Windjammer Environmental LLC
6710 Oxon Hill Road
Suite 210
Oxon Hill, MD 20745
(888) 270-8387
info@wjenviro.com

June 5, 2019

Alex Baylor
Environmental Specialist
PGCPS Environmental Safety Office
13306 Old Marlboro Pike
Upper Marlboro, MD 20772
Alex.baylor@pgcps.org

Re: IAQ and Mold Assessment Report
Prince George's County Public Schools
Oxon Hill High School

Dear Mr. Baylor,

Windjammer Environmental LLC (Windjammer) was contracted to conduct a visual assessment, measure indoor air quality (IAQ) parameters and sample for mold in a limited number of areas at the Oxon Hill High School located at 6701 Leyte Drive, Oxon Hill, MD 20745. This assessment is intended to check on effectiveness of operations activities that are focused on preventing conditions that can lead to the development of an environment which is historically associated with an increase in reports of poor IAQ. This assessment was conducted by Certified Industrial Hygienists (CIHs) Damien Hammond and Katherine Dietrich on May 18, 2019.

This assessment included:

- Measurement of temperature, relative humidity, carbon dioxide (CO_2) and carbon monoxide (CO)
- Collection of nonviable airborne mold samples; and
- Visual assessment of select areas.

Methods

A TSI IAQ-Calc Model 7545 was used to measure temperature, relative humidity, carbon dioxide (CO_2) and carbon monoxide (CO).

Air samples for non-viable airborne fungi were collected on Air-O-Cell cassettes using a Zefon Bio-Pump Plus portable sampler calibrated to collect 15 liters of air per minute (lpm). The sampling period for the all samples was five minutes.

Direct read instrumentation used were calibrated in accordance with the manufacturer's specifications prior to the start of this assessment.

All samples collected were hand delivered to and analyzed by AMA of Lanham, MD. AMA is accredited by the American Industrial Hygiene Association (AIHA) for microbial analysis and participates in the Environmental Microbiology Laboratory Accreditation Program (EMLAP).

Guidance

The Occupational Safety and Health Administration's (OSHA) Permissible Exposure Limits (PELs) are the only enforceable regulatory standards for indoor air quality. However, other organizations such as the American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) and the Environmental Protection Agency (EPA) have developed widely accepted consensus standards that can be used to assess the suitability of indoor air quality.

ASHRAE Standards

62.1-2013 and 55-2013 are consensus standards that outline acceptable practices for the design of ventilation systems in commercial and residential structures. Both documents were developed "to specify minimum ventilation rates and indoor air quality that will be acceptable to human occupants and are intended to minimize the potential for adverse health effects." The standards also consider chemical, physical, and biological contaminants and other factors that impact indoor air quality and affect occupant health and comfort.

ASHRAE 55-2013 recommends temperature and relative humidity ranges that are considered suitable for indoor air quality. Recommended ranges are as follows:

- Temperature be maintained between 67 and 82 degrees Fahrenheit (°F)
- Relative humidity to be maintained below 65%

Carbon Dioxide

CO_2 is widely used as a surrogate gas in the assessment of indoor air quality. It is a byproduct of respiration and can be used to determine the effectiveness and/or management of building ventilation systems. Based on ASHRAE recommendations, indoor CO_2 concentrations that are below 1000 parts per million (ppm) or have a differential of less than 700 ppm compared to outside concentrations are considered to be suitable.

For example, if outside CO_2 concentrations are measured at 380 ppm, then indoor CO_2 concentrations measured up to 1080 ppm would be considered suitable.

Carbon Monoxide

OSHA has established a PEL for CO of 35 ppm over a time weighted average (TWA) of 8 hours and a ceiling CO exposure limit of 200 ppm in a five-minute period. ASHARE has adopted the EPA National Ambient Air Quality Standard (NAAQS) for CO of 9 ppm when evaluating indoor air quality. In nonindustrial settings, the NAAQS standard is commonly used to assess the suitability of IAQ.

Nonviable Airborne Fungi (Mold)

There are no set regulatory limits established for acceptable airborne fungi levels. However, indoor levels within schools and offices are generally lower than outdoor levels. The distribution of airborne species of fungi found in indoor air is expected to be similar in proportion to outside distributions. The type and concentrations of the airborne microorganisms can be used to determine if there is a potential hazard to occupants which requires action.

Findings

Indoor Air Quality

Indoor air quality measurements collected were satisfactory with respect to temperature, relative humidity, carbon dioxide (CO_2), and carbon monoxide (CO). Recorded indoor air quality results are summarized in the following Table.

Table 1
Indoor Air Quality Measurement Summary
(Measurements Recorded on May 18, 2019)

Measurement Location	Temperature (°F)	Relative Humidity (%)	CO_2 (ppm)	CO (ppm)
Outdoors 8AM	75.0	71.5	510	0.0
Classroom C101	71.4	62.2	631	0.0
Auditorium D105	74.0	66.1	586	0.0
Theatre D104	75.7	55.5	551	0.0
Cafeteria E142	76.6	60.8	542	0.0
Choral D106	72.7	61.0	538	0.0
Media Center A201	77.8	60.8	532	0.0
Room A203	80.6	56.0	574	0.0
Classroom C203	74.7	56.3	607	0.0
Classroom C214	71.9	61.9	603	0.0
3rd Floor Atrium	75.5	58.1	580	0.0
Room A316A	72.9	59.1	582	0.0
Classroom C302	73.2	59.2	590	0.0
Classroom C315	71.0	63.1	584	0.0
1st Floor Atrium	75.1	54.6	545	0.0
Lecture Hall A128	73.3	55.9	547	0.0
Classroom C116	72.4	60.3	682	0.0
Classroom C111	71.8	60.8	634	0.0
Community Space B100	68.5	67.9	542	0.0
Classroom B113	70.6	67.1	553	0.0
Kitchen Classroom E158	76.4	58.4	574	0.0
Classroom B200	73.7	60.9	652	0.0
Classroom B205	73.0	63.1	648	0.0

Measurement Location	Temperature (°F)	Relative Humidity (%)	CO_2 (ppm)	CO (ppm)
Classroom B206	73.1	63.0	627	0.0
Room A2016	73.0	57.9	599	0.0
Classroom B302	72.1	62.0	516	0.0
Classroom B305	71.8	65.1	615	0.0
Classroom B309	72.7	64.4	626	0.0
3rd Floor Stair B	73.2	62.3	527	0.0
Outdoors 11AM	83.5	54.2	450	0.0

ppm – parts per million

Non-viable Airborne Fungi Sampling

Measured total indoor airborne fungi concentrations were determined have a normal ecology and with indoor airborne fungi concentrations lower than measured total outdoor fungi concentrations at this time. An unusual number of the samples were found by the laboratory to lack an obvious trace. There was no explanation discovered for this (the rooms were not expected to be so clean; sampling was performed in accordance with protocol with two different calibrated pumps and unexpired media and the laboratory did not report a problem). A complete laboratory analysis report is available for viewing in Attachment A.

Visual Assessment

A walk-through of the hallways and a limited number of classrooms and public areas was carried out. No bathrooms, staff offices, mechanical rooms, kitchen areas or storage areas were visited. The school was not session at the time of the inspection but there were several activities taking place both in classrooms and the atrium area.

The school was free of evidence of current water intrusion or any unexpected odors. Except as noted, floors, walls and ceiling tiles observed were in acceptable condition. Of the stained ceiling tiles noted none were associated with an ongoing leak (appeared to be dry). The housekeeping was acceptable.

The following areas for further investigation or improvement were noted:

- Atrium (adjacent to academics' trophy case) – water damaged ceiling.
- A203 – three stained ceiling tiles (less than 2 ft^2).
- C302 – stained ceiling tiles (less than 1 ft^2).
- C304 – stained ceiling tiles (less than 1 ft^2).
- Hall near C305 – stained ceiling tiles (less than 1 ft^2).
- 3rd Floor, Stair B – stained ceiling tile adjacent to fan coil unit.

Conclusions & Recommendations

Of the spore trap samples with measurable spore counts areas assessed were less than the levels measured outside the building and with the same predominate spore types found. This is an indication that the spores sampled in the rooms assessed are more likely to be originating in the outdoor environment rather than an interior source - reducing the chance of undetected overgrowth or

colonization in the building. While there are no standards for airborne levels of mold, this approach of comparing indoor to outdoor, and looking at the species found, is one tool identified by organizations such as the American Industrial Hygiene Association when identifying assessment methods and improvement measurement in indoor air quality. Please note the following considerations for improvement.

- Identify the cause of any staining on ceiling tiles and fix

At this time, no other recommendations are provided.

Windjammer appreciates the opportunity to provide this indoor air quality assessment. If you have any questions or comments, please feel free to contact us at (888) 270 - 8387.

Best regards,

Damien Hammond Sr, MS, CSP, CIH
President

Katherine (Kay) Dietrich, CIH, CSP
Certified Industrial Hygienist

Attachment A: Microbial Laboratory Report (Air)

Windjammer Environmental LLC
info@wjenviro.com

Attachment A

Windjammer Environmental LLC
info@wjenviro.com

AMA Analytical Services, Inc.
Focused On Results.

CERTIFICATE OF ANALYSIS

ASTM D7391-09 Spore Trap Analysis Report

Chain of Custody:	310918	**Job Name:**	PGCPS IAQ	**Date Submitted:**	05/20/2019
Client:	Windjammer Environmental	**Job Location:**	Oxon Hill High School	**Person Submitting:**	K. Dietrich
Address:	6710 Oxon Hill Road Suite 210 National Harbor, MD 20745	**Job Number:**	Not Provided	**Date Analyzed:**	05/30/2019
		P.O. Number:	Not Provided	**Report Date:**	05/30/2019
				Revised:	05/30/2019 (Revision #1)
Attention:	K. Dietrich				

AMA Sample #	310918-1	**AMA Sample #**	310918-2	**AMA Sample #**	310918-3
Client ID	190518-1	**Client ID**	190518-2	**Client ID**	190518-3
Analyst ID	TLW	**Analyst ID**	TLW	**Analyst ID**	TLW
Collection Apparatus	Air-O-Cell	**Collection Apparatus**	Air-O-Cell	**Collection Apparatus**	Air-O-Cell
Sample Volume (L)	75	**Sample Volume (L)**	75	**Sample Volume (L)**	75
Sample Condition	Acceptable	**Sample Condition**	Acceptable	**Sample Condition**	Acceptable
Debris Loading	2	**Debris Loading**	1	**Debris Loading**	1
Location	Outside	**Location**	C101 Classroom	**Location**	D105 Auditorium

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores	105	13	60	6300	39.5%
Basidiospores	120	8	98	11760	45.1%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium	28	15	52	1456	10.5%
Curvularia					
Penicillium / Aspergillus	8	15	52	416	3%
Smuts/Periconia/Myxomycetes	3	15	52	156	1.1%
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium	1	15	52	52	0.4%
Torula	1	15	52	52	0.4%
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	266		**Total sp/m^3:**	20192	

Comments

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores	Present	15	52	<52	
Basidiospores					
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus					
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	0		**Total sp/m^3:**	0	

Comments
No visible trace.

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores	1	15	52	52	25%
Basidiospores	2	15	52	104	50%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus	1	15	52	52	25%
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	4		**Total sp/m^3:**	208	

Comments
No visible trace.

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Address:	6710 Oxon Hill Road Suite 210 National Harbor, MD 20745	**Job Number:**	Not Provided	**Date Analyzed:**	05/30/2019
		P.O. Number:	Not Provided	**Report Date:**	05/30/2019
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Attention:	K. Dietrich				

AMA Sample #	310918-4	**AMA Sample #**	310918-5	**AMA Sample #**	310918-6
Client ID	190518-4	**Client ID**	190518-5	**Client ID**	190518-6
Analyst ID	TLW	**Analyst ID**	TLW	**Analyst ID**	TLW
Collection Apparatus	Air-O-Cell	**Collection Apparatus**	Air-O-Cell	**Collection Apparatus**	Air-O-Cell
Sample Volume (L)	75	**Sample Volume (L)**	75	**Sample Volume (L)**	75
Sample Condition	Acceptable	**Sample Condition**	Acceptable	**Sample Condition**	Acceptable
Debris Loading	1	**Debris Loading**	1	**Debris Loading**	1
Location	D104 Theater	**Location**	E142 Cafeteria	**Location**	E112 Gym

	Raw Ct	Trav/Flds	A.S.	sp/m³	%
Alternaria					
Ascospores	1	15	52	52	33.3%
Basidiospores					
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus	2	15	52	104	66.7%
Smuts/Periconia/Myxomycetes	Present	15	52	<52	
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	3	**Total sp/m³:**	156		

Comments

	Raw Ct	Trav/Flds	A.S.	sp/m³	%
Alternaria					
Ascospores	2	15	52	104	13.3%
Basidiospores	1	15	52	52	6.7%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus	11	15	52	572	73.3%
Smuts/Periconia/Myxomycetes	Present	15	52	<52	
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless	1	15	52	52	6.7%
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	15	**Total sp/m³:**	780		

Comments
No visible trace.

	Raw Ct	Trav/Flds	A.S.	sp/m³	%
Alternaria					
Ascospores	5	15	52	260	71.4%
Basidiospores	2	15	52	104	28.6%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus					
Smuts/Periconia/Myxomycetes	Present	15	52	<52	
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	7	**Total sp/m³:**	364		

Comments
No visible trace.

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Lab ID # 100470

CERTIFICATE OF ANALYSIS

ASTM D7391-09 Spore Trap Analysis Report

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Client:	Windjammer Environmental	**Job Location:**	Oxon Hill High School	**Person Submitting:**	K. Dietrich
Address:	6710 Oxon Hill Road Suite 210 National Harbor, MD 20745	**Job Number:**	Not Provided	**Date Analyzed:**	05/30/2019
		P.O. Number:	Not Provided	**Report Date:**	05/30/2019
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Attention:	K. Dietrich				

AMA Sample #	310918-7	**AMA Sample #**	310918-8	**AMA Sample #**	310918-9
Client ID	190518-7	**Client ID**	190518-8	**Client ID**	190518-9
Analyst ID	TLW	**Analyst ID**	TLW	**Analyst ID**	TLW
Collection Apparatus	Air-O-Cell	**Collection Apparatus**	Air-O-Cell	**Collection Apparatus**	Air-O-Cell
Sample Volume (L)	75	**Sample Volume (L)**	75	**Sample Volume (L)**	75
Sample Condition	Acceptable	**Sample Condition**	Acceptable	**Sample Condition**	Acceptable
Debris Loading	1	**Debris Loading**	1	**Debris Loading**	1
Location	D106 Choral	**Location**	A102 Media	**Location**	A203 Conf Rm

	Raw Ct	Trav/Flds	A.S.	sp/m³	%
Alternaria					
Ascospores	1	15	52	52	100%
Basidiospores					
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus					
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	1	**Total sp/m³:**		52	

Comments
No visible trace.

	Raw Ct	Trav/Flds	A.S.	sp/m³	%
Alternaria					
Ascospores	1	15	52	52	14.3%
Basidiospores	2	15	52	104	28.6%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus	1	15	52	52	14.3%
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless	3	15	52	156	42.9%
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	7	**Total sp/m³:**		364	

Comments

	Raw Ct	Trav/Flds	A.S.	sp/m³	%
Alternaria					
Ascospores	2	15	52	104	28.6%
Basidiospores	3	15	52	156	42.9%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium	1	15	52	52	14.3%
Curvularia					
Penicillium / Aspergillus					
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown	1	15	52	52	14.3%
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	7	**Total sp/m³:**		364	

Comments

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Attention:	K. Dietrich				

AMA Sample #	310918-10	**AMA Sample #**	310918-11	**AMA Sample #**	310918-12
Client ID	190518-10	**Client ID**	190518-11	**Client ID**	190518-12
Analyst ID	TLW	**Analyst ID**	TLW	**Analyst ID**	TLW
Collection Apparatus	Air-O-Cell	**Collection Apparatus**	Air-O-Cell	**Collection Apparatus**	Air-O-Cell
Sample Volume (L)	75	**Sample Volume (L)**	75	**Sample Volume (L)**	75
Sample Condition	Acceptable	**Sample Condition**	Acceptable	**Sample Condition**	Acceptable
Debris Loading	1	**Debris Loading**	1	**Debris Loading**	1
Location	C203 Classroom	**Location**	C214 Classroom	**Location**	3F Atrium

	Raw Ct	Trav/Flds	A.S.	sp/m³	%
Alternaria					
Ascospores					
Basidiospores					
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus					
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	0		**Total sp/m³:**	0	

Comments
No visible trace; no mold spores observed.

	Raw Ct	Trav/Flds	A.S.	sp/m³	%
Alternaria					
Ascospores					
Basidiospores					
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus	3	15	52	156	100%
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	3		**Total sp/m³:**	156	

Comments

	Raw Ct	Trav/Flds	A.S.	sp/m³	%
Alternaria					
Ascospores	3	15	52	156	42.9%
Basidiospores	2	15	52	104	28.6%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus	2	15	52	104	28.6%
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	7		**Total sp/m³:**	364	

Comments
No visible trace.

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Client:	Windjammer Environmental	**Job Location:**	Oxon Hill High School	**Person Submitting:**	K. Dietrich
Address:	6710 Oxon Hill Road	**Job Number:**	Not Provided	**Date Analyzed:**	05/30/2019
	Suite 210	**P.O. Number:**	Not Provided	**Report Date:**	05/30/2019
	National Harbor, MD 20745			**Revised:**	05/30/2019 (Revision #1)
Attention:	K. Dietrich				

AMA Sample #	310918-13	**AMA Sample #**	310918-14	**AMA Sample #**	310918-15
Client ID	190518-13	**Client ID**	190518-14	**Client ID**	190518-15
Analyst ID	TLW	**Analyst ID**	TLW	**Analyst ID**	TLW
Collection Apparatus	Air-O-Cell	**Collection Apparatus**	Air-O-Cell	**Collection Apparatus**	Air-O-Cell
Sample Volume (L)	75	**Sample Volume (L)**	75	**Sample Volume (L)**	75
Sample Condition	Acceptable	**Sample Condition**	Acceptable	**Sample Condition**	Acceptable
Debris Loading	1	**Debris Loading**	1	**Debris Loading**	1
Location	A316A Workroom	**Location**	C302 Comp	**Location**	C315 Classroom

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores					
Basidiospores	1	15	52	52	100%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus					
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	1	**Total sp/m^3:**	52		

Comments
No visible trace.

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores					
Basidiospores	1	15	52	52	33.3%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus	2	15	52	104	66.7%
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	3	**Total sp/m^3:**	156		

Comments
No visible trace.

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores					
Basidiospores					
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus					
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless	4	15	52	208	100%
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	4	**Total sp/m^3:**	208		

Comments
No visible trace.

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Focused On Results.

CERTIFICATE OF ANALYSIS

ASTM D7391-09 Spore Trap Analysis Report

Chain of Custody:	310918	**Job Name:**	PGCPS IAQ	**Date Submitted:**	05/20/2019
Client:	Windjammer Environmental	**Job Location:**	Oxon Hill High School	**Person Submitting:**	K. Dietrich
Address:	6710 Oxon Hill Road	**Job Number:**	Not Provided	**Date Analyzed:**	05/30/2019
	Suite 210	**P.O. Number:**	Not Provided	**Report Date:**	05/30/2019
	National Harbor, MD 20745			**Revised:**	05/30/2019 (Revision #1)
Attention:	K. Dietrich				

AMA Sample #	310918-16	**AMA Sample #**	310918-17	**AMA Sample #**	310918-18
Client ID	190518-16	**Client ID**	190518-17	**Client ID**	190518-18
Analyst ID	TLW	**Analyst ID**	TLW	**Analyst ID**	TLW
Collection Apparatus	Air-O-Cell	**Collection Apparatus**	Air-O-Cell	**Collection Apparatus**	Air-O-Cell
Sample Volume (L)	75	**Sample Volume (L)**	75	**Sample Volume (L)**	75
Sample Condition	Acceptable	**Sample Condition**	Acceptable	**Sample Condition**	Acceptable
Debris Loading	1	**Debris Loading**	1	**Debris Loading**	1
Location	A128 Lec	**Location**	C116 Classroom	**Location**	C111 Classroom

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores					
Basidiospores	2	15	52	104	50%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus					
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown	1	15	52	52	25%
Peronospora / Oidium					
Torula					
Other Colorless	1	15	52	52	25%
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	4	**Total sp/m^3:**		208	

Comments

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores					
Basidiospores	11	15	52	572	91.7%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium	1	15	52	52	8.3%
Curvularia					
Penicillium / Aspergillus					
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	12	**Total sp/m^3:**		624	

Comments

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores					
Basidiospores	1	15	52	52	100%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus					
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	1	**Total sp/m^3:**		52	

Comments
No visible trace.

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CERTIFICATE OF ANALYSIS

ASTM D7391-09 Spore Trap Analysis Report

Chain of Custody:	310918	**Job Name:**	PGCPS IAQ	**Date Submitted:**	05/20/2019
Client:	Windjammer Environmental	**Job Location:**	Oxon Hill High School	**Person Submitting:**	K. Dietrich
Address:	6710 Oxon Hill Road Suite 210 National Harbor, MD 20745	**Job Number:**	Not Provided	**Date Analyzed:**	05/30/2019
		P.O. Number:	Not Provided	**Report Date:**	05/30/2019
				Revised:	05/30/2019 (Revision #1)
Attention:	K. Dietrich				

AMA Sample #	310918-19	**AMA Sample #**	310918-20	**AMA Sample #**	310918-21
Client ID	190518-19	**Client ID**	190518-20	**Client ID**	190518-21
Analyst ID	TLW	**Analyst ID**	TLW	**Analyst ID**	TLW
Collection Apparatus	Air-O-Cell	**Collection Apparatus**	Air-O-Cell	**Collection Apparatus**	Air-O-Cell
Sample Volume (L)	75	**Sample Volume (L)**	75	**Sample Volume (L)**	75
Sample Condition	Acceptable	**Sample Condition**	Acceptable	**Sample Condition**	Acceptable
Debris Loading	1	**Debris Loading**	1	**Debris Loading**	1
Location	B100 Comm.	**Location**	B113 Classroom	**Location**	E158 Kitchen

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores	1	15	52	52	14.3%
Basidiospores	2	15	52	104	28.6%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus					
Smuts/Periconia/Myxomycetes	1	15	52	52	14.3%
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless	3	15	52	156	42.9%
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	7		**Total sp/m^3:**		364

Comments

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores					
Basidiospores					
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus	1	15	52	52	100%
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	1		**Total sp/m^3:**		52

Comments
No visible trace.

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores					
Basidiospores	1	15	52	52	50%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus	1	15	52	52	50%
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	2		**Total sp/m^3:**		104

Comments
No visible trace.

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CERTIFICATE OF ANALYSIS

ASTM D7391-09 Spore Trap Analysis Report

Chain of Custody:	310918	**Job Name:**	PGCPS IAQ	**Date Submitted:**	05/20/2019
Client:	Windjammer Environmental	**Job Location:**	Oxon Hill High School	**Person Submitting:**	K. Dietrich
Address:	6710 Oxon Hill Road Suite 210 National Harbor, MD 20745	**Job Number:**	Not Provided	**Date Analyzed:**	05/30/2019
		P.O. Number:	Not Provided	**Report Date:**	05/30/2019
				Revised:	05/30/2019 (Revision #1)
Attention:	K. Dietrich				

AMA Sample #	310918-22	**AMA Sample #**	310918-23	**AMA Sample #**	310918-24
Client ID	190518-22	**Client ID**	190518-23	**Client ID**	190518-24
Analyst ID	TLW	**Analyst ID**	TLW	**Analyst ID**	TLW
Collection Apparatus	Air-O-Cell	**Collection Apparatus**	Air-O-Cell	**Collection Apparatus**	Air-O-Cell
Sample Volume (L)	75	**Sample Volume (L)**	75	**Sample Volume (L)**	75
Sample Condition	Acceptable	**Sample Condition**	Acceptable	**Sample Condition**	Acceptable
Debris Loading	1	**Debris Loading**	1	**Debris Loading**	1
Location	B200 Shop	**Location**	B205 Classroom	**Location**	B206 Classroom

	Raw Ct	Trav/Flds	A.S.	sp/m³	%
Alternaria					
Ascospores					
Basidiospores					
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus					
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown	1	15	52	52	100%
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	1	**Total sp/m³:**		52	

Comments
No visible trace.

	Raw Ct	Trav/Flds	A.S.	sp/m³	%
Alternaria					
Ascospores					
Basidiospores	1	15	52	52	100%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus					
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	1	**Total sp/m³:**		52	

Comments
No visible trace.

	Raw Ct	Trav/Flds	A.S.	sp/m³	%
Alternaria					
Ascospores					
Basidiospores	Present	15	52	<52	
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus	5	15	52	260	100%
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*	1	15	52	52	20%
Total Raw Ct:	5	**Total sp/m³:**		260	

Comments
No visible trace.

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CERTIFICATE OF ANALYSIS

ASTM D7391-09 Spore Trap Analysis Report

Chain of Custody:	310918	**Job Name:**	PGCPS IAQ	**Date Submitted:**	05/20/2019
Client:	Windjammer Environmental	**Job Location:**	Oxon Hill High School	**Person Submitting:**	K. Dietrich
Address:	6710 Oxon Hill Road	**Job Number:**	Not Provided	**Date Analyzed:**	05/30/2019
	Suite 210	**P.O. Number:**	Not Provided	**Report Date:**	05/30/2019
	National Harbor, MD 20745			**Revised:**	05/30/2019 (Revision #1)
Attention:	K. Dietrich				

AMA Sample #	310918-25	**AMA Sample #**	310918-26	**AMA Sample #**	310918-27
Client ID	190518-25	**Client ID**	190518-26	**Client ID**	190518-27
Analyst ID	TLW	**Analyst ID**	TLW	**Analyst ID**	TLW
Collection Apparatus	Air-O-Cell	**Collection Apparatus**	Air-O-Cell	**Collection Apparatus**	Air-O-Cell
Sample Volume (L)	75	**Sample Volume (L)**	75	**Sample Volume (L)**	75
Sample Condition	Acceptable	**Sample Condition**	Acceptable	**Sample Condition**	Acceptable
Debris Loading	2	**Debris Loading**	1	**Debris Loading**	1
Location	A216 Lounge	**Location**	B302 Classroom	**Location**	B305 Classroom

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores	4	15	52	208	50%
Basidiospores	2	15	52	104	25%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus					
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown	2	15	52	104	25%
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	8	**Total sp/m^3:**		416	

Comments

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores	1	15	52	52	33.3%
Basidiospores					
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus	2	15	52	104	66.7%
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	3	**Total sp/m^3:**		156	

Comments

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores					
Basidiospores					
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus	1	15	52	52	100%
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	1	**Total sp/m^3:**		52	

Comments

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CERTIFICATE OF ANALYSIS

ASTM D7391-09 Spore Trap Analysis Report

Chain of Custody:	310918	**Job Name:**	PGCPS IAQ	**Date Submitted:**	05/20/2019
Client:	Windjammer Environmental	**Job Location:**	Oxon Hill High School	**Person Submitting:**	K. Dietrich
Address:	6710 Oxon Hill Road Suite 210 National Harbor, MD 20745	**Job Number:**	Not Provided	**Date Analyzed:**	05/30/2019
		P.O. Number:	Not Provided	**Report Date:**	05/30/2019
				Revised:	05/30/2019 (Revision #1)
Attention:	K. Dietrich				

AMA Sample #	310918-28	**AMA Sample #**	310918-29	**AMA Sample #**	310918-30
Client ID	190518-28	**Client ID**	190518-29	**Client ID**	190518-30
Analyst ID	TLW	**Analyst ID**	TLW	**Analyst ID**	TLW
Collection Apparatus	Air-O-Cell	**Collection Apparatus**	Air-O-Cell	**Collection Apparatus**	Air-O-Cell
Sample Volume (L)	75	**Sample Volume (L)**	75	**Sample Volume (L)**	75
Sample Condition	Acceptable	**Sample Condition**	Acceptable	**Sample Condition**	Acceptable
Debris Loading	1	**Debris Loading**	1	**Debris Loading**	2
Location	B309 Classroom	**Location**	3F Stair B	**Location**	Outdoors

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores					
Basidiospores					
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus	1	15	52	52	33.3%
Smuts/Periconia/Myxomycetes	1	15	52	52	33.3%
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless	1	15	52	52	33.3%
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	3		**Total sp/m^3:**	156	

Comments

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores	3	15	52	156	30%
Basidiospores	2	15	52	104	20%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium	1	15	52	52	10%
Curvularia					
Penicillium / Aspergillus	1	15	52	52	10%
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless	2	15	52	104	20%
Nigrospora	1	15	52	52	10%
Misc					
Epicoccum					
Hyphal Fragments*					
Total Raw Ct:	10		**Total sp/m^3:**	520	

Comments

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores	108	9	87	9396	45.2%
Basidiospores	101	9	87	8787	42.3%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium	18	15	52	936	7.5%
Curvularia					
Penicillium / Aspergillus					
Smuts/Periconia/Myxomycetes	8	15	52	416	3.3%
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless					
Nigrospora					
Misc	2	15	52	104	0.8%
Epicoccum	2	15	52	104	0.8%
Hyphal Fragments*	2	15	52	104	0.8%
Total Raw Ct:	239		**Total sp/m^3:**	19743	

Comments

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ASTM D7391-09 Spore Trap Analysis Report

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Client:	Windjammer Environmental	**Job Location:**	Oxon Hill High School	**Person Submitting:**	K. Dietrich
Address:	6710 Oxon Hill Road	**Job Number:**	Not Provided	**Date Analyzed:**	05/30/2019
	Suite 210	**P.O. Number:**	Not Provided	**Report Date:**	05/30/2019
	National Harbor, MD 20745			**Revised:**	05/30/2019 (Revision #1)
Attention:	K. Dietrich				

AMA Sample #	310918-31
Client ID	190518-15A
Analyst ID	TLW
Collection Apparatus	Air-O-Cell
Sample Volume (L)	75
Sample Condition	Acceptable
Debris Loading	1
Location	1st FL Atrium

	Raw Ct	Trav/Flds	A.S.	sp/m^3	%
Alternaria					
Ascospores	7	15	52	364	53.8%
Basidiospores	2	15	52	104	15.4%
Bipolaris/Drechslera/Helm.					
Chaetomium					
Cladosporium					
Curvularia					
Penicillium / Aspergillus					
Smuts/Periconia/Myxomycetes					
Stachybotrys/Memnoniella					
Ulocladium					
Unknown					
Peronospora / Oidium					
Torula					
Other Colorless	4	15	52	208	30.8%
Nigrospora					
Misc					
Epicoccum					
Hyphal Fragments*	1	15	52	52	7.7%
Total Raw Ct:	13		**Total sp/m^3:**		676

Comments

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CERTIFICATE OF ANALYSIS

ASTM D7391-09 Spore Trap Analysis Report

Chain of Custody:	310918	**Job Name:**	PGCPS IAQ	**Date Submitted:**	05/20/2019
Client:	Windjammer Environmental	**Job Location:**	Oxon Hill High School	**Person Submitting:**	K. Dietrich
Address:	6710 Oxon Hill Road Suite 210 National Harbor, MD 20745	**Job Number:**	Not Provided	**Date Analyzed:**	05/30/2019
		P.O. Number:	Not Provided	**Report Date:**	05/30/2019
				Revised:	05/30/2019 (Revision #1)
Attention:	K. Dietrich				

General Comments, Disclaimers, and Footnotes

Analytical Method: Sample are analyzed following the instructions and guidelines outlined in ASTM 7391-09.

Sample Condition: Acceptable: The sample was collected and delivered to the our location without disturbing the material on the sampling media.
Unacceptable: 1. The sample trace (TR) has been disturbed. 2. The sample was damaged or otherwise unsuitable for analysis.
0 = No particulate matter detected; 1= >nd-~5% Particulate Loading; 2 = ~5%-25% Particulate Loading; 3 = ~25%- 75% Particulate Loading; 4 = ~75%-90% Particulate Loading; 5 = >90% Particulate Loading

Spore Notes: Based on their small size and very few distinguishing characteristics, Aspergillus and Penicillium cannot be differentiated by non-viable sampling methods. There are other types of spores whose morphology is similar to Aspergillus and Penicillium and cannot be differentiated by non-viable sampling methods. Examples of these similar spores are Acremonium, Paecilomyces, Wallemia, Trichoderma, Scopulariopsis, and Gliocladium.
Smuts, Periconia and Myxomycetes are three different types of genera that have similar morphological characteristics.
Bipolaris/Dreschlera/Helm: Bipolaris / Dreschlera / Helminthosporium are three different types of genera that have smiliar morphological characteristics.
Other Colorless represents all colorless spores that are non-distinctive and unidentifiable.
*Hyphal Fragments: A portion of the mycelium that becomes separated from the remainder of the thallus (vegetative body), each of which has the capacity to grow and form new individuals. Results for hyphal fragments are in fragments/m3 and are not incorporated in the total spore concentration.
The droplet symbol (💧) refers to water-intrusion indicator spores. These fungal spores, when found on indoor air samples, can be an indication of moisture sources and resultant fungal growth that may be problematic.

Quantification: Analytical Sensitivity (A.S.): This is dependent on the volume of air collected, size of the trace, ocular diameter, and the amount of the trace that was analyzed.
The value of "Present" indicated in the Raw Count column represents the presence of this spore type during the preliminary exam at 400x. The Raw Count converts to a whole number if the spore type is encountered again during the 600x-1,000x enumeration. The sp/m3concentration will be reported as less than the analytical sensitivity if "Present" is reported in the Raw Count.
Results are reported to 3 significant figures. sp/m3: Spores per cubic meter.
Uncertainty: for raw count in the range of 0-50 the SR is 0.375, 51-100 SR=0.333, 101-200 SR=0.257, >200 SR=0.245
All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.
Analyst(s): Tristan Ward

Technical Director Tristan Ward

MOLD SPORE DESCRIPTIONS

Ascospores

Ascospores are spores formed inside an ascus (asci-plural) or sac-like cell which is contained inside a fruiting body called an ascocarp or an ascoma (ascomata-plural). An ascus typically contains a definite nuimber of ascospores, usually eight. Ascospores are unique in shape, size, and color as to the Genus/species they represent. These spores are specific to fungi classified as Ascomycetes. They are ubiquitous in nature. Many decay organic matter, others are plant or animal pathogens. They can grow indoors on damp materials. Release of ascospores are released by forcible ejection and dispersed by wind, water, animals and other agents. Health Effects: Depending on the Genera, Ascospores may be allergenic.

Basidiospores

Basidiospores are reproductive spores produced by a group of fungi called basidiomycetes. This group includes the mushrooms, shelf fungi and various other macrofungi. Basidipspores serve as the main air (wind) dispersal units for the fungi and their release is dependent upon moisture. The structure of the spore complex can develop in various manners resulting in different appearances. It is often found growing in soil, decaying plant debris, compost piles and fruit rot. Indoors, it can be found on water damaged building materials (chipboard /OSB, plywood, wallpaper, and glue) as well as on food items (dried foods, cheeses, fruits, herbs, spices, cereals). Health effects: Some basidiospores may produce toxins and can act as allergens. They have not been reported to be pathogens.

Cladosporium

Cladosporium is the most common indoor and outdoor mold. The spores are wind dispersed and are often extremely abundant in outdoor air. Many species are commonly found on living and dead plant material. Indoors, they may grow on surfaces with high moisture or high humidity levels such as damp window sills, poorly ventilated bathrooms and soiled refrigerators. It produces powdery or velvety olive-green to brown or black colonies. The conidia (spores) vary depending on the species and are formed in simple or branching chains with multi-attachment points. Health Effects: Cladosporium species are rarely pathogenic to humans, but have been reported to occassionally cause sinusitis and pulmonary infections as well as infections of the skin and toenails. The airborne spores are significant allergens, and in large amounts they may severely affect asthmatics and people with respiratory diseases.

Epicoccum

Epicoccum is a cosmopolitan fungus that is often found growing outside in soil, plant litter, decaying plants, and damaged plant tissue. Indoors, it can be found growing on a variety of building materials including paper and textiles. Colonies have a rapid growth rate with cottony texture, initially yellow or orange becoming brown to black in color. Conidiophores or fruiting bodies produce dense masses where conidia (spores) arise. Spores are round to pear-shaped, smooth to warty, brown to black in color and muriform (partitioned in both directions, like a soccer ball). Health Effects: This mold can act as a potential allergen. Some people may experience hay fever and or asthma. This mold has not been linked to any human or animal infection.

Hyphal Fragments

Hyphal Fragments are segments or pieces of hyphae or mycelium that may have broken off during sampling (air, tape, dust). The mycelium is the entire mass of hyphae that makes up the vegetative body of a fungus. The presence of hyphal fragments may indicate the presence of viable mold.

Nigrospora

Nigrospora is a ubiquitous, filamentous, dark colored fungus commonly isolated from soil, decaying plants, and seeds. Indoors, it is considered a laboratory contaminant. Colonies grow rapidly, initially white and woolly, later turning gray with black areas, and eventually turning black (both front and reverse). Its conidia are black, solitary, unicellular, slightly flattened horizontally, and have a thin equatorial germ slit. Health Effects: This mold may be a potential allergen. It is uncertain whether it is pathogenic to humans.

Other Colorless

- “Other Colorless” are all non-distinctive, unidentifiable, colorless spores seen on spore trap samples and include all the genera that do not have distinguishing morphology to belong to any of the other defined categories."

Penicillium/Aspergillus Like

Penicillium and Aspergillus are ubiquitous, filamentous fungi that are found in soil, decaying plant debris, compost piles, and in the air. Indoors, spores are commonly found in house dust, in water-damaged buildings (wallpaper, wallpaper glue, decaying fabrics, moist chipboards, and behind paint) as well as fruit and grains. They are the most common fungal genera, worldwide. Both produce chains of spores that are small, round to oval, colorless or slightly pigmented, and smooth to rough walled. These spores are indistinguishable between the two as well as other genera, such as Gliocladium, Trichoderma, Paecilomyces, and Scopulariopsis. They differ as to their conidiophores or fruiting bodies. While, Aspergillus spores are produced from phialides supported on conidia heads or swollen vesicles, Penicillium spores are produced on finger-like projections. Depending on species, typical colonies of Aspergillus are initially white and later turn to either shades of green, yellow, orange, brown or black. Texture is usually velvety to cottony. Typical colonies of Penicillium, other than Penicillium marneffei (yeast-like at 37oC), grow rapidly, white in color at first, later becoming bluish green with white borders with velvety to powdery textures depending on species. Some species produce radial patterns. Health Effects: Both Aspergillus and Penicillium are potential allergens. Several species of Aspergillus (A. flavus and A. parasiticus) produce aflatoxins or natually occurring mycotoxins that are toxic and carcinogenic. These are found in contaminated foodstuff and are hazardous to consumers. Penicillium has only one known species that is pathogenic to humans (P. marneffei) that causes lethal systemic infection (Penicilliosis) in immunocompromised individuals.

Peronospora/Oidium

Peronospora and Oidium are plant pathogens that cause downey or powdery mildew (a disease that affects a wide range of plants). Both affect the leaves, stems, flowers, and fruits of plants and trees. They have distinctive morphologies. The spores may also be seen in dust as part of the normal influx of outdoor microbial particles. Health Effects: No information is available regarding health effects or toxicity.

Smuts/Periconia/Myxomycetes

Smuts, Periconia, and Myxomycetes spores are grouped together due to their similar round, brown morphology. Smuts are outdoor parasitic plant pathogens. They rarely grow indoors but may grow on host plants if appropriate conditions are present. They are parasitic plant pathogens. They can be found on cereal crops, grasses, flowing plants, weed, and other fungi. They can cause allergies. Periconia are found in soils, dead herbaceous stems and leaf spots, and grasses. They have wind dispersed dry spores. Their spores are abundant in the air but it is not known if they are allergenic. Myxomycetes are found on decaying logs, stumps and dead leaves. They have wind-dispersed dry spores and wet motile (amoebic phase) spores. During favorable conditions they move about like amoebae. They form dry airborne spores when conditions are unfavorable. They are rarely found indoors. Health Effects: They may cause Type 1 allergies (hay fever, asthma). No human infections have been reported.

Torula

Torula is a cosmopolitan, dark-walled fungus often found growing outside in soil, dead herbaceous stems, wood, grasses, and seeds. It can grow indoors on cellulose containing materials. It is frequently found in temperate regions. Torula spores are colored in shades of brown, from pale brown to reddish brown. Spores are formed in simple or branched chains, one to several cells long that are often detached. A cup-like indentation at the point of detachment is characteristic of these spores. Health Effects: Torula is an allergen, which may cause hay fever and asthma. It has not been reported to be pathogenic to humans or produce toxins.

Unknown Fungi

“Unknown Fungi” are spores that cannot be identified under direct microscopic analysis. This includes partial spores. This category also includes spores that are hidden or hard to see during microscopic examination due to heavy presence of particulate.

Record Changes Report

Client: Windjammer Environmental

Client Code: WINDJ

Chain of Custody: 310918

Date	Description
05/30/2019	Corrected job location from Middle School to High School

AMA Analytical Services, Inc.
Focused on Results www.amalab.com
AIHA-LAP (#100470) NVLAP (#101143-0) NY ELAP (10920)
4475 Forbes Blvd. • Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This Number For Inquires) 310918

Mailing/Billing Information:

1. Client Name: Windjammer Env.
2. Address 1: 6710 Oxon Hill Rd Suite 210
3. Address 2: Natl Harbor, MD
4. Address 3:
5. Phone #: _____ Fax #: _____

Submittal Information:

1. Job Name: PGCPS IAQ
2. Job Location: Oxon Hill MS
3. Job #: _____ P.O. #: _____
4. Contact Person: K. Dietrich Cell: 301-351-4215
5. Collected by: " Cell: "

Reporting Info (Results provided as soon as technically feasible). If no TAT/Reporting Info is provided, AMA will assign defaults of 5-Day and email/fax to contacts on file.

AFTER HOURS (must be pre-scheduled)	NORMAL BUSINESS HOURS	REPORT TO:
❑ 4 Hours ❑ Late Night ❑ Immediate Date Due: _____ ❑ 24 Hours Time Due: _____ Comments: _____	❑ 4 Hours ❑ 3 Day ❑ Same Day ☒ 5 Day ❑ Next Day Date Due: 5/28/19 ❑ 2 Day ❑ Results Required By Noon	☒ Email: dietrich@wjenviro.com ☒ Email 2: hammond@wjenviro.com ❑ Verbals: _____

Asbestos Analysis

*PCM Air – Please Indicate Filter Type: _____
- ❑ NIOSH 7400 _____ (QTY)
- ❑ Fiberglass _____ (QTY)

TEM Air* – Please Indicate Filter Type: _____
- ❑ AHERA _____ (QTY)
- ❑ NIOSH 7402 _____ (QTY)
- ❑ Other (specify _____) _____ (QTY)

PLM Bulk
- ❑ EPA 600 – Visual Estimate _____ (QTY) ❑ Pos Stop
- ❑ EPA Point Count _____ (QTY)
- ❑ NY State Friable 198.1 _____ (QTY)
- ❑ Grav. Reduction ELAP 198.6 _____ (QTY)
- ❑ Other (specify _____) _____ (QTY)

MISC
- ❑ Asbestos Soil PLM__(Qual) PLM__(Quan) PLM/TEM__(Qual) PLM/TEM__(Quan)

*It is recommended that blank samples be submitted with all air and surface samples

TEM Bulk
- ❑ ELAP 198.4/Chatfield _____ (QTY)
- ❑ NY State PLM/TEM _____ (QTY)
- ❑ Residual Ash _____ (QTY)
- ❑ Vermiculite

TEM Dust*
- ❑ Qual. (pres/abs) Vacuum/Dust _____ (QTY)
- ❑ Quan. (s/area) Vacuum D5755-95 _____ (QTY)
- ❑ Quan. (s/area)Dust D6480-99 _____ (QTY)

TEM Water
- ❑ Qual. (pres/abs) _____ (QTY)
- ❑ ELAP 198.2/EPA 100.2 _____ (QTY)
- ❑ EPA 100.1 _____ (QTY)

☒ All samples received in good condition unless otherwise noted.
TEM Water samples _____ °C)

If field data sheets are submitted, there is no need to complete bottom section.

Metals Analysis
- ❑ Pb Paint Chip _____ (QTY)
- ❑ *Pb Dust Wipe (wipe type _____) _____ (QTY)
- ❑ *Pb Air _____ (QTY)
- ❑ Pb Soil/Solid _____ (QTY)
- ❑ Pb TCLP _____ (QTY)
- ❑ Drinking Water ❑ Pb _____ (QTY) ❑ Cu _____ (QTY) ❑ As _____ (QTY)
- ❑ Waste Water ❑ Pb _____ (QTY) ❑ Cu _____ (QTY) ❑ As _____ (QTY)
- ❑ Pb Furnace (Media _____) _____ (QTY)

Fungal Analysis

Collection Apparatus for Spore Traps/Air Samples: _____
Collection Media _____
- ☒ *Spore-Trap 32 (QTY) ❑ Surface Vacuum Dust _____ (QTY)
- ❑ *Surface Swab _____ (QTY)
- ❑ *Surface Tape _____ (QTY)
- ❑ Other (Specify _____) _____ (QTY)

CLIENT ID #	SAMPLE INFORMATION: SAMPLE LOCATION/ ID	DATE/ TIME	VOL (L)/ Wipe Area	ANALYSIS: TEM	PCM	PLM	LEAD	MOLD	MATRIX: AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB	COMMENTS / SPECIAL INSTRUCTIONS
~~20190518~~-1	outside	05/18/19	75L										I			
190518-2	C101 Class Rm															
190518-3	D105 Auditorium															
190518-4	D104 Theater															
190518-5	E142 Cafeteria															
190518-6	E112 Gym															
190518-7	D106 Choral															
190518-8	A102 media															
190518-9	A203 Conf Rm															
190518-10	C203 Class Rm															
190518-11	C214 Class Rm															
190518-12	3F Atrium															
190518-13	A316A Work Rm												I			

	Print Name	Signature	Date	Time	Shipping Information
Relinquished by:	Kay Dietrich		5/20/19	1:50	☐ UPS ☐ FedEx ☐ USPS ☒ In-Person ☐ Drop Box ☐ Courrier ☐ Other
Received by:			5/20/19	1340	

AMA Analytical Services, Inc.
Focused on Results www.amalab.com
AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)
4475 Forbes Blvd. • Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This Number For Inquires)

Mailing/Billing Information:
1. Client Name: WINDJAMMER ENVIRO
2. Address 1:
3. Address 2:
4. Address 3:
5. Phone #: Fax #:

Submittal Information:
1. Job Name: PGCPS IAQ
2. Job Location: OXON HILL HS
3. Job #: P.O. #:
4. Contact Person: K. Dietrich @ phone # 301-357-4213
5. Submitted by: Kay D Signature: Kay Dietrich

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled)	NORMAL BUSINESS HOURS	REPORT TO:
❑ Immediate Date Due:	❑ Immediate ❑ 3 Day	❑ Include COC/Field Data Sheets with Report
❑ 24 Hours Time Due:	❑ Next Day ☒ 5 Day +	❑ Email: @
Comments:	❑ 2 Day Date Due:	❑ Fax:
	❑ Results Required By Noon (EveryAttempt Will Be Made to Accomodate)	❑ Verbals:

Asbestos Analysis
PCM Air – Please Indicate Filter Type:
- ❑ NIOSH 7400 (QTY)
- ❑ Fiberglass (QTY)

TEM Air – Please Indicate Filter Type:
- ❑ AHERA (QTY)
- ❑ NIOSH 7402 (QTY)
- ❑ Other (specify) (QTY)

PLM Bulk
- ❑ EPA 600 – Visual Estimate (QTY)
- ❑ EPA Point Count (QTY)
- ❑ NY State Friable 198.1 (QTY)
- ❑ Grav. Reduction ELAP 198.6 (QTY)
- ❑ Other (specify) (QTY)

MISC
- ❑ Vermiculite
- ❑ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

TEM Bulk
- ❑ ELAP 198.4/Chatfield (QTY)
- ❑ NY State PLM/TEM (QTY)
- ❑ Residual Ash (QTY)

TEM Dust
- ❑ Qual. (pres/abs) Vacuum/Dust (QTY)
- ❑ Quan. (s/area) Vacuum D5755-95 (QTY)
- ❑ Quan. (s/area)Dust D6480-99 (QTY)

TEM Water
- ❑ Qual. (pres/abs) (QTY)
- ❑ ELAP 198.2/EPA 100.2 (QTY)
- ❑ EPA 100.1 (QTY)

❑ All samples received in good condition unless otherwise noted. (TEM Water samples °C)

Metals Analysis
- ❑ Pb Paint Chip (QTY)
- ❑ Pb Dust Wipe (wipe type) (QTY)
- ❑ Pb Air (QTY)
- ❑ Pb Soil/Solid (QTY)
- ❑ Pb TCLP (QTY)
- ❑ Drinking Water ❑ Pb (QTY) ❑ Cu (QTY) ❑ As (QTY)
- ❑ Waste Water ❑ Pb (QTY) ❑ Cu (QTY) ❑ As (QTY)
- ❑ Pb Furnace (Media) (QTY)

Fungal Analysis
Collection Apparatus for Spore Traps/Air Samples:
Collection Media
- ☒ Spore-Trap (QTY)
- ❑ Surface Swab (QTY)
- ❑ Surface Tape (QTY)
- ❑ Other (Specify) (QTY)
- ❑ Surface Vacuum Dust (QTY)
- ❑ Culturable ID Genus (Media) (QTY)
- ❑ Culturable ID Species (Media) (QTY)

CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	ANALYSIS: TEM	PCM	PLM	LEAD	MOLD	MATRIX: AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB	CLIENT CONTACT (LABORATORY STAFF ONLY)
190518-14	C302 Comp	5/18	75											P			Date/Time: Contact: By:
190518-15	C315 Class Rm																
190518-16	A128 Lec																
190518-17	C116 Class Rm																
190518-18	C111 Class Rm																Date/Time: Contact: By:
190518-19	B100 Comm.																
190518-20	B113 Class Rm																
190518-21	E158 Kitch																
190518-22	B200 shop																Date/Time: Contact: By:
190518-23	B205 Class Rm																
190518-24	B206 Class Rm																
190518-25	A216 Lounge																

LABORATORY STAFF ONLY: (CUSTODY)

1. Date/Time RCVD: / / @ Via: By (Print): Sign:
2. Date/Time Analyzed: / / @ By (Print): Sign:
3. Results Reported To: Via: Date: / / Time: Initials:
4. Comments:

AMA Analytical Services, Inc.
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(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This Number For Inquires)

Mailing/Billing Information:
1. Client Name: WIND JAMMER ENVIRO
2. Address 1: _____
3. Address 2: _____
4. Address 3: _____
5. Phone #: _____ Fax #: _____

Submittal Information:
1. Job Name: PGCPS IAQ
2. Job Location: OXON HILL HS
3. Job #: _____ P.O. #: _____
4. Contact Person: K. Dietrich @ phone # 301-351-4213
5. Submitted by: Kay Dietrich Signature: Kay D

Reporting Information (Results will be provided as soon as technically feasible):

AFTER HOURS (must be pre-scheduled)	NORMAL BUSINESS HOURS	REPORT TO:
❑ Immediate Date Due: _____ ❑ 24 Hours Time Due: _____ Comments: _____	❑ Immediate ❑ 3 Day ❑ Next Day ❑ 5 Day + ❑ 2 Day Date Due: _____ ❑ Results Required By Noon (EveryAttempt Will Be Made to Accomodate)	❑ Include COC/Field Data Sheets with Report ❑ Email: _____ @ _____ ❑ Fax: _____ ❑ Verbals: _____

Asbestos Analysis
PCM Air – Please Indicate Filter Type:
- ❑ NIOSH 7400 _____ (QTY)
- ❑ Fiberglass _____ (QTY)

TEM Air – Please Indicate Filter Type:
- ❑ AHERA _____ (QTY)
- ❑ NIOSH 7402 _____ (QTY)
- ❑ Other (specify _____) _____ (QTY)

PLM Bulk
- ❑ EPA 600 – Visual Estimate _____ (QTY)
- ❑ EPA Point Count _____ (QTY)
- ❑ NY State Friable 198.1 _____ (QTY)
- ❑ Grav. Reduction ELAP 198.6 _____ (QTY)
- ❑ Other (specify _____) _____ (QTY)

MISC
- ❑ Vermiculite
- ❑ Asbestos Soil PLM__(Qual) PLM__(Quan) PLM/TEM__(Qual) PLM/TEM__(Quan)

TEM Bulk
- ❑ ELAP 198.4/Chatfield _____ (QTY)
- ❑ NY State PLM/TEM _____ (QTY)
- ❑ Residual Ash _____ (QTY)

TEM Dust
- ❑ Qual. (pres/abs) Vacuum/Dust _____ (QTY)
- ❑ Quan. (s/area) Vacuum D5755-95 _____ (QTY)
- ❑ Quan. (s/area)Dust D6480-99 _____ (QTY)

TEM Water
- ❑ Qual. (pres/abs) _____ (QTY)
- ❑ ELAP 198.2/EPA 100.2 _____ (QTY)
- ❑ EPA 100.1 _____ (QTY)

❑ All samples received in good condition unless otherwise noted. (TEM Water samples _____ °C)

Metals Analysis
- ❑ Pb Paint Chip _____ (QTY)
- ❑ Pb Dust Wipe (wipe type _____) _____ (QTY)
- ❑ Pb Air _____ (QTY)
- ❑ Pb Soil/Solid _____ (QTY)
- ❑ Pb TCLP _____ (QTY)
- ❑ Drinking Water ❑ Pb _____ (QTY) ❑ Cu _____ (QTY) ❑ As _____ (QTY)
- ❑ Waste Water ❑ Pb _____ (QTY) ❑ Cu _____ (QTY) ❑ As _____ (QTY)
- ❑ Pb Furnace (Media _____) _____ (QTY)

Fungal Analysis
Collection Apparatus for Spore Traps/Air Samples: _____
Collection Media _____
- ☒ Spore-Trap _____ (QTY)
- ❑ Surface Swab _____ (QTY)
- ❑ Surface Tape _____ (QTY)
- ❑ Other (Specify _____) _____ (QTY)
- ❑ Surface Vacuum Dust _____ (QTY)
- ❑ Culturable ID Genus (Media _____) _____ (QTY)
- ❑ Culturable ID Species (Media _____) _____ (QTY)

SAMPLE INFORMATION					ANALYSIS					MATRIX								CLIENT CONTACT
CLIENT ID NUMBER	SAMPLE LOCATION/ IDENTIFICATION	DATE	VOLUME (LITERS)	WIPE AREA	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB	(LABORATORY STAFF ONLY)
190518-26	B302 Classrm	5/18	75														Date/Time: Contact: By:
190518-27	B305 Classrm	↓	↓														
190518-28	B309 Classrm																
190518-29	3F Stair B																
190518-30	Outdoors																Date/Time: Contact: By:
190518-15A	1st Fl. Atrium																
																	Date/Time: Contact: By:

LABORATORY STAFF ONLY: (CUSTODY)

1. Date/Time RCVD: ____ / ____ / ____ @ ____ Via: ____ By (Print): ____ Sign: ____
2. Date/Time Analyzed: ____ / ____ / ____ @ ____ By (Print): ____ Sign: ____
3. Results Reported To: ____ Via: ____ Date: ____ / ____ / ____ Time: ____ Initials: ____
4. Comments: ____

From: Kay Dietrich dietrich@wjenviro.com
Subject: FW: Mold Sample Results for COC #310918
Date: May 30, 2019 at 4:57:11 PM
To: info info@amalab.com
Cc: Damien Hammond Hammond@wjenviro.com

Hi there,

I made a mistake on the first page of the chain of custody – the location is Oxon Hill High School (not MS). It is correct on pages 2 and 3. Could you please send a report with the location corrected?

Thank you,

Kay

Katherine (Kay) Dietrich, CIH CSP
Windjammer Environmental
6710 Oxon Hill Road
Suite 210
National Harbor, MD 20745

(O) 888.270.8387 ext. 108
(C) 301.351.4213

http://www.wjenviro.com/

From: AMA Lab Results <results@amalab.com>
Sent: Thursday, May 30, 2019 4:22 PM
To: Kay Dietrich <dietrich@wjenviro.com>; Damien Hammond <Hammond@wjenviro.com>
Subject: Mold Sample Results for COC #310918

Results for COC #310918 are attached. Should you have any questions, please call us at (301) 459-2640 or email us at info@amalab.com.

Job Name: PGCPS IAQ
Job Location: Oxon Hill Middle School
Job Number: Not Provided

Please do not reply to this email. as this account is not regularly monitored for incoming messages. Email us at info@amalab.com instead.

Your experience with AMA Lab is important to us. Please take less than 5 minutes to share your thoughts with us: http://www.amalab.com/client-satisfaction-survey/

Sincerely,

AMA Analytical Services, Inc.

Tap to Download

client-rep...10918.pdf

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