



Windjammer Environmental LLC  
6710 Oxon Hill Road  
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February 1, 2021

Alex Baylor  
Environmental Specialist  
PGCPS Environmental Safety Office  
13306 Old Marlboro Pike  
Upper Marlboro, MD 20772  
[Alex.baylor@pgcps.org](mailto:Alex.baylor@pgcps.org)

Re: IAQ and Mold Assessment Report  
Prince George's County Public Schools  
PG County Schools 2021 Oxon Hill Highschool

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 PG County Oxon Hill Highschool 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 Hygienist (CIH) Daniel Farcas on Jan 26, 2021. Building access was facilitated by maintenance personnel Francis Swann.

This assessment included:

- Measurement of temperature, relative humidity, carbon dioxide (CO<sub>2</sub>) 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<sub>2</sub>) 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 EMSL Analytical of Beltsville, MD. EMSL Analytical 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<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub> concentrations are measured at 380 ppm, then indoor CO<sub>2</sub> 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<sub>2</sub>), and carbon monoxide (CO). Recorded indoor air quality results are summarized in the following Table.

<b>Table 1</b>				
<b>Indoor Air Quality Measurement Summary</b>				
<b>(Measurements Recorded on Jan 26, 2020)</b>				
<b>Measurement Location</b>	<b>Temperature (°F)</b>	<b>Relative Humidity (%)</b>	<b>CO<sub>2</sub> (ppm)</b>	<b>CO (ppm)</b>
C302*	62.5	36.7	441	0.0
C303*	65.1	30.5	426	0.0
Hallway next to C303	66.0	29.9	414	0.0
C314*	67.7	27.9	437	0.0
Hallway next to C314	66.6	29.1	419	0.0
Teachers' Lounge A316*	68.6	26.4	442	0.0
Teachers' Lounge Annex	69.2	25.6	437	0.0
Teachers' Lounge Annex	69.3	25.4	429	0.0
B305*	69.3	23.5	411	0.0
Hallway next to B305	69.4	23.4	411	0.0
B304*	69.8	24.0	427	0.0
B307*	69.5	23.7	421	0.0
B309*	69.3	23.3	418	0.0
B308*	69.6	22.1	420	0.0
B208*	69.6	20.9	403	0.0
B215*	68.0	22.0	428	0.0
Hallway next to B215	67.1	21.3	417	0.0
B203*	67.9	22.2	422	0.0
B200*	69.9	26.2	415	0.0
Library*	70.0	26.1	422	0.0
Library Window Area	69.0	25.6	403	0.0
D202*	69.5	25.6	407	0.0
C202*	69.2	26.0	711	0.0

C203*	69.2	23.3	552	0.0
C217*	69.7	23.7	537	0.0
C214*	70.6	24.6	543	0.0
C211*	70.5	23.4	456	0.0
C120*	70.6	24.5	435	0.0
C105*	70.3	25.4	433	0.0
C114*	71.1	25.5	455	0.0
Auditorium*	69.7	26.1	484	0.0
Gymnasium*	69.9	25.6	524	0.0
Hallway next to Gymnasium	69.5	25.2	495	0.0
Cafeteria*	72.0	20.1	476	0.0
Cafeteria Kitchen	72.6	28.5	584	0.0
Hallway next to Cafeteria	70.0	24.4	418	0.0
B103*	72.2	25.4	420	0.0
Concourse*	70.0	24.7	427	0.0
Entrance Lobby*	68.3	24.1	407	0.0
Outside – North-East*	34.6	33.5	378	0.0
Outside – South-West*	33.9	34.8	388	0.0

ppm – parts per million

\* - spore-trap sample

### 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. 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 in session at the time of the inspection.

The school was free of evidence of current water intrusion or any unexpected odors. The floors, walls and ceiling tiles observed were in acceptable condition. The housekeeping was acceptable.

### Conclusions & Recommendations

Indoor air quality spore trap measurements collected in all 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

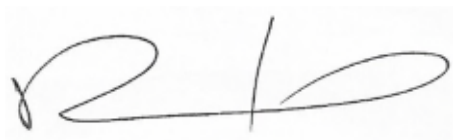
improvement measurement in indoor air quality. Please note the following considerations for improvement.

- Identify the cause of any staining on ceiling tiles and fix
- Clean or paint HVAC grilles that are dirty or have become corroded

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



Daniel Farcas, CIH, CSP, CHMM  
Senior Certified Industrial Hygienist

Attachment A: Microbial Laboratory Report (Air)

# Attachment A



# EMSL Analytical, Inc.

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**Project:** PG County Schools 2021

### Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	372101208-0001			372101208-0002			372101208-0003		
Client Sample ID:	1			2			3		
Volume (L):	75			75			75		
Sample Location:	C302			C303			C314		
Spore Types	Raw Count	Count/M <sup>3</sup>	% of Total	Raw Count	Count/M <sup>3</sup>	% of Total	Raw Count	Count/M <sup>3</sup>	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	1*	10*	50
Aspergillus/Penicillium	-	-	-	-	-	-	-	-	-
Basidiospores	-	-	-	-	-	-	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	1*	10*	50
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	1	40	50	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	1	40	50	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	-	-	-	-	-	-	-	-	-
<b>Total Fungi</b>	-	<b>None Detect</b>	-	<b>2</b>	<b>80</b>	<b>100</b>	<b>2</b>	<b>20</b>	<b>100</b>
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Vincent Iuzzolino, M.S., Laboratory Manager  
or other Approved Signatory

No discernable field blank was submitted with this group of samples.

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC-EMLAP Accredited #100194

Initial report from: 01/29/2021 09:15 AM

For information on the fungi listed in this report, please visit the Resources section at [www.emsl.com](http://www.emsl.com)



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**Project:** PG County Schools 2021

### Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	372101208-0004			372101208-0005			372101208-0006		
Client Sample ID:	4			5			6		
Volume (L):	75			75			75		
Sample Location:	C317			A316 Teacher's Lounge			B305		
Spore Types	Raw Count	Count/M³	% of Total	Raw Count	Count/M³	% of Total	Raw Count	Count/M³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	-	-	-	-	-	-	-	-	-
Basidiospores	-	-	-	-	-	-	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	-	-	-	-	-	-	-	-	-
<b>Total Fungi</b>	-	<b>None Detect</b>	-	-	<b>None Detect</b>	-	-	<b>None Detect</b>	-
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	3	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Vincent Iuzzolino, M.S., Laboratory Manager  
or other Approved Signatory

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### Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	372101208-0007			372101208-0008			372101208-0009		
Client Sample ID:	7			8			9		
Volume (L):	75			75			75		
Sample Location:	B304			B307			B309		
Spore Types	Raw Count	Count/M³	% of Total	Raw Count	Count/M³	% of Total	Raw Count	Count/M³	% of Total
Alternaria (Ullocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	-	-	-	-	-	-	-	-	-
Basidiospores	-	-	-	-	-	-	1	40	100
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	-	-	-	-	-	-	-	-	-
<b>Total Fungi</b>	-	<b>None Detect</b>	-	-	<b>None Detect</b>	-	<b>1</b>	<b>40</b>	<b>100</b>
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	1*	10*	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

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**Project:** PG County Schools 2021

### Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	372101208-0010			372101208-0011			372101208-0012		
Client Sample ID:	10			11			12		
Volume (L):	75			75			75		
Sample Location:	B308			B208			B215		
Spore Types	Raw Count	Count/M³	% of Total	Raw Count	Count/M³	% of Total	Raw Count	Count/M³	% of Total
Alternaria (Ullocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	-	-	-	-	-	-	-	-	-
Basidiospores	-	-	-	-	-	-	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	1	40	100
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	-	-	-	-	-	-	-	-	-
<b>Total Fungi</b>	-	<b>None Detect</b>	-	-	<b>None Detect</b>	-	<b>1</b>	<b>40</b>	<b>100</b>
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	1	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Vincent Iuzzolino, M.S., Laboratory Manager  
or other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC-EMLAP Accredited #100194

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**Customer PO:**  
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**Attention:** Damien Hammond  
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**Analyzed Date:** 01/28/2021

**Project:** PG County Schools 2021

### Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	372101208-0013			372101208-0014			372101208-0015		
Client Sample ID:	13			14			15		
Volume (L):	75			75			75		
Sample Location:	B203			B200			Library		
Spore Types	Raw Count	Count/M <sup>3</sup>	% of Total	Raw Count	Count/M <sup>3</sup>	% of Total	Raw Count	Count/M <sup>3</sup>	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	-	-	-	-	-	-	-	-	-
Basidiospores	2	90	90	-	-	-	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	1*	10*	10	-	-	-	-	-	-
<b>Total Fungi</b>	<b>3</b>	<b>100</b>	<b>100</b>	<b>None Detect</b>			<b>None Detect</b>		
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Vincent Iuzzolino, M.S., Laboratory Manager  
or other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC-EMLAP Accredited #100194

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**Project:** PG County Schools 2021

### Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	372101208-0016			372101208-0017			372101208-0018		
Client Sample ID:	16			17			18		
Volume (L):	75			75			75		
Sample Location:	D202			C202			C203		
Spore Types	Raw Count	Count/M³	% of Total	Raw Count	Count/M³	% of Total	Raw Count	Count/M³	% of Total
Alternaria (Ullocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	-	-	-	-	-	-	-	-	-
Basidiospores	-	-	-	-	-	-	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	1*	10*	50
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	1*	10*	50
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	-	-	-	-	-	-	-	-	-
<b>Total Fungi</b>	-	<b>None Detect</b>	-	-	<b>None Detect</b>	-	<b>2</b>	<b>20</b>	<b>100</b>
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	1	40	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Vincent Iuzzolino, M.S., Laboratory Manager  
or other Approved Signatory

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**Project:** PG County Schools 2021

### Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	372101208-0019			372101208-0020			372101208-0021		
Client Sample ID:	19			20			21		
Volume (L):	75			75			75		
Sample Location:	C217			C214			C111		
Spore Types	Raw Count	Count/M <sup>3</sup>	% of Total	Raw Count	Count/M <sup>3</sup>	% of Total	Raw Count	Count/M <sup>3</sup>	% of Total
Alternaria (Ullocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	-	-	-	-	-	-	-	-	-
Basidiospores	-	-	-	-	-	-	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	-	-	-	-	-	-	-	-	-
<b>Total Fungi</b>	-	<b>None Detect</b>	-	-	<b>None Detect</b>	-	-	<b>None Detect</b>	-
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	3	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Vincent Iuzzolino, M.S., Laboratory Manager  
or other Approved Signatory

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**Project:** PG County Schools 2021

### Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	372101208-0022			372101208-0023			372101208-0024		
Client Sample ID:	22			23			24		
Volume (L):	75			75			75		
Sample Location:	C120			C105			C114		
Spore Types	Raw Count	Count/M <sup>3</sup>	% of Total	Raw Count	Count/M <sup>3</sup>	% of Total	Raw Count	Count/M <sup>3</sup>	% of Total
Alternaria (Ullocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	5	200	54.1	-	-	-	-	-	-
Basidiospores	1	40	10.8	-	-	-	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	2	90	24.3	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	1	40	10.8	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	-	-	-	-	-	-	-	-	-
<b>Total Fungi</b>	<b>9</b>	<b>370</b>	<b>100</b>	<b>None Detect</b>	<b>-</b>	<b>-</b>	<b>None Detect</b>	<b>-</b>	<b>-</b>
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	3	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	2	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Vincent Iuzzolino, M.S., Laboratory Manager  
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### Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	372101208-0025			372101208-0026			372101208-0027		
	Raw Count	Count/M³	% of Total	Raw Count	Count/M³	% of Total	Raw Count	Count/M³	% of Total
Auditorium				Gym			Cafeteria		
<b>Spore Types</b>									
Alternaria (Ullocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	-	-	-	1	40	2.8	-	-	-
Basidiospores	-	-	-	33	1400	97.2	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	-	-	-	-	-	-	-	-	-
<b>Total Fungi</b>		<b>None Detect</b>	-	<b>34</b>	<b>1440</b>	<b>100</b>		<b>None Detect</b>	-
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

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or other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC-EMLAP Accredited #100194

Initial report from: 01/29/2021 09:15 AM

For information on the fungi listed in this report, please visit the Resources section at [www.emsl.com](http://www.emsl.com)



# EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077  
Tel/Fax: (800) 220-3675 / (856) 786-0262  
<http://www.EMSL.com> / [cinmicrolab@emsl.com](mailto:cinmicrolab@emsl.com)

**EMSL Order:** 372101208  
**Customer ID:** WJEN42  
**Customer PO:**  
**Project ID:**

**Attention:** Damien Hammond  
Windjammer Environmental  
6710 Oxon Hill Rd  
National Harbor, MD 20745

**Phone:** (888) 270-8387  
**Fax:**  
**Collected Date:** 01/26/2021  
**Received Date:** 01/27/2021 10:20 AM  
**Analyzed Date:** 01/28/2021

**Project:** PG County Schools 2021

### Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	372101208-0028			372101208-0029			372101208-0030		
Client Sample ID:	28			29			30		
Volume (L):	75			75			75		
Sample Location:	B103			Concourse			Entrance Lobby		
Spore Types	Raw Count	Count/M³	% of Total	Raw Count	Count/M³	% of Total	Raw Count	Count/M³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	2	90	100	-	-	-	1	40	100
Basidiospores	-	-	-	-	-	-	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	-	-	-	-	-	-	-	-	-
<b>Total Fungi</b>	<b>2</b>	<b>90</b>	<b>100</b>	<b>-</b>	<b>None Detect</b>	<b>-</b>	<b>1</b>	<b>40</b>	<b>100</b>
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	1	40	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Vincent Iuzzolino, M.S., Laboratory Manager  
or other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC-EMLAP Accredited #100194

Initial report from: 01/29/2021 09:15 AM

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**EMSL Order:** 372101208  
**Customer ID:** WJEN42  
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**Attention:** Damien Hammond  
Windjammer Environmental  
6710 Oxon Hill Rd  
National Harbor, MD 20745

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**Fax:**  
**Collected Date:** 01/26/2021  
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**Analyzed Date:** 01/28/2021

**Project:** PG County Schools 2021

### Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	372101208-0031			372101208-0032					
	Raw Count	Count/M³	% of Total	Raw Count	Count/M³	% of Total			
Spore Types									
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	19	830	63.4	1	40	9.8	-	-	-
Aspergillus/Penicillium	-	-	-	2	90	22	-	-	-
Basidiospores	11	480	36.6	2	90	22	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	3	100	24.4	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	2	90	22	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	-	-	-	-	-	-	-	-	-
<b>Total Fungi</b>	<b>30</b>	<b>1310</b>	<b>100</b>	<b>10</b>	<b>410</b>	<b>100</b>	-	-	-
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	-	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	-	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	-	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	-	-
Background (1-5)	-	1	-	-	1	-	-	-	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Vincent Iuzzolino, M.S., Laboratory Manager  
or other Approved Signatory

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Initial report from: 01/29/2021 09:15 AM

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EMSL ANALYTICAL, INC.  
LABORATORY ASSOCIATES - TRIANGLE

*Micro*  
**Industrial Hygiene**  
**Chain of Custody**  
EMSL Order Number (Lab Use Only):  
372101208

EMSL Analytical, Inc.  
200 Route 130 North  
Cinnaminson, NJ 08077  
PHONE: 1-800-220-3675  
FAX: (856) 786-5974

Report To Contact Name: Windjammer Environmental  
Bill To Company: WINDJAMMER ENVIRONMENTAL Client ID #:

Company Name: WINDJAMMER ENVIRONMENTAL LLC  
Attention To: Windjammer Environmental

Street: 6710 Oxon Hill Rd STE 210  
Street: 6710 Oxon Hill Rd STE 210

City: National Harbor State/Province: MD Zip/Postal Code: 20745  
City: National Harbor State/Province: MD Zip/Postal Code: 20745

Phone: 8882708387 Fax: 8882708387  
Phone: 8882708387 Fax: 8882708387

Project Name: PG County Schools 2021  
Email Results To: Hammond@wjenviron.com U.S. State where Samples Collected: MD

# Samples in Shipment: Date of Shipment: Purchase Order: Sampled By (Signature): *Davidel Farcas*

Turnaround Time (TAT) - Please Check: If No Selection Made, Standard 2 Week TAT Will Apply  
 2 Week  1 Week  4 Day  3 Day  2 Day  1 Day  Other (Call Lab)  
Media Type: Manufacturer/Part #: Lot #:

Client Sample ID	Location/Description	Analyte / Method	Media	Flow (lpm)	Sample Time		Volume / Area	Sample Type	Sample Date	Comments
					On	Off				
1	0302	Air-D. CBL		15	9:20	9:25 AM		<input checked="" type="checkbox"/> Area Personal	1/26/21	2021 JAN 27
2	0303			15	9:26	9:31 AM		<input checked="" type="checkbox"/> Area Personal		
3	0314			15	9:32	9:37 AM		<input checked="" type="checkbox"/> Area Personal		
4	C 314			15	9:38	9:43 AM		<input checked="" type="checkbox"/> Area Personal		
5	A 316 TEACHERS LOUNGE			15	9:46	9:51 AM		<input checked="" type="checkbox"/> Area Personal		2021 JAN 27
6	B 305			15	9:55	10:00 AM		<input checked="" type="checkbox"/> Area Personal		
7	B 304			15	10:01	10:06 AM		<input checked="" type="checkbox"/> Area Personal		
8	B 307			15	10:08	10:13 AM		<input checked="" type="checkbox"/> Area Personal		

Note: Most NIOSH and OSHA methods require field blanks. It is the IH field sampler's responsibility to submit the proper number of field blanks and duplicates.

Released By: DANIEL FARCAS Date: 1/26/21 Received By: *Davidel Farcas* Date: 1/27/21

Comments: 10-20 W



EMSL ANALYTICAL, INC.  
LABORATORY / PRODUCT / TRAINING

**Industrial Hygiene  
Chain of Custody**  
EMSL Order Number (Lab Use Only):  
372101208

EMSL ANALYTICAL, INC.  
200 ROUTE 130 NORTH  
CINNAMINSON, NJ 08077  
PHONE: (800) 220-3675  
FAX: (856) 858-3502

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Client Sample ID	Location/Description	Analyte / Method	Media	Flow (lpm)	Sample Time		Volume / Area	Sample Type	Sample Date	Comments
					On	Off				
9	B309	Air-D-Cel		15	10:15	10:20 AM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal	1/26/23	
10	B308			15	10:21	10:26 AM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
11	B208			15	10:29	10:34 AM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
12	B215			15	10:35	10:40 AM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
13	B203			15	10:41	10:46 AM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
14	B200			15	10:50	10:55 AM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
15	LIBRARY			15	10:56	11:01 AM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		2021 JAN 27 CINNAMINSON, N.J. RECEIVED EMSL
16	D202			15	11:02	11:07 AM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
17	C202			15	11:08	11:13 AM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
18	C203			15	11:16	11:21 AM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
19	C217			15	11:23	11:28 AM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
20	C214			15	11:30	11:35 AM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
21	C111			15	11:36	11:41 AM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
22	C120			15	11:43	11:48 AM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		

Comments:



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS DIVISION

### Industrial Hygiene Chain of Custody

EMSL Order Number (Lab Use Only):  
372101208

EMSL ANALYTICAL, INC.  
200 ROUTE 130 NORTH  
CINNAMINSON, NJ 08077  
PHONE: (800) 220-3675  
FAX: (856) 858-3502

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Client Sample ID	Location/Description	Analyte / Method	Media	Flow (lpm)	Sample Time		Volume / Area	Sample Type	Sample Date	Comments
					On	Off				
23	Q105	Air-O-Cem		15	11:50	11:55 AM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal	1/26/21	
24	Q114			15	11:57	12:02 PM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
25	AUDITORIUM			15	12:05	12:10 PM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
26	GYM			15	12:15	12:20 PM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
27	CARPENTERIA			15	12:22	12:27 PM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		2021 JAN 27 AM ID: 23 CINNAMINSON, N.J.
28	B 103			15	12:30	12:35 PM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
29	CONCOURSE			15	12:36	12:41 PM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
30	ENTRANCE LOBBY			15	12:42	12:47 PM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
31	OUTSIDE			15	12:50	12:55 PM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
32	OUTSIDE			15	12:56	1:01 PM		<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		

Comments: