboratory analytical results are attached at the end of this report.

Table 2: Air Quality Results (Inspected on January 27, 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 1093	
Ambient	50.8	47.3	0	428	N/A
Room 202	70.1	31.7	0	428	Yes
Room 205	70.6	46.4	0	426	Yes
Room 228	72.2	49.5	0	433	Yes
Room 223	75.1	40.4	0	427	Yes
Room 233	71.5	44.8	0	425	Yes
Room 211	70.6	31.4	0	412	Yes
Media center	69.4	38.7	0	431	Yes
Room 318	71.3	45.5	0	451	Yes
Room 313	72.7	33.5	0	462	Yes
Room 311	70.1	32.5	0	446	No
Room 308	64.8	41.3	0	434	Yes
Room 307	71.3	31.6	0	447	Yes
Room 305	67.2	48.2	0	443	Yes
Room 303	67.9	48.9	0	448	Yes
Room 301	68.2	50.2	0	437	Yes
Room 321A	70.4	51.0	0	435	Yes

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Sample Location	Temp ^{0}F	RH%	CO ppm	CO2 ppm	Normal Fungal Ecology?
Standards	ASHRAE 68 to 75°F	ASHRAE <65%	NAAQS <9	ASHRAE 1093	
Room 321	71.7	49.0	0	442	Yes
Room 125	70.4	41.5	0	437	Yes
Room 128	70.9	47.2	0	438	Yes
Room 111	74.2	47.3	0	438	Yes
Room 113	73.2	40.4	0	434	Yes
Room 108	70.2	31.3	0	433	Yes
Room 104	72.5	34.6	0	464	Yes
Room 122	70.5	49.1	0	428	Yes
Room 115	72.7	51.1	0	471	Yes
Gymnasium	79.7	47.7	0	435	Yes
Career center	76.7	31.2	0	429	Yes
Multipurpose room	68.8	31.5	0	455	Yes
Main office	74.6	34.7	0	458	Yes
Principal's office	74.5	42.7	0	465	Yes

Table 3: Air Quality Results (Inspected on March 3, 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 1123	
Ambient	77.0	18.0	0	423	N/A
Room 311	74.0	17.0	0	418	Yes

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Conclusions and Recommendations

Among the comfort parameters measured, few of the indoor temperature readings were not in the range of the ASHRAE recommended range for winter. The indoor temperature should be regulated at the ASHRAE recommended range for winter (68 to 75^{o}F) for general comfort.

The indoor mold samples collected from room 311 indicated elevated presence of *Cladosporium* during the screening performed on January 27, 2021, while the other mold sample was found to have a normal fungal ecology for an indoor environment. Room 311 was thoroughly recleaned and resampled on March 3, 2021, 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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Environmental Consultants and Engineers
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ATTACHMENT I

Air Sample Analytical Results and Chain-Of-Custody Form

HAYES MICROBIAL CONSULTING

#21003196

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 - Crossland HS

Collected: **January 27, 2021**
Received: **January 28, 2021**
Reported: **January 28, 2021**

We would like to thank you for trusting Hayes Microbial for your analytical needs!
We received 31 samples by FedEx in good condition for this project on January 28th, 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

Shanka Dissanayake
Global, Inc.
1818 New York Ave. Suite 217
Washington, DC, 20002
(443) 691-0455

BB203
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PGCPS - Crossland HS

#21003196

Spore Trap
SOP - HMC#101

Sample Number	1	CHS-0127-01		2	CHS-0127-02		3	CHS-0127-03		4	CHS-0127-04	
Sample Name	**Ambient**			**Room 202**			**Room 205**			**Room 228**		
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			1			1		
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	10	133	66.7%	1	13	50.0%	1	13	100.0%	2	27	66.7%
Aspergillus|Penicillium												
Basidiospores	4	53	26.7%	1	13	50.0%				1	13	33.3%
Bipolaris|Drechslera												
Chaetomium												
Cladosporium	1	13	6.7%									
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Total	15	199	100%	2	26	100%	1	13	100%	3	40	100%

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

Collected: **Jan 27, 2021** Received: **Jan 28, 2021** Reported: **Jan 28, 2021**

Project Analyst: Ramesh Poluri, PhD P. Ramesh Date: **01 - 28 - 2021**

Reviewed By: Steve Hayes, BSMT Stephen N. Hayes Date: **01 - 28 - 2021**

HAYES MICROBIAL CONSULTING
3005 East Boundary Terrace, Suite F. Midlothian, VA. 23112 (804) 562-3435 contact@hayesmicrobial.com

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Global, Inc.
1818 New York Ave. Suite 217
Washington, DC, 20002
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Spore Trap
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Sample Number	5	CHS-0127-05		6	CHS-0127-06		7	CHS-0127-07		8	CHS-0127-08	
Sample Name	**Room 223**			**Room 233**			**Room 211**			**Media Center**		
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	100.0%	1	13	50.0%	1	13	100.0%	2	27	40.0%
Aspergillus|Penicillium												
Basidiospores				1	13	50.0%				1	13	20.0%
Bipolaris|Drechslera												
Chaetomium												
Cladosporium										2	27	40.0%
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Total	1	13	100%	2	26	100%	1	13	100%	5	67	100%

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

Collected: **Jan 27, 2021** Received: **Jan 28, 2021** Reported: **Jan 28, 2021**

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Spore Trap
SOP - HMC#101

Sample Number	9	CHS-0127-09		10	CHS-0127-10		11	CHS-0127-11		12	CHS-0127-12	
Sample Name	**Room 318**			**Room 313**			**Room 311**			**Room 308**		
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	2	27	66.7%	2	27	50.0%	3	40	12.0%	2	27	66.7%
Aspergillus|Penicillium												
Basidiospores	1	13	33.3%	1	13	25.0%	1	13	4.0%	1	13	33.3%
Bipolaris|Drechslera												
Chaetomium												
Cladosporium				1	13	25.0%	20	267	80.0%			
Curvularia												
Epicoccum							1	13	4.0%			
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Total	3	40	100%	4	53	100%	25	333	100%	3	40	100%

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

Collected: **Jan 27, 2021** Received: **Jan 28, 2021** Reported: **Jan 28, 2021**

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3005 East Boundary Terrace, Suite F. Midlothian, VA. 23112 (804) 562-3435 contact@hayesmicrobial.com

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Global, Inc.
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Spore Trap
SOP - HMC#101

Sample Number	13	CHS-0127-13		14	CHS-0127-14		15	CHS-0127-15		16	CHS-0127-16	
Sample Name	Room 307			Room 305			Room 303			Room 301		
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	4	53	80.0%	1	13	50.0%	3	40	75.0%	2	27	66.7%
Aspergillus|Penicillium												
Basidiospores	1	13	20.0%	1	13	50.0%	1	13	25.0%	1	13	33.3%
Bipolaris|Drechslera												
Chaetomium												
Cladosporium												
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Total	5	66	100%	2	26	100%	4	53	100%	3	40	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	CHS-0127-17		18	CHS-0127-18		19	CHS-0127-19		20	CHS-0127-20	
Sample Name	**Room 321A**			**Room 321**			**Room 125**			**Room 128**		
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	2	27	66.7%	1	13	50.0%	1	13	50.0%	1	13	100.0%
Aspergillus|Penicillium												
Basidiospores	1	13	33.3%	1	13	50.0%						
Bipolaris|Drechslera												
Chaetomium												
Cladosporium							1	13	50.0%			
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Total	3	40	100%	2	26	100%	2	26	100%	1	13	100%

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

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Spore Trap
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Sample Number	21	CHS-0127-21		22	CHS-0127-22		23	CHS-0127-23		24	CHS-0127-24	
Sample Name	**Room 111**			**Room 113**			**Room 108**			**Room 104**		
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	4	53	66.7%	1	13	50.0%	1	13	100.0%	1	13	50.0%
Aspergillus|Penicillium												
Basidiospores	1	13	16.7%	1	13	50.0%				1	13	50.0%
Bipolaris|Drechslera												
Chaetomium												
Cladosporium												
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes	1	13	16.7%									
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Total	6	79	100%	2	26	100%	1	13	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	25	CHS-0127-25		26	CHS-0127-26		27	CHS-0127-27		28	CHS-0127-28	
Sample Name	**Room 122**			**Room 115**			**Gym**			**Career Center**		
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			1		
Fragments	27/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	1	13	100.0%	2	27	66.7%	1	13	100.0%	1	13	100.0%
Aspergillus|Penicillium												
Basidiospores				1	13	33.3%						
Bipolaris|Drechslera												
Chaetomium												
Cladosporium												
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Total	1	13	100%	3	40	100%	1	13	100%	1	13	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	29	CHS-0127-29	30	CHS-0127-30	31	CHS-0127-31
Sample Name	**Multi Purpose Room**		**Main Office**		**Principal's Office**	
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	2		2		2	
Fragments	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
Alternaria									
Ascospores	2	27	100.0%	2	27	66.7%	3	40	75.0%
Aspergillus|Penicillium									
Basidiospores				1	13	33.3%	1	13	25.0%
Bipolaris|Drechslera									
Chaetomium									
Cladosporium									
Curvularia									
Epicoccum									
Fusarium									
Memnoniella									
Myxomycetes									
Pithomyces									
Stachybotrys									
Stemphylium									
Torula									
Ulocladium									
Total	2	27	100%	3	40	100%	4	53	100%

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

Collected: **Jan 27, 2021** Received: **Jan 28, 2021** Reported: **Jan 28, 2021**

Project Analyst: Ramesh Poluri, PhD P. Ramesh Date: **01 - 28 - 2021**

Reviewed By: Steve Hayes, BSMT Stephen N. Hayes Date: **01 - 28 - 2021**

HAYES MICROBIAL CONSULTING
3005 East Boundary Terrace, Suite F. Midlothian, VA. 23112 (804) 562-3435 contact@hayesmicrobial.com

Shanka Dissanayake
Global, Inc.
1818 New York Ave. Suite 217
Washington, DC, 20002
(443) 691-0455

BB203
Indoor Air Quality Assessment
PGCPS - Crossland HS

#21003196

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.

Shanka Dissanayake
Global, Inc.
1818 New York Ave. Suite 217
Washington, DC, 20002
(443) 691-0455

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.

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.

HAYES MICROBIAL CONSULTING

Company: Global, Inc.
Address: 1818 New York Avenue NE Suite 217, Washington DC 20002

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SHIP: FEDEX - BOX SO
DATE: 01-28-2021

8160 4410 5597

MOLD

21003196

Job Number: BB203	Job Name: Indoor Air Quality Assessment- PGCPS-Crossland HS
Collector: Shanka Dissanayake	
Date Collected: 012721	

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	CHS-0127-01	Ambient	S	75 L	
2	CHS-0127-02	Room 202	S	75 L	
3	CHS-0127-03	Room 205	S	75 L	
4	CHS-0127-04	Room 228	S	75 L	
5	CHS-0127-05	Room 223	S	75 L	
6	CHS-0127-06	Room 233	S	75 L	
7	CHS-0127-07	Room 211	S	75 L	
8	CHS-0127-08	Media Center	S	75 L	
9	CHS-0127-09	Room 318	S	75 L	
10	CHS-0127-10	Room 313	S	75 L	
11	CHS-0127-11	Room 311	S	75 L	
12	CHS-0127-12	Room 308	S	75 L	
13	CHS-0127-13	Room 307	S	75 L	
14	CHS-0127-14	Room 305	S	75 L	
15	CHS-0127-15	Room 303	S	75 L	
16	CHS-0127-16	Room 301	S	75 L	

Released by:	Date:	Received By:	Date: 1-28-21

HAYES MICROBIAL CONSULTING

Company: _____

Address: _____

_____

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SHIP: FEDEX - BOX 50
DATE: 01-28-2021

8160 4410 5597

MOLD

21003196

Job Number: BB203	Job Name: Indoor Air Quality Assessment- PGCPS-Crossland HS
Collector: Shanka Dissanayake	
Date Collected: 012721	

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	CHS-0127-17	Room 321A	S	75 L	
2	CHS-0127-18	Room 321	S	75 L	
3	CHS-0127-19	Room 125	S	75 L	
4	CHS-0127-20	Room 128	S	75 L	
5	CHS-0127-21	Room 111	S	75 L	
6	CHS-0127-22	Room 113	S	75 L	
7	CHS-0127-23	Room 108	S	75 L	
8	CHS-0127-24	Room 104	S	75 L	
9	CHS-0127-25	Room 122	S	75 L	
10	CHS-0127-26	Room 115	S	75 L	
11	CHS-0127-27	Gym	S	75 L	
12	CHS-0127-28	Career center	S	75 L	
13	CHS-0127-29	Multi purpose room	S	75 L	
14	CHS-0127-30	Main office	S	75 L	
15	CHS-0127-31	Principals office	S	75 L	
16					

Released by:	Date:	Received By:	Date: 1.28.21

HAYES MICROBIAL CONSULTING

#21007302

Analysis Report prepared for

Global, Inc.

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

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

20-064
IAQ Reinspection
Crossland HS

Collected: **March 3, 2021**
Received: **March 4, 2021**
Reported: **March 4, 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 4th, 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
Global, Inc.
1818 New York Ave. Suite 217
Washington, DC, 20002
(443) 691-0455

20-064
IAQ Reinspection
Crossland HS

#21007302

Spore Trap
SOP - HMC#101

Sample Number	1	01		2	02	
Sample Name	**Ambient**			**Room 311**		
Sample Volume	75.00 liter			75.00 liter		
Reporting Limit	13 spores/m^3			13 spores/m^3		
Background	2			2		
Fragments	ND			13/m^3		
Organism	**Raw Count**	**Count / m^3**	**% of Total**	**Raw Count**	**Count / m^3**	**% of Total**
Alternaria	1	13	9.1%			
Ascospores	2	27	18.2%			
Aspergillus|Penicillium	4	53	36.4%			
Basidiospores	1	13	9.1%	4	53	66.7%
Bipolaris|Drechslera						
Chaetomium						
Cladosporium	3	40	27.3%	1	13	16.7%
Curvularia						
Epicoccum				1	13	16.7%
Fusarium						
Memnoniella						
Myxomycetes						
Pithomyces						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Total	11	146	100%	6	79	100%

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

Collected: **Mar 3, 2021** Received: **Mar 4, 2021** Reported: **Mar 4, 2021**

Project Analyst: Connor Gailliot, BS

Date: **03 - 04 - 2021**

Reviewed By: Steve Hayes, BSMT

Date: **03 - 04 - 2021**

HAYES MICROBIAL CONSULTING
3005 East Boundary Terrace, Suite F. Midlothian, VA. 23112 (804) 562-3435 contact@hayesmicrobial.com

Shane Prabuddha
Global, Inc.
1818 New York Ave. Suite 217
Washington, DC, 20002
(443) 691-0455

20-064
IAQ Reinspection
Crossland HS

#21007302

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.

Shane Prabuddha Global, Inc.
1818 New York Ave. Suite 217
Washington, DC, 20002
(443) 691-0455

20-064
IAQ Reinspection
Crossland HS

#21007302

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.

HAYES MICROBIAL CONSULTING

Company: Global, Inc
Address: 1818 New York Avenue, Suite 217
Washington, Dc 20002

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SHIP: FEDEX - BOX SO
DATE: 03-04-2021

8160 4410 5678

MOLD
21007302

Job Number: 20-064	Job Name: IAQ Reinspection Crossland HS
Collector: Shane Prabuddha	
Date Collected: 03/03/21	

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:77 RH:18 CO2:423 CO:0
2	02	Room 311	S	75L	T:74 RH:17 CO2:418 CO:0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Released by: Shane Prabuddha	Date: 03/03/21	Received By:	Date: 3/4/21