

2023

Boyertown Area School District

BIOAEROSOL SAMPLING REPORT

High School, Middle School East, Middle School West, Boyertown Elementary, Colebrookdale Elementary, Earl Elementary, Education Center, Gilbertsville Elementary School, New Hanover Elementary, Washington Elementary School & Support Services

> Sampling Dates: November 29, 2023 December 20, & 21, 2023

> > Prepared For:

Boyertown Area School District 1311 Montgomery Avenue Boyertown, PA 19512

Prepared By:

EnviraHealth Corporation 1937 Station Avenue Center Valley, PA 19034

January, 2024

EnviraHealth Corporation 1937 Station Avenue Center Valley, PA 18034

Introduction

This report presents the results of a proactive bioaerosol evaluation conducted for the Boyertown Area School District (BASD). Dr. Trish Colasurdo, & Mr. Jeff Papach, Project Managers, EnviraHealth Corporation conducted the proactive bioaerosol sampling throughout the school district.

Bioaerosol testing was initiated by Mr. Thomas Schiel, Director of Facilities & Operations for the BASD. After compiling and analyzing the test results, recommendations are made to help maintain and/or improve the indoor air quality (IAQ) throughout each building.

Visual Site Inspections

Visual site inspections revealed the test areas were clean, dry and very well-maintained. No visible fungal growth was found at the time of these surveys. No hidden areas (behind walls, above ceilings, under floors, etc.) were investigated. Destructive testing was not included as part of these surveys.

If water damage or fungal contamination is suspected in hidden areas of any building, contact EnviraHealth for additional testing. EnviraHealth cannot guarantee that water intrusion or fungal contamination is not present in hidden areas of any building.

Indoor Sampling Conditions

- An attempt was made to sample in the center of each room/area.
- The ventilation systems in all of the schools/buildings were operational on each of the test dates.

General Comment

Based on both the visual site inspections and bioaerosol test results, the test areas were in excellent condition. All of the test areas were clean, dry and very well-maintained. School District Administration should be commended for their proactive approach to IAQ.

BIOAEROSOLS

Bioaerosol Testing - Premise

Bioaerosols are those airborne particles that are living or originate from living organisms. Bioaerosols include microorganisms (i.e., culturable, nonculturable, and dead microorganisms) and fragments, toxins, and particulate waste products from all varieties of living things. Bioaerosols are ubiquitous in nature and may be modified by human activities. All persons are repeatedly exposed, day after day, to a wide variety of such materials. Individual bioaerosols range in size from submicroscopic particles ($<0.01\mu m$) to particles greater than 100 μm in diameter.

Almost all air in indoor environments contains microorganisms. Environmental factors that influence indoor microbial concentrations include outdoor concentrations, type and rate of ventilation and indoor moisture levels. Airborne microbial concentrations in indoor environments also vary with the amount of mechanical and/or human activity. A large number of people and/or abundant activity stirs up dust (dispersing settled spores into the air) and creates air currents, delaying deposition by gravity. In addition, fungal spores can be introduced when people enter the area, either on people themselves or on clothing.

Molds can be found almost anywhere and grow on virtually any organic substance as long as they have both oxygen and moisture. There are molds that grow on wood, paper, carpet, foods and insulation. When excessive moisture accumulates in buildings or on building materials, mold growth will often occur, particularly if the moisture problem remains undiscovered or unaddressed. It is impossible to eliminate all molds and mold spores in the indoor environment. However, mold growth can be controlled indoors by controlling moisture indoors.

Spore Information

Mold spores are microscopic (2-100 microns) and are naturally present in both indoor and outdoor environments. Molds reproduce by means of spores. Some molds have spores that are easily disturbed and waft into the air and settle repeatedly with each disturbance. Other molds have sticky spores that will cling to surfaces and are dislodged by brushing against them or by other direct contact. Spores may remain able to grow for years after they are produced. In addition, whether or not the spores are alive, the allergens in and on them may remain allergenic for years.

For mold to grow in an indoor environment, you need a certain temperature range (typically 40°F-120°F), spores (begin the growth of mold), moisture (water damage and/or infiltration or it can occur when high relative humidity or the hygroscopic properties of building surfaces allow sufficient moisture to accumulate) and nutrient materials (dust, paper, glue, dirt or organic matter). If any of the "four fundamentals" are taken away, mold will **not** grow. If a building is properly maintained and situations which involve water (floods, leaky pipes, etc.) are addressed quickly and efficiently, mold growth will not be an issue.

Burkard Spore Trap Sampling - December 20, & 21, 2023 Samples

The Burkard is a portable, volumetric air sampler used for collecting airborne particles directly onto glass slides. The glass slides are prepared by the lab using a mixed cellulose ester (MCE) gel. The slides were supplied to EnviraHealth by a certified (EMLAP) environmental microbiological laboratory.

Ambient air was drawn into the sampler at a flow rate of 10 liters/minute (LPM). The total volume of air for each test sample was seventy-five (75) liters.

Please understand a spore trap method is typically the first step in conducting a complete building evaluation. Spore traps provide a quicker turnaround time than culture-based analysis and collect a wide range of airborne aerosols. There are several limitations to the spore trap method and they include the following:

Fungi cannot be fully speciated with this method. Aspergillus species and Penicillium species are reported as a "Group" due to similarities in spore morphology.

Spore viability cannot be assessed because it is not possible to differentiate between viable and nonviable spores.

Lab to lab variation in spore identification.

The spore trap test results are representative of a narrow time frame and for screening purposes only. These results are <u>NOT</u> intended to represent definitive exposure levels.

General Air Sampling Information

It should be noted there are no regulatory standards for measuring indoor air quality. The ACGIH Bioaerosols Committee recommends sampling in complaint, non-complaint, and outdoor areas several times during the day and making comparisons between these areas. Since the purpose of these investigations was to conduct an air quality screening, and not to provide an in-depth microbiological assessment, EnviraHealth procedures deviated from the ACGIH recommendations in that only one (1) sample was collected from each indoor location on each test date.

AEML Laboratory

Collectively, the staff at AEML, Inc. has nearly 50 years of environmental and microbiological testing in private, industrial, and government programs in support of projects and contracts that encompass a wide variety of testing services. Their management staff has successfully completed courses in *Indoor Air Quality: Fungal Spore Identification* at the prestigious McCrone Research Institute.

AEML, Inc. is an active participant in the AIHA EMPAT Proficiency Testing Program and has developed and implemented policies and procedures that adhere to the General *Requirements for the Competence of Testing and Calibration Laboratories, ISO/IEC 17025:2005.* AEML, Inc. is accredited by the American Association for Laboratory Accreditation for Biological Testing (A2LA Cert #2572.01). AEML, Inc. is also fully licensed and insured.

Laboratory Analysis Information

Direct microscopy (100% at 600X Magnification) was used to analyze the spore trap samples (indoor + outdoor), providing both a qualitative and quantitative assessment of spores in the air. The limit of detection for each test sample was thirteen (13) spores/cubic meter. In addition to the spore trap analysis, the samples were also analyzed for Hyphal Fragments, Pollen, and given a debris rating. This information is documented at the bottom of each test sample.

Burkard Spore Trap Photo



Zefon Bio-Pump® Sampler - November 29, 2023 Samples

The Zefon Bio-Pump® Plus is the smallest, lightest and easiest to use portable, battery-powered IAQ pump designed for exclusive use with Air-O-Cell® and Via-Cell® cassettes at a flow rate of fifteen (15) LPM.

Laboratory Analysis Information

Direct microscopy (100% at 600X Magnification) was used to analyze the spore trap samples (indoor + outdoor), providing both a qualitative and quantitative assessment of spores in the air. The limit of detection for each test sample was thirteen (13) spores/cubic meter. In addition to the spore trap analysis, the samples were also analyzed for Hyphal Fragments, Pollen, and given a debris rating. This information is documented at the bottom of each test sample.

Zefon Bio-Pump® Sampler Photograph



BIOAEROSOL LAB RESULTS

BASD Schools & Buildings Bioaerosol Test Results – November 29 2023 December 20, & 21, 2023

General Information

It should be noted that aerobiology is a discipline, which is still developing sampling strategies and guidelines. Strict numerical values of what constitutes normal and out-of-range levels have <u>not</u> been clearly defined by the scientific community. When interpreting these results, we must evaluate the indoor/outdoor ratio of organisms with a rank order of species isolated from both environments. The presence of indicator species in the indoor environment must also be addressed. It is also important to identify potential sites that may allow these organisms to amplify in the indoor environment.

Evaluating Sampling Data

Current research in aerobiology suggests that several factors be considered when evaluating sampling data. These factors include comparing indoor and outdoor concentrations, complaint versus non-complaint areas and areas of general concern within the building (Ex. Rooms below grade, etc.). In addition, the spores identified in both the indoor and outdoor environment should be qualitatively similar.

The attachment titled "Interpreting Laboratory Results" will be used as a guide to better understand the laboratory results.

2023 Schools/Buildings Sampled

Boyertown Area School District High School, Middle School East, Middle School West, Boyertown Elementary, Colebrookdale Elementary, Earl Elementary, Education Center, Gilbertsville Elementary School, New Hanover Elementary, Washington Elementary School & Support Services

Conclusions

The indoor samples taken on the test dates in all of the above schools and buildings were within **NORMAL** limits based on both the IMS Laboratory guideline and outdoor samples. In addition, the total spore concentrations were **low** and there were **no** indicator organisms (*Stachybotrys*, Chaetomium, etc.) identified in any of the indoor samples. Based on these lab results, proactive remediation is not required in any of the tested areas at this point in time.

Please understand that bioaerosol testing is a "snapshot" of conditions identified on each test date. Indoor Air Quality (IAQ) is affected by occupancy, indoor and outdoor temperature and relative humidity, water infiltration, outdoor air infiltration and many other factors. The lab results were an indication of the conditions identified on each test date. At any point in time, these conditions may change and impact future test results.

SAMPLING KEYS

YERTOWN AREA SD 2 TESTS - NOVEMBER 29, 2023					
SCHOOL	SAMPLE ID	DATE	TIME	ROOM#	LOCATION DETAIL
High School (HS)	HS-1	11/29/23	AM	605	Classroom
High School (HS)	HS-2	11/29/23	AM	811	Chem Lab
High School (HS)	HS-3	11/29/23	AM	800	Lab
High School (HS)	HS-4	11/29/23	AM	906	Athletic Office
High School (HS)	HS-5	11/29/23	AM	531	Art Room
High School (HS)	HS-6	11/29/23	AM	509	Classroom
High School (HS)	HS-7	11/29/23	AM	704	Classroom
High School (HS)	HS-8	11/29/23	AM	405	Classroom
High School (HS)	HS-9	11/29/23	AM	426	Shop Class
High School (HS)	HS-10	11/29/23	AM	903	
High School (HS)	HS-11	11/29/23	AM		Auditorium - Near Stage
				107	IT
High School (HS)	HS-12	11/29/23	AM	203	Classroom
High School (HS)	HS-13	11/29/23	AM	310	Classroom
High School (HS)	Out 11/29	11/29/23	AM	OUTDOORS	OUTDOOR SAMPLE
SCHOOL	SAMPLE ID	DATE	TIME	ROOM#	LOCATION DETAIL
Colebrookdale Elementary (CBD)	CBD-1	11/29/23	AM	Multi-Purpose	Multi-Purpose Room
Colebrookdale Elementary (CBD)	CBD-2	11/29/23	AM	104	Library
Colebrookdale Elementary (CBD)	CBD-3	11/29/23	AM	206	Classroom
Colebrookdale Elementary (CBD)	CBD-4	11/29/23	AM	211	
Colebrookdale Elementary (CBD)	Out 11/29	11/29/23			Classroom
Colebiookdale Elementary (CBD)	Out 11/29	11/29/23	AM	OUTDOORS	OUTDOOR SAMPLE
SCHOOL	SAMPLE ID	DATE	TIME	ROOM#	LOCATION DETAIL
Education Center (EC)	EC-1	11/29/23	PM	SuptSec.	Secretarial Area of Superintendent's Offi
Education Center (EC)	EC-2	11/29/23	PM	Special Educ.	Director of Special Educ. Office
Education Center (EC)	EC-3	11/29/23	PM	Lobby	Lobby
Education Center (EC)	EC-Outdoor	11/29/23	PM	OUTDOORS	OUTDOOR SAMPLE
					,

AEML Test: A001 Spore Trap Analysis

eurofins : **Built Environment Testing**

Eurofins EPK Built Environment Testing, LLC - AEML 601 E. Atlantic Blvd. Pompano Beach, FL 33060

Phone: (954) 333-8149 Email: customerservice@aemlinc.com

Batch: 478198

Project: Boyertown SD-HS

Sampled: 11/29/2023 Received: 12/14/2023 Analysis Date: 12/14/2023

Report Date: 12/14/2023

Sample ID:	47	478198-01		478	478198-02		478	478198-03		478	478198-04	
Client Sample ID:		HS-1			HS-2		+	HS-3		ŀ	HS-4	
Volume Sampled (∟):		75			75			75			75	
Media:	Alle	Allergenco D		Aller	Allergenco D		Aller	Allergenco D		Aller	Allergenco D	
Percent of Trace Analyzed:	100% at 60	100% at 600X Magnification		100% at 600	100% at 600X Magnification		100% at 600	100% at 600X Magnification		100% at 600	100% at 600X Magnification	1
Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	
Alternaria		I	T		I		1	1	1	1	I	
Arthrinium			1	-		1	1	-	1]	I	1
Ascospores		Ī	1	Ι	1	1	1	Ī	1	1	13	
Aspergillus/Penicillium-Like			1	2	27	25	2	27	40	4	53	m
Basidiospores		1	1	I	_	1		1	1	1	13	_
Bipolaris/Dreschlera	1	I	T	I	-	1	ı	I	1	ı	Ī	l i
Botrytis		I	1	1	ı	1	ı	1	1	ı	1	1 1
Chaetomium		1	Ι	1	1	-	I	I	1	1	I	l ı
Cladosporium	1	13	33	Ι	Ι	1	2	27	40	_	ĺ	l r l
Curvularia	_	1	1		I	1	ı	I	1	ı	1	Li
Epicoccum	1	1	I	-	13	13	1	1	1		ı	l i
Fusarium	I	1	1	1	1	1	ı	ı	1	1	1	Li
Ganoderma		1	1		1	1	1	1	1		1	Li
Memnoniella	I	1	1	1	1	1	1	ı	1	1	I	Li
Nigrospora	1		1	I	1	1	ı	ı	1	1	ı	lτ
Oidium/Peronospora	1	1	1	1	1	I	1	1	1	1	ı	Li
Pithomyces	1	1	1	1	1	1	1	1	1	ı	1	l ı
Rust	1	1	1	1	1	1	ı	1	1	ı	ı	l ı
Smut/Myxomyces/Periconia	2	27	67	5	67	63	٦	13	20	2	27	l N
Stachybotrys	-	1	1	Ţ	1	1	I	1	1	1	ı	L i
Torula	ı	1	1	ı	1	1	ı	I	1	I	ı	Li
Ulocladium	Ţ	I	1	1	I	1	ı	1	1	I	1	1
Unidentified Spores	l	1	1	Ī	-	1	I	1	1	1	ı	lı.
Total Spores	3	40		8	107		5	67		8	107	100
Hyphal Fragments	1	13		I	1		ı	l		_	13	ı
Pollen	_			I	I		د	13		_	13	1
Debris Rating		S			3			သ			ω	ı
Detection Limit		13			13			13			13	1







AEML Test: A001 Spore Trap Analysis



Project: Boyertown SD-HS

Built Environment Testing

AEML

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601 E. Atlantic Blvd. Pompano Beach, FL 33060

Phone: (954) 333-8149 Email: customerservice@aemlinc.com

Batch: 478198

Sampled: 11/29/2023 Received: 12/14/2023

Analysis Date: 12/14/2023 Report Date: 12/14/2023

											aro. 12/1 1/2010
Sample ID:	478	478198-05		478	478198-06		4781	198-07		478	478198-08
Client Sample ID:		HS-5			HS-6		+	HS-7		1	HS-8
Volume Sampled (L):		75			75			75			75
Media:	Aller	Allergenco D		Aller	Allergenco D		Aller	Allergenco D		Aller	Allergenco D
Percent of Trace Analyzed:	100% at 600	100% at 600X Magnification		100% at 60	100% at 600X Magnification		100% at 600	100% at 600X Magnification		100% at 600	100% at 600X Magnification
Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³
Alternaria	1						1	Ι	1		1
Arthrinium		Î	1	1	1		1	ı	1	ı	1
Ascospores	1	1	1]	1	1	ı	I		ı	I
Aspergillus/Penicillium-Like	1	13	100	1	I	1	I	1	1	1	I
Basidiospores		Ι	1	_	-	1	1	I	1	1	1
Bipolaris/Dreschlera	1	Ι	1	1	-	-	1	1		ı	1
Botrytis	Ī	Ī	1	-	1	1	I	ı		1	1
Chaetomium	-]	1	I	-	1	1	1	1	I	1
Cladosporium	I	1	1	1	13	50	1	ı	1	1	1
Curvularia	l	1	1.	I	1	1	Ι	1		1	1
Epicoccum	Ι	I	1	1	1	1	I	ı		ı	1
Fusarium	Ι	I	1	-	1	1		1		I	ı
Ganoderma	1	ı	1	I	1	1	I	ı	1	1	ı
Memnoniella	l	1	1	Ι		1	_		1	-	1
Nigrospora	-	I	1	1	1	1	1	ı		I	ı
Oidium/Peronospora	-	ı	1	1	[I	Τ	1		I	ı
Pithomyces	1	ı	1	1	I	1	I	l		1	
Rust	ı	I	1	ı	1	1	I	1			1
Smut/Myxomyces/Periconia	ı	1	1	I	ľ	1	I	I		1	13
Stachybotrys	1	ı	1	٦	13	50	1	Ī	1	1	13
Torula	I	1	1	1	1	1	1	I	1	-	-
Ulocladium	1	I	1	ı	I	1	I	I		1	1
Unidentified Spores	I	ı	1	1	Ţ	1	1	-	1		-
Total Spores	1	13		2	27		0	0		2	27
Hyphal Fragments	ı	Į		ı	I		1	Ι			1
Pollen	1	1		ı	ı		1	1		1	1
Debris Rating		ω			3			2			2
Detection Limit		13			13			13			13

50

50 | |







Dr. Barb Plohocki
EnviraHealth Corporation
1937 Station Avenue (610) 653-7216 Center Valley,PA 18034

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Built Environment Testing

Eurofins EPK Built Environment Testing, LLC - AEML

601 E. Atlantic Blvd. Pompano Beach, FL 33060 Phone: (954) 333-8149 Email: customerservice.

Batch: 478198

Project: Boyertown SD-HS

Sampled: 11/29/2023 Received: 12/14/2023

Analysis Date: 12/14/2023

AEML Test: A001 Spore Trap Analysis	Phone: (954) 333-8149	Phone: (954) 333-8149 Email: customerservice@aemlinc.com		Report Date: 12/14/2023
Sample ID:	478198-09	478198-10	478198-11	478198-12
Client Sample ID:	HS-9	HS-10	HS-11	HS-12
Volume Sampled (L):	75	75	75	75
Media:	Allergenco D	Allergenco D	Allergenco D	Allergenco D
Percent of Trace Analyzed:	100% at 600X Magnification	100% at 600X Magnification	100% at 600X Magnification	100% at 600X Magnification

Detection Limit	Debris Rating	Pollen	Hyphal Fragments	Total Spores	Unidentified Spores	Ulocladium	Torula	Stachybotrys	Smut/Myxomyces/Periconia	Rust	Pithomyces	Oidium/Peronospora	Nigrospora	Memnoniella	Ganoderma	Fusarium	Epicoccum	Curvularia	Cladosporium	Chaetomium	Botrytis	Bipolaris/Dreschlera	Basidiospores	Aspergillus/Penicillium-Like	Ascospores	Arthrinium	Alternaria	Spore Types	Percent of Trace Analyzed:	8	Volume Sampled (L):	Client Sample ID:	Sample ID:
																												Ra		Media:	d (L):	le ID:	le ID:
		1	I	9	1	1	Ι	_	I	Ι	-	I	Ι	_	Ι	Ι	[l	2	Ī	Ī	1	J	7	J	1	I	Raw Count	100% at 60	Alle			47
13	3	1	1	120	1		1		_	1		Ţ		_		I	_	1	27		1	I	1	93	1	1	I	Count/m³	100% at 600X Magnification	Allergenco D	75	HS-9	478198-09
L					1	1	1	1	1	1	I	1	T	I	1	1	I	Ι	22	1	1	1	1	78	I	1	1	%					
		ı	2	10		1	1	1	1	-	1	I	-	-	Ι	_	1		5	_	1	-	1	1	٦	_		Raw Count	100% at 60	Alle			47
13	ω	1	27	133	-	_	J	13	13		_		_				I		67	_	1	ı	13	13	13	I	-	Count/m³	100% at 600X Magnification	Allergenco D	75	HS-10	478198-10
					1	1	I	10	10	1	Ī	1	1	1	1	L	1	1	50	I	1	I	10	10	10	1	1	%					
			٦	36	1	1	1	1	7	2	-	Ι	1		-	I		1	10	ı	Ι	Ι	1	15	ı	I	2	Raw Count	100% at 600	Aller		1	478
13	ω	I	13	480		1	-	ĺ	93	27		I	1	1	ı	I		1	133	1	1	_	I	200	1	1	27	Count/m³	0X Magnification	Allergenco D	75	HS-11	8198-11
Ц					1	1	I	1	19	6	1	1	1	Ī	1	1	1	Ι	28	I	1	I	1	42	I	1	6	%					
		1	1	10	1	Ι	I	I	ω	I	I	l	I	I	J	1	I	1	2	1	1	1	I	4	1	ı	1	Raw Count	100% at 600	Aller			478
13	ω	I]	133	ı	1		1	40	I	1	1	ı	Ι	1	1	١	1	27	Ι	Ţ	1	Ι	53	I	1	13	Count/m³	100% at 600X Magnification	Allergenco D	75	HS-12	478198-12
					1		1	1	30	1	1			1	1	1	1	1	20	1	1	I	Ī	40	1	1	10	%					







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Built Environment Testing

Project: Boyertown SD-HS

Batch: 478198

Analysis Date: 12/14/2023 **Report Date:** 12/14/2023

Sampled: 11/29/2023 Received: 12/14/2023

Eurofins EPK Built Environment Testing, LLC - AEML 601 E. Atlantic Blvd. Pompano Beach, FL 33060

Phone: (954) 333-8149 Email: customerservice@aemlinc.com

 AEML Test: A001 Spore Trap Analysis
 Phone: (954) 333-8149
 Email

 Sample ID:
 478198-13
 HS-13

 Client Sample ID:
 HS-13
 TS

 Volume Sampled (L):
 75

 Media:
 Allergenco D

Client Sample ID:		HS-13	
Volume Sampled (L):		75	
Media:	Aller	Allergenco D	
Percent of Trace Analyzed:	100% at 600	100% at 600X Magnification	
Spore Types	Raw Count	Count/m³	%
Alternaria			1
Arthrinium	1		1
Ascospores	Ι	I	1
Aspergillus/Penicillium-Like	2	27	29
Basidiospores	٦	13	14
Bipolaris/Dreschlera	Ι	1	1
Botrytis	I	ı	
Chaetomium		1	1
Cladosporium	2	27	29
Curvularia	ı	1	1
Epicoccum	1		1
Fusarium	1	1	L
Ganoderma	-	ı	1
Memnoniella			1
Nigrospora	1	1	1
Oidium/Peronospora	I	1	1
Pithomyces	1	1	1
Rust	1	1	1
Smut/Myxomyces/Periconia	2	27	29
Stachybotrys	ı	1	1
Torula	1	1	1
Ulocladium	-	Ī	1
Unidentified Spores	_	1	1
Total Spores	7	93	
Hyphal Fragments	I	-	
Pollen		1	
Debris Rating		3	

Joshua Krinsky

Detection Limit

Joshua Krinsky Laboratory Technical Manager



eurofins :

Built Environment Testing

Project: Boyertown-Out 11/29

Batch: 478205

Analysis Date: 12/14/2023 Report Date: 12/14/2023

Sampled: 11/29/2023 Received: 12/14/2023

Eurofins EPK Built Environment Testing, LLC - AEML 601 E. Atlantic Blvd. Pompano Beach, FL 33060

Phone: (954) 333-8149 Email: customerservice@aemlinc.com

Percent of Trace Analyzed:	Media:	Volume Sampled (L):	Client Sample ID:	Sample ID:	AEML Test: A001 Spore Trap Analysis
100% at 600X Magnification	Allergenco D	75	Out 11/29	478205-01	Phone: (954) 333-8149 Emai
					Emai

Sample ID:		478205-01	
Client Sample ID:		Out 11/29	
Volume Sampled (L):		75	
Media:		Allergenco D	Ц
Percent of Trace Analyzed:	100% at 600	100% at 600X Magnification	
Spore Types	Raw Count	Count/m³	%
Alternaria			1
Arthrinium	1	I	1
Ascospores	I	1	
Aspergillus/Penicillium-Like	I	ı	1
Basidiospores	1	1	1
Bipolaris/Dreschlera	1	I	1
Botrytis	Ţ	I	
Chaetomium	1	I	1
Cladosporium	7	93	100
Curvularia		1	1
Epicoccum	-	ı	1
Fusarium	1	1	1
Ganoderma		I	1
Memnoniella	1	ı	1
Nigrospora	Ι	1	
Oidium/Peronospora	-	1	1
Pithomyces	Ι	ı	1
Rust	1	[1
Smut/Myxomyces/Periconia		-	1
Stachybotrys		1	1
Torula	-	1	1
Ulocladium	-]	1
Unidentified Spores	1	-	1
Total Spores	7	93	
Hyphal Fragments	1	13	
Pollen	i	1	
Debris Rating		3	
Detection Limit		13	
	S. A. S.	and subbary and an active that the commercial color	

Joshua Krinsky Laboratory Technical Manager Rober Minty



AEML Test: A001 Spore Trap Analysis



Built Environment Testing

601 E. Atlantic Blvd. Pompano Beach, FL 33060 Eurofins EPK Built Environment Testing, LLC - AEML

Phone: (954) 333-8149 Email: customerservice@aemlinc.com

Batch: 478203

Project: Boyertown SD-Colebrookdale

Sampled: 11/29/2023 Received: 12/14/2023

Analysis Date: 12/14/2023 Report Date: 12/14/2023

Sample ID:	47	478203-01		478	478203-02		478	478203-03		478	478203-04	
Client Sample ID:		CBD-1		0	CBD-2		0	CBD-3		C	CBD-4	
Volume Sampled (L):		75			75			75			75	
Media:	Alle	Allergenco D		Allei	Allergenco D		Aller	Allergenco D		Allerg	Allergenco D	
Percent of Trace Analyzed:	100% at 60	100% at 600X Magnification	L	100% at 60	100% at 600X Magnification		100% at 600	0X Magnification		100% at 600	100% at 600X Magnification	Ц
Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%
Alternaria	-	1	1		1	1		1	1	1	J	
Arthrinium	_	1	Ι	-	_	I	I		1	ı	1	1
Ascospores	1	13	_	1	13	17	I	1	1	1	13	7
Aspergillus/Penicillium-Like	84	1,120	95	4	53	67	ω	40	100	9	120	60
Basidiospores	2	27	2	1	13	17	I	I	I	1	13	7
Bipolaris/Dreschlera	1	l	1	1	_	1	-	1	1	ı	I	
Botrytis	-		1	Ī		1	I	1	1	ı	l	
Chaetomium		_	1	1	_	I		1	1	I	1	
Cladosporium	1	I	1	-	_	1	1	1	1	I	I	
Curvularia			1	I		1	Ι	1	1	1	I	
Epicoccum	1	I	1	I	_	1	1	ı	1	1	1	1
Fusarium	1	-	1	1	_	1	-	1	1	I	ı	1
Ganoderma	I	I	1	I	1	1	Ι	1	1	1	1	
Memnoniella		I	1	Ι	_	1			1	1	1	1
Nigrospora	1		1	1	_	١	1	1	1	1	I	1
Oidium/Peronospora	I	_	1	ı		1	1	1	1	I	1	
Pithomyces	1	1	1	Ι	1	T	1	1	1	[1
Rust	1	Ī	1	Ι]	1	I	1		ļ	1	
Smut/Myxomyces/Periconia	1	13	-1	1	ı	I	1	1	1	4	53	27
Stachybotrys]	I	1	1	I	I	ı	1	1	-		1
Torula	Ī	1	1	I	1	1]	1	1	1	1	
Ulocladium	I	I	1	Ι	I	1	1	1		I	1	

Joshua Krinsky Laboratory Technical Manager John Wrisy

Debris Rating

Detection Limit

3

3

3

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Total Spores Unidentified Spores

88

1,173 3

6

80 40

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40 1

15 2

200 27

Hyphal Fragments





eurofins:

Built Environment Testing

Project: Boyertown-Out 11/29

Batch: 478205

Analysis Date: 12/14/2023 Report Date: 12/14/2023

Sampled: 11/29/2023 Received: 12/14/2023

Eurofins EPK Built Environment Testing, LLC - AEML 601 E. Atlantic Blvd. Pompano Beach, FL 33060

Phone: (954) 333-8149 Email: customerservice@aemlinc.com

The second secon	Percent of Trace Analyzed:	Media:	Volume Sampled (L):	Client Sample ID:	Sample ID:	AEML Test: A001 Spore Trap Analysis
	100% at 600X Magnification	Allergenco D	75	Out 11/29	478205-01	Phone: (954) 333-8149 Em

Media:	Aller	Allergenco D	
Percent of Trace Analyzed:	100% at 600	100% at 600X Magnification	
Spore Types	Raw Count	Count/m³	%
Alternaria		1	1
Arthrinium	1		1
Ascospores	I	I	1
Aspergillus/Penicillium-Like	ı	I	1
Basidiospores	1	1	1
Bipolaris/Dreschlera		I	1
Botrytis	ı	1	1
Chaetomium	J	1	1
Cladosporium	7	93	100
Curvularia	I	ı	1
Epicoccum	1	1	1
Fusarium	I	Ι	1
Ganoderma	ı	ı	1
Memnoniella	1	1	1
Nigrospora	I	I	
Oidium/Peronospora	I	Ī	1
Pithomyces	1	1	1
Rust		1	
Smut/Myxomyces/Periconia	-	I	1
Stachybotrys	1	ı	
Torula	I	ı	
Ulocladium	ı	ı	
Unidentified Spores	-	1	1
Total Spores	7	93	
Hyphal Fragments	_	13	
Pollen	Ī	I	
Debris Rating		3	
Detection Limit		13	

Rober Mindy

Joshua Krinsky Laboratory Technical Manager



eurofins Built Environment Testing

Eurofins EPK Built Environment Testing, LLC - AEML 601 E. Atlantic Blvd. Pompano Beach, FL 33060

Phone: (954) 333-8149 Email: customerservice@aemlinc.com

Batch: 478204

Project: Boyertown SD-Educ. Ctr

Sampled: 11/29/2023 Received: 12/14/2023

Report Date: 12/14/2023	Analysis Date: 12/14/2023	Received:
12/14/2023	12/14/2023	Received: 12/14/2023

AEML Test: A001 Spore Trap Analysis	Pho	Phone: (954) 333-8149 Email: customerservice@aemlinc.com	9	Email: customers	service@aemlinc	.com				Report Da	Report Date: 12/14/2023	
Sample ID:	478	478204-01		478	478204-02		4782	3204-03		478	478204-04	
Client Sample ID:		EC-1		l l	EC-2			EC-3		EC-	EC-Outdoor	
Volume Sampled (L):		75			75			75			75	
Media:	Allei	Allergenco D		Aller	Allergenco D		Allerg	genco D		Aller	Allergenco D	
Percent of Trace Analyzed:	100% at 60	100% at 600X Magnification		100% at 600	100% at 600X Magnification		100% at 600.	OX Magnification		100% at 600	00% at 600X Magnification	1
Spore Types	Raw Count	Count/m³	%	% Raw Count	Count/m³	%	% Raw Count	Count/m³	%	% Raw Count	Count/m³	0
Alternaria	1	13	2	1	1	1	1	1	1	1	J	
Arthrinium			1	1	ı	1	ı	Ĩ	1	Ι	L	

Sample ID: 4 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 /		4/1	4/8204-02	L	4/8	4/8204-03	L	4/8	4/8204-04	
Volume Sample (L): Wolume Sampled (L): Media: Percent of Trace Analyzed: Percent of Trace Analyzed: Percent of Trace Analyzed: Percent of Trace Analyzed: Raaria ium pores ris/Ipenicillium-Like s somium sporium porium porium porium porium porium poriella pora pora //Peronospora n/Peronospora pores botrys botrys fiffled Spores spores spores spores spores								-	The second name of the last of	J
Volume Sampled (L): Media: Percent of Trace Analyzed: Percent of Trace Analyzed: Percent of Trace Analyzed: Raaria Sipores Medium Medium Medium Medium Medium Medium Myxomyces/Periconia			EC-2			EC-3		EC-(EC-Outdoor	
Media: Percent of Trace Analyzed: Radian Brain Spores Isis/Dreschlera Isis/Dreschlera Somium Image: Inside Analyzed: Sporium Image: Inside Analyzed: Sporium Image: Inside Analyzed: Isin Name Image: Inside Analyzed: Inside Analyzed: Inside Analyzed: Inside Analyzed: </th <th></th> <th></th> <th>75</th> <th></th> <th></th> <th>75</th> <th></th> <th></th> <th>75</th> <th></th>			75			75			75	
Percent of Trace Analyzed: Types Ra aria sospores ris/Dreschlera s omium sporium sporium aria ccum um lerma lerma pora lerma yoriella pora y/Peronospora nyces hotrys botrys s spores fiffled Spores		Allei	genco D		Aller	genco D		Allerg	genco D	
Types Raw Count aria 1 ariium 1 pores — ospores 3 ris/Dreschlera — s — porium 45 aria 1 scum 1 um — porium — lerma — onitella — pora — n/Peronospora — n/Peronospora — n/Peronospora — n/yxomyces/Periconia 3 botrys — — — ditified Spores — 1 — 2 1 1 1	ification	100% at 60	0X Magnification		100% at 600	X Magnification		100% at 600	X Magnification	
ariia 1 nium — pores — pores — pospores 3 ospores — porium — si/Dreschlera — soporium — porium 1 aria 1 aria 1 um — lerma — oniella — pora — n/Peronospora — n/Peronospora — n/Peronospora — m/yxomyces/Periconia 3 botrys — — — m/yxomyces/Periconia — botrys — — — jbores 54 1 1	Count/m³ %	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%
nium — pores — pores — ospores 3 ospores — sis/Dreschlera — sis/Dreschlera — sis/Dreschlera — ponium — porium — 1 cum — noniella — noniella — pora — n/Peronospora <	13 2	1	ı	1	1	1			-	Ī
pores — gillus/Penicillium-Like — ospores 3 ospores — sporium — sporium 45 aria 1 acum — lerma — oniella — pora — n/Peronospora — n/Peronospora — n/Peronospora — n/Pora — doinys —	Ī	1	1	1	1	ı	1	I	ı	1
gillus/Penicillium-Like — ospores 3 ris/Dreschlera — s — porium 45 poprium 1 zaia 1 zum — lerma — pora — pora — n/Peronospora — n/Peronospora — n/yces — m/yxomyces/Periconia 3 botrys — dilium — m/mitfied Spores — 5pores 54 1 1	1	I	1	1	ı	1	1	I	1	I
ospores 3 ris/Dreschlera — s — sporium 45 apporium 1 acum 1 nerma — pora — pora — n/Peronospora — n/Peronospora — n/Peronospora — n/Pora — n/yxomyces/Periconia 3 botrys — ditified Spores — 1 Fragments 2 1 1	ı	İ	I	1	ω	40	20	ı	J	I
ris/Dreschlera — s — sporium 45 aria 1 zcum 1 lerma — porialla — prora — nyces — nyxomyces/Periconia 3 botrys — dium — dium — prora — dium — 1 Fragments 2 1 1	40 6	I		1	1	I	1	2	27	20
s — omium — sporium 45 aria 1 zcum 1 lerma — oniella — pora — nyces — nycomyces/Periconia 3 botrys — dium — dium — spores 54 1 Fragments 1	1	İ	I	1	1]	1	I	ı	1
omium — sporium 45 aria 1 icum 1 lerma — oniella — pora — inpres — inpres — inpres — inpres 54 inpres 1	1	1	1	1	1	I		1	1	I
sporium 45 aria 1 1 ccum 1 Ierma — pora — pora — presonospora — nyces — nyces — portyces — nyces — portyces — nyces — portyces — nyces — portyces — nyces —	1	1	1	1	١]	1	ı	1	1
aria 1 ccum 1 lerma — poria — pora — presonospora — nyces — yxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	600 83	3 2	27	100	11	147	73	7	93	70
xcum 1 um — lerma — poriella — pora — r/Peronospora — ryces — ryxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	13 2	I		1	I	1	1	Ι	J	I
um — lerma — oniella — pora — l/Peronospora — lyxomyces/Periconia 3 botrys — dium — spores 54 1 Fragments 2	13 2	1	1	1	1	-	1	-	ı	1
Internation		Ī	1	1	1			-	ı	
oniella — pora — n/Peronospora — lyces — myxomyces/Periconia 3 botrys — dium — spores 54 1 Fragments 2		ſ	Ι.	1	1	1		ı	Ι	I
pora — n/Peronospora — n/yces —		1	1	1	_	I	1	1		T
n/Peronospora — nyces —	_	Ī	I	1	1	Ī		1	-	1
nyces —	1	ı	ı	1	1	Ţ	1	1	ı	I
		-	1	1	1	13	7	1		1
Vlyxomyces/Periconia 3 botrys — dium — itified Spores — Spores 54 1 Fragments 2 1 1	1	1	1	1	1	-		I	Ī	1
	40 6	ı	ı	1	l	1		1	13	10
	1	ı	1	1	I	1		_	1	1
Head of the content	1	1	1	1	1	ı	1]	1	1
Iffied Spores — 54 I Fragments 2	1	1	1	1	1	I	1	Ι	I	1
Spores I Fragments	_	1	I		!	1		I	1	1
l Fragments	720	2	27		15	200		10	133	
	27	-			I	I		1	1	
	13	ı	_		-			1	I	
Debris Rating 3			2			3			3	
Detection Limit 13			13	Ц		13	Ц		13	Ц
13		█▕▕▕▕▕ ▕▀▕▘▎▀▐▀▍▘▍▕▍▍▐▕▍ ▞▗ ▍▐		## Allergen 100% at 600X h ## Allergen 100% at 600X h ## Allergen 2 ## A	## Allergenco D ## Allergenco D ## 100% at 600X Magnification % Raw Count Count/m³ 2	Allergenco D Aller	75 75 75 75 75 75 75 75	75 75 75 75 75 75 75 75	National Properties National Properties	









Interpreting Laboratory Results

The following can be used to better understand the laboratory results:

Viable Air Samples:

Low < 100 CFU/m³

Low Moderate $100 - 250 \text{ CFU/m}^3$ Moderate $250 - 1000 \text{ CFU/m}^3$

High $> 1000 \text{ CFU/m}^3$

TNTC Too Numerous To Count

Viable Topical Samples:

Low \leq 5 CFU/square inchLow Moderate= 6-25 CFU/square inch

Moderate = 26-100 CFU/square inch High > 100 CFU/square inch

TNTC Too Numerous To Count

Non-Viable Air Samples:

Low≤ 2000 Total Fungal Count/m³Low Moderate2000-5000 Total Fungal Count/m³

Moderate 5001-10,000 Total Fungal Count/m³
High > 10,000 Total Fungal Count/m³

TNTC Too Numerous To Count

Non-Viable Topical Samples:

 Low
 1+

 Moderate
 2+ or 3+

 High
 4+ or 5+

There are currently no standards or guidelines regarding results of fungal samples. There are no levels, which are typical or permissible. There are no recommended exposure limits, no permissible exposure limits, no threshold limit values and no short term exposure limits.

The above guidelines are based on historical analysis and experience and should not be used for health evaluation purposes.

Many fungi (e.g. species of Aspergillus sp, Penicillium sp, Fusarium sp, Trichoderma sp, and Memnoniella sp) in addition to Stachybotrys can produce potent mycotoxins. Mycotoxins are fungal metabolites that have been identified as toxic agents. Even low levels of these species should be remediated. For example, the original New York City Department of Health Bureau of Environmental & Occupational Disease Epidemiology Guidelines on Assessment and Remediation of Fungi in Indoor Environments recommended remediation if 1 CFU/m³ of Stachybotrys is found in the indoor air. If 1000 CFU/m³ of Stachybotrys is found in the indoor air, the guidelines recommended immediate evacuation.

23	X.			
SAMBLEID	DATE	TIME	D00###	LOCATION DETAIL
			1	LOCATION DETAIL
				Classroom
VV6	12/20/23	AM	OUTDOORS	OUTDOOR SAMPLE
SAMPLE ID	DATE	TIME	ROOM#	LOCATION DETAIL
ERL 1	12/20/23	AM	11	Classroom
ERL 2	12/20/23	AM	53	Classroom
ERL 3	12/20/23			Music Room
ERL 4	12/20/23			Classroom
ERL 5	12/20/23	AM		
		1	ROOM#	LOCATION DETAIL
				Classroom
				Classroom
		AM		Classroom
		AM	201	Classroom
	12/20/23	AM	254	Classroom
B6	12/20/23	AM	OUTDOORS	OUTDOOR SAMPLE
SAMPLE ID	DATE	TIME	ROOM#	LOCATION DETAIL
		1	1	Faculty Room
		-		Classroom
				Special Education Room
				Trainer's Room
				Classroom
				Art Room
				Tech Ed. Office - Wood Shop
				Music Practice Room
				Head Custodian's Office
JKVV 10	12/20/23	AIVI	00100085	OUTDOOR SAMPLE
SAMPLE ID	DATE	TIME	ROOM#	LOCATION DETAIL
SPT 1	12/20/23	AM		Main Office (Jenny's Office)
SPT 2	12/20/23	AM		Transportation Office
SPT 3	12/20/23	AM	OUTDOORS	OUTDOOR SAMPLE
SAMPLEID	DATE	TIME	POOM#	LOCATION DETAIL
1		1	1	LOCATION DETAIL
				Classroom
				Emotional Support Room
				Classroom
				Faculty Dining (Near Room 155)
				Health Room (Across From Room 1 OUTDOOR SAMPLE
OLD 0	12/2 1/20	Zivi	OUTDOOKS	OUTDOOK SAMIFLE
SAMPLE ID	DATE	TIME	ROOM #	LOCATION DETAIL
JRE 1	12/21/23	AM	423	Classroom
JRE 2	12/21/23	AM	509	Tech Ed. Room (Shop Room)
JRE 3	12/21/23	AM	300	Classroom
JRE 4	12/21/23	AM		Classroom
JRE 5				Classroom
JRE 6				Faculty Lunch Room
				Classroom
JRE 8	12/21/23	AM	102	Classroom
		AM	40	Front Office - Mail Room
JRE 9	12/21/23	AIVI	40	Front Office - Mail Room
	SAMPLE ID W1 W2 W3 W4 W5 W6 SAMPLE ID ERL 1 ERL 2 ERL 3 ERL 4 ERL 5 SAMPLE ID B1 B2 B3 B4 B5 B6 SAMPLE ID JRW 1 JRW 2 JRW 3 JRW 4 JRW 5 JRW 6 JRW 7 JRW 8 JRW 9 JRW 10 SAMPLE ID SPT 1 SPT 2 SPT 3 SAMPLE ID GLB 1 GLB 2 GLB 3 GLB 4 GLB 5 GLB 6 SAMPLE ID JRE 1 JRE 2 JRE 3 JRE 4 JRE 5 JRE 6 JRE 7	SAMPLE ID DATE W1 12/20/23 W2 12/20/23 W3 12/20/23 W4 12/20/23 W5 12/20/23 W6 12/20/23 ERL 1 12/20/23 ERL 2 12/20/23 ERL 3 12/20/23 ERL 4 12/20/23 ERL 5 12/20/23 B1 12/20/23 B2 12/20/23 B3 12/20/23 B4 12/20/23 B5 12/20/23 B6 12/20/23 JRW 1 12/20/23 JRW 2 12/20/23 JRW 3 12/20/23 JRW 4 12/20/23 JRW 5 12/20/23 JRW 6 12/20/23 JRW 7 12/20/23 JRW 8 12/20/23 JRW 9 12/20/23 JRW 10 12/20/23 SPT 1 12/20/23 SPT 2 12/20/23 SPT 3	SAMPLE ID DATE TIME W1 12/20/23 AM W2 12/20/23 AM W3 12/20/23 AM W4 12/20/23 AM W5 12/20/23 AM W6 12/20/23 AM W6 12/20/23 AM SAMPLE ID DATE TIME ERL 1 12/20/23 AM ERL 2 12/20/23 AM ERL 3 12/20/23 AM ERL 4 12/20/23 AM ERL 5 12/20/23 AM B1 12/20/23 AM B2 12/20/23 AM B3 12/20/23 AM B4 12/20/23 AM B5 12/20/23 AM B6 12/20/23 AM B6 12/20/23 AM JRW 1 12/20/23 AM JRW 2 12/20/23 AM JRW 3 12/20/23	SAMPLE ID DATE TIME ROOM # W1 12/20/23 AM 142 W2 12/20/23 AM 163 W3 12/20/23 AM 54 W4 12/20/23 AM 114 W5 12/20/23 AM 131 W6 12/20/23 AM 145 ERL 1 12/20/23 AM 53 ERL 2 12/20/23 AM 53 ERL 3 12/20/23 AM 33 ERL 4 12/20/23 AM 0UTDOORS SAMPLE ID DATE TIME ROOM # B1 12/20/23 AM 146 B3 12/20/23 AM 146 B3 12/20/23 AM 201

SCHOOL	SAMPLE ID	DATE	TIME	ROOM#	LOCATION DETAIL
North Hanover/Frederick Elem (HAN)	HAN 1	12/21/23	AM		Conference Room #1
North Hanover/Frederick Elem (HAN)	HAN 2	12/21/23	AM	110	Learning Support Room
North Hanover/Frederick Elem (HAN)	HAN 3	12/21/23	AM	320	Classroom
North Hanover/Frederick Elem (HAN)	HAN 4	12/21/23	AM	206	Book Room
North Hanover/Frederick Elem (HAN)	HAN 5	12/21/23	AM	OUTDOORS	OUTDOOR SAMPLE

AEML Test: A001 Spore Trap Analysis

eurofins

Built Environment Testing

AEML AEML Eurofins EPK Built Environment Testing, LLC - AEML

601 E. Atlantic Blvd. Pompano Beach, FL 33060 Phone: (954) 333-8149 Email: customerservice@aemlinc.com

Batch: 481897

Project: Boyertown SD - Washington

Sampled: 12/20/2023

Report Date: 1/15/2024	Analysis Date: 1/15/2024	Received
: 1/15/2024	: 1/15/2024	Received: 1/15/2024

Sample ID:	48	481897-01		48	481897-02		48	481897-03		481	481897-04
Client Sample ID:		W1			W2			W3			W4
Volume Sampled (L):		75			75			75			75
Media:	lmpa	Impaction Slide		Impa	Impaction Slide		lmpac	Impaction Slide		Impac	Impaction Slide
Percent of Trace Analyzed:	100% at 60	100% at 600X Magnification		100% at 60	100% at 600X Magnification		100% at 600	100% at 600X Magnification	Ш	100% at 60t	100% at 600X Magnification
Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³
Alternaria	1]	1	1	-	П		1	1		
Arthrinium		1	1		I	1	I	1	1	1	1
Ascospores	1	13	25	1	1	1	1	1	1	1	13
Aspergillus/Penicillium-Like		Ι	1	1]	I	_	13	100	1	13
Basidiospores	2	27	50	1	1	1	ı	1	1	8	107
Bipolaris/Dreschlera	Ι	-	1	1	1	1	1	1	1	1	1
Botrytis		I	1	_	Ι	1	1	1	1	1	1
Chaetomium	-	-	1			I	-	1	1	ı	1
Cladosporium	1	13	25	1	-	1	1	ı	1	1	13
Curvularia	_	1	1	-	1	1	1	ı	1	I	-
Epicoccum	1	1	1	-	I	1	-	Ι	1	1	1
Fusarium	I	1	1	1	1	1	I	١	1	1	I
Ganoderma	1	ı	I	1	1	1	_	1	1	1	1
Memnoniella	1	1	1	_		1	I	I	1	1]
Nigrospora	1	1	1	-	1	1	_		1	-	
Oidium/Peronospora	ı	ı	1	_	I	1	Ī	1	1	1	1
Pithomyces	Ι	ı	1	_	_	1	_		1	1	1
Rust	1	1	1	1	1	1	-	-	1	ı	
Smut/Myxomyces/Periconia	ı	I	1	_	I	1	1	1	1	1	1
Stachybotrys	1	Ι	1		-	1	1		1	I	I
Torula	1		1]	I	1	1	1		-	1
Ulocladium	1	1	1	ı	I	1	ı	I	1	1	Ι
Unidentified Spores		1	1	_	l	1		ſ	1	1	Ι
Total Spores	4	53		0	0		ı	13		11	147
Hyphal Fragments	Î	[Ι	_			1		1	1
Pollen	1	ı		-	1			_		1	1
Debris Rating		3			2			2			ω
Detection Limit		13			13			13			13

Laboratory Technical Manager Joshua Krinsky Goden Kristy





Built Environment Testing

AEML

Eurofins EPK Built Environment Testing, LLC - AEML
601 E. Atlantic Blvd. Pompano Beach, FL 33060

Sample ID: Client Sample ID:	48		FIIOTIE: (304) 333-6143			
Client Sample ID:		481897-05		481	481897-06	
		W5			W6	L
Volume Sampled (L):		75			75	
Media:	Impa	Impaction Slide		Impac	Impaction Slide	
Percent of Trace Analyzed:	100% at 60	100% at 600X Magnification		100% at 600	100% at 600X Magnification	
Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%
Alternaria	1	13	20	1	Ι	Ī
Arthrinium	1	1	I	ı		1
Ascospores	1	1	I	_	13	7
Aspergillus/Penicillium-Like	2	27	40	2	27	13
Basidiospores	1	1	I	10	133	67
Bipolaris/Dreschlera	ì	1	I	1	ı	1
Botrytis	ı	1	I	1	1	
Chaetomium	1	I	I	1	1	1
Cladosporium	1	I	I	2	27	3
Curvularia	_	13	20	I	1	1
Epicoccum	1	ı	1	Ī	I	1
Fusarium	1	1	I	1	1	
Ganoderma	-	1	1	1	1	1
Memnoniella	1	ı	1	1	I	1
Nigrospora	1	I	1	I	1	1
Oidium/Peronospora	1	I	1	I	Ι	
Pithomyces		1	I	I	I	1
Rust	1	1	I	I	1	
Smut/Myxomyces/Periconia	1	13	20	1	Τ	1
Stachybotrys	I	1	I	-	1	1
Torula	1	I	1	J		1
Ulocladium	I	I	Ī	1	Ι	1
Unidentified Spores	1	1	1	-	1	
Total Spores	5	67		15	200	
Hyphal Fragments	1			Ι		
Pollen		I		1		
Debris Rating		III			1	
		3			ω	

Batch: 481897

Project: Boyertown SD - Washington

Analysis Date: 1/15/2024 Sampled: 12/20/2023 Received: 1/15/2024

Report Date: 1/15/2024



Center Valley,PA 18034 (610) 653-7216 EnviraHealth Corporation 1937 Station Avenue Dr. Barb Plohocki

AEML Test: A001 Spore Trap Analysis

eurofins: **Built Environment Testing**

| AEML
| Eurofins EPK Built Environment Testing, LLC - AEML 601 E. Atlantic Blvd. Pompano Beach, FL 33060

Phone: (954) 333-8149 Email: customerservice@aemlinc.com

Batch: 481896

Project: Boyertown SD - Boyertown Elem

Sampled: 12/20/2023 Received: 1/15/2024

M	181806.01	06-03
1/15/2024	Report Date: 1/15/2024	
1/15/2024	Analysis Date: 1/15/2024	
1/15/2024	Received: 1/15/2024	

			ı			l						
Sample ID:	48	481896-01		48	481896-02		481	481896-03		481	481896-04	- 1
Client Sample ID:		B1			B2			В3			B4	
Volume Sampled (L):		75			75			75			75	
Media:	Impa	Impaction Slide		Impa	Impaction Slide		Impac	tion Slide		Impac	Impaction Slide	
Percent of Trace Analyzed:	100% at 60	100% at 600X Magnification		100% at 60	100% at 600X Magnification		100% at 600	100% at 600X Magnification		100% at 600	100% at 600X Magnification	1 1
Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	
Alternaria		1	1	1	13	œ		Ι	1	_		. 1
Arthrinium	_	1	П	1	I	1	ı	1	1	1	ı	, 1
Ascospores	1	1	1	_	13	œ	1	I	1	1	1	
Aspergillus/Penicillium-Like	-		1	2	27	15	2	27	50	Ι	1	ı 1
Basidiospores	_	I	1	_	Ī	1	_	_	1	1	ı	. 1
Bipolaris/Dreschlera	I	I	I	1	1	1	_	-	ı		ı	1
Botrytis	_		1	I		1	1	I	1	Ī	T	1
Chaetomium	1	-	1		1	1	1	1	1	-	I	. 1
Cladosporium	2	27	50	1	13	8	1	13	25	1	13	N
Curvularia	_	_	1	1	Ţ	1		Ι	1	Ι	1	1
Epicoccum	1	1	1	1	13	8	_		1	Ţ	-	1
Fusarium	1	1	-	-	1	1	1	_	1	1	1	
Ganoderma	ı	1	-		I	1	1	I	1	Ī	Ι	
Memnoniella	ı	1	_	I	1	ı	-	I	1	1	I	1
Nigrospora	1	ı		l	ı	1	ı	-	1	1	I	
Oidium/Peronospora	1	_	1		ı	1	_	Ι	1	Ī	Ι	11
Pithomyces	1	I	-		I	1	1	I	1	Ī	-	
Rust	I	1	1	1	13	8	-	J	1	1	I	1
Smut/Myxomyces/Periconia	2	27	50	6	80	46	1	13	25	3	40	7
Stachybotrys	I	1	1		1	1	1	Ţ	1	I	I	1
Torula	1	ı	1		1	1	1	1	1	1	I	11
Ulocladium	1	I	1	Î	-1	1	1	1	1	1	I	11
Unidentified Spores	I	I	1	l	ı	1	1	1	1	1	Į	11
Total Spores	4	53		13	173		4	53		4	53	
Hyphal Fragments	_	13		2	27		1	13		2	27	
Pollen	ı	1		1	1		1	1		1	-	1
Debris Rating		ω			3			3			3	
Detection Limit		13			13			13	L		13	





ACCREDITED Page 1 of 2



Built Environment Testing

Eurofins EPK Built Environment Testing, LLC - AEML

601 E. Atlantic Blvd. Pompano Beach, FL 33060

AEML Test: A001 Spore Trap Analysis	Pho	ne: (954) 333-8149	9	mail: customers	Phone: (954) 333-8149 Email: customerservice@aemlinc.con	m
Sample ID:	481	481896-05		4818	481896-06	_
Client Sample ID:		B5			B6	
Volume Sampled (L):		75			75	
Media:	lmpac	Impaction Slide		Impact	mpaction Slide	
Percent of Trace Analyzed:	100% at 600	100% at 600X Magnification		100% at 600	100% at 600X Magnification	
Chora Tunos	Bau Caust	Countilms	-		200	
Spore Types	Kaw Count	Kaw Count Countrm % Kaw Count	%		Count/m° %	6

Sample ID:	48	481896-05		48	481896-06	
Client Sample ID:		B5			B6	
Volume Sampled (L):		75			75	
Media:	edwl	Impaction Slide		lmpa	Impaction Slide	
Percent of Trace Analyzed:	100% at 60	100% at 600X Magnification		100% at 60	100% at 600X Magnification	Ш
Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%
Alternaria	1	13	25	_		1
Arthrinium	1		I	1	1	1
Ascospores	2	27	50	_	13	9
Aspergillus/Penicillium-Like		1	Ι	3	40	27
Basidiospores	1	1	1	5	67	45
Bipolaris/Dreschlera	I	1	Ι	1	1	1
Botrytis	-		1		1	
Chaetomium	1	1	1	1	ı	1
Cladosporium	1	13	25		13	9
Curvularia	I	-	1	1	Ι	1
Epicoccum	1	-	I	I	1	1
Fusarium		1	1	1	1	1
Ganoderma	1	1	1	I	1	1
Memnoniella	1	1	1	1	1	1
Nigrospora	1	_	Ι	1	I	I
Oidium/Peronospora	ı	1	1	1	I	1
Pithomyces	1		1	-	1	
Rust	1		1	1	1	1
Smut/Myxomyces/Periconia			1	1	13	9
Stachybotrys	1	-	1	I		1
Torula	I	-		I		1
Ulocladium	I	-	1	I	-	1
Unidentified Spores	1	_	Ī	-		1
Total Spores	4	53		11	147	
Hyphal Fragments	I			l	1	
Pollen	J	I		1		
Debris Rating		3			3	
Detection Limit		13			13	

Batch: 481896

Project: Boyertown SD - Boyertown Elem

Analysis Date: 1/15/2024 Report Date: 1/15/2024 Sampled: 12/20/2023 Received: 1/15/2024



AEML Test: A001 Spore Trap Analysis



Built Environment Testing

Eurofins EPK Built Environment Testing, LLC - AEML 601 E. Atlantic Blvd. Pompano Beach, FL 33060 Phone: (954) 333-8149 Email: customerservice@aemlinc.com

Batch: 481922

Project: Boyertown SD-JR High West

Sampled: 12/20/2023 Received: 1/15/2024

40,000	Report Date: 1/15/2024	Analysis Date: 1/15/2024	Neceived.
	1/15/2024	1/15/2024	Neceived: 1/10/2024

Sample ID.	100	70000		40	1000 00		404	200 00		101	2000	
Sample ID:	04	4019ZZ-U1		40	401922-02		48	4619ZZ-U3		481	481922-04	1
Cilett adilibration		25			ZIZ Z			01/44/0		2	STAN #	1
Volume Sampled (L):		75			75			75			75	
Media:		Impaction Slide		impa	Impaction Slide		Impac	Impaction Slide		Impac	Impaction Slide	
Percent of Trace Analyzed:	100% at 60	100% at 600X Magnification		100% at 60	100% at 600X Magnification		100% at 600	100% at 600X Magnification		100% at 600	100% at 600X Magnification	
Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	
Alternaria	-		1	ı	1	1				1		\Box
Arthrinium	-	1	1	I	1	1	1	1	1	Ī	ı	, 1
Ascospores	I	I	T	1	13	20	1	I	1	1	I	T
Aspergillus/Penicillium-Like	I	1	1	1	13	20	-3	13	<u> </u>	2	27	7
Basidiospores	5	67	83	1	13	20	4	53	44	з	40	0
Bipolaris/Dreschlera	I	I	1	_	1	1	-	1	1	1	I	, 1
Botrytis	1	I	1	[1	1	-	-	1	1	1	ıΠ
Chaetomium	I	1	1	_	-	1	_	1	1	I	I	, 1
Cladosporium	1	1	1	1	13	20	4	53	44	_	I	, 1
Curvularia	Ī	I	1	-	_	1	I	1	1	1	1	, [
Epicoccum	1	I	1	1	1	1	1	I	1	-	1	, 1
Fusarium	Ι	1	I	ı	I	1	1	J	1	1	1	
Ganoderma	1	ı	1	Ī	1	1	_	Ĺ	1	1	Ι	11
Memnoniella	1	1	I	Ī	ı	1	I	Ī	1	1	I	
Nigrospora		ı	Ι		Ι	1	I	Ĵ	I	1	1	
Oidium/Peronospora	1	1	1	·—-		1	1	Ĺ	T	1	Ι	1
Pithomyces	_	13	17		I	-	ı	Ī	1	1	1	
Rust	1	1	I	Ι	-	1	1	I	1	1	l	
Smut/Myxomyces/Periconia	1	I	1	1	13	20	1	Ţ	1	[1	
Stachybotrys	1	ı	1	I	I	1	1	I	1	1	1	1
Torula	1	ı	1	1	1	1	1	Ι	1	1	Ţ	lı l
Ulocladium	I	ı	Ι	Î	1	1	ı	1	1	I	ı	1
Unidentified Spores	1	1	1	l	1	1	1	1	1	I	Ţ	
Total Spores	6	80		5	67		9	120		5	67	
Hyphal Fragments	ı	Î		-	Ī		1	13		1	13	
Pollen	_	13		1	ı		1	1		I]	
Debris Rating		ω			ω			3			3	
Detection Limit		13			13	L		13			13	1







Built Environment Testing

AEML AEML AEML

601 E. Atlantic Blvd. Pompano Beach, FL 33060

Phone: (954) 333-8149 Email: customerservice@aemlinc.com

Batch: 481922 Analysis Date: 1/15/2024 Sampled: 12/20/2023 Received: 1/15/2024

Project: Boyertown SD-JR High West

AEML Test: A001 Spore Trap Analysis	Pho	ne: (954) 333-814	49	Phone: (954) 333-8149 Email: customerservice@aemlinc.com	ervice@aemlinc.	com				Report Da	Report Date: 1/15/2024	
Sample ID:	481	481922-05		481	481922-06		4819	922-07	4	481	481922-08	
Client Sample ID:	JI	JRW 5		JF	JRW 6		JF	JRW 7		JF	JRW 8	
Volume Sampled (L):		75			75			75			75	
Media:	Impac	Impaction Slide		Impac	Impaction Slide		lmpacti	ion Slide		Impac	mpaction Slide	
Percent of Trace Analyzed:	100% at 600	100% at 600X Magnification		100% at 600	100% at 600X Magnification		100% at 600)	X Magnification		100% at 600	100% at 600X Magnification	
Spore Types	Raw Count	Count/m³	%	Count/m³ % Raw Count Count/m³	Count/m³	%	% Raw Count	Count/m³	%	Count/m³ % Raw Count	Count/m³	%
Alternaria	1	ı	1	1	I	1	ı	Ι	1	1		
A											-	1

Client Sample ID: ISM IS	oampie ID:	40	461922-05		48	481922-06	L	481	922-07		481	481922-08	
Volume Sampled (L): TS TS <td>Client Sample ID:</td> <td></td> <td>JRW 5</td> <td></td> <td></td> <td>JRW 6</td> <td></td> <td>IL I</td> <td>₹W 7</td> <td></td> <td>١٢</td> <td>RW 8</td> <td></td>	Client Sample ID:		JRW 5			JRW 6		IL I	₹W 7		١٢	RW 8	
Impaction Silde Impaction	Volume Sampled (L):		75			75			75			75	
Percent of Trace Analyzed: 100% at 600x Magnification No magnification 100% at 600x Magnification No magnification Raw Count Count/m² % Raw Count Count/m² % Raw Count Count/m² % Raw Count Raw Count Count/m² % Raw Count Count/m² % Raw Count Count/m² % Raw Count Count/m² % Raw Count Count/m² % Raw Count Count/m² % Raw Count Count/m² % Raw Count A count/m² % Raw Count A count/m² % Raw Count A count/m² % Raw Count A count/m² % Raw Count A count/m² A count/m² <t< th=""><th>Media:</th><th>Impa</th><th>ction Slide</th><th></th><th>Impa</th><th>ction Slide</th><th>Ш</th><th>lmpac</th><th>tion Slide</th><th></th><th>Impac</th><th>tion Slide</th><th></th></t<>	Media:	Impa	ction Slide		Impa	ction Slide	Ш	lmpac	tion Slide		Impac	tion Slide	
Types Raw Count Countint % Raw Count frount % Raw Count Countint % Raw Count Countint % Raw Count %	Percent of Trace Analyzed:	100% at 60	0X Magnification	L	100% at 60	00X Magnification	L	100% at 600	X Magnification		100% at 600	X Magnification	
aria billium	Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%
Diturin —<	Alternaria	1	I	1			1	1	I	1		1	
poresishium-Like —	Arthrinium		1	I	1	1	I		ı	1	1	1	1
glius/Penicillium-Like	Ascospores		1	1		1	1	1	I		I	I	1
osspores 3 40 10 2 27 10 1 13 14 1	Aspergillus/Penicillium-Like		1	I	1	1	1	1	13	4	1	1	1
Ins Dreschlera In Interschera Basidiospores	3	40	100	2	27	100	_	13	4	1		50	
ss	Bipolaris/Dreschlera	1	1	1	1	1	1	1			1	1	١
monitum — </td <td>Botrytis</td> <td>1</td> <td></td> <td></td> <td>ĺ</td> <td>I</td> <td>1</td> <td>I</td> <td>-</td> <td>1</td> <td></td> <td>1</td> <td>1</td>	Botrytis	1			ĺ	I	1	I	-	1		1	1
ponium — — — — — — — — — — — — — — — — — — —	Chaetomium		1	1	I]	1		-	1	1	I	1
atria — <td>Cladosporium</td> <td>1</td> <td>1</td> <td></td> <td>_</td> <td>1</td> <td>1</td> <td>1</td> <td>13</td> <td>14</td> <td>1</td> <td></td> <td>50</td>	Cladosporium	1	1		_	1	1	1	13	14	1		50
coum coum <th< td=""><td>Curvularia</td><td>Ī</td><td>-</td><td>1</td><td>Ι</td><td>1</td><td>1</td><td>Ι</td><td>Ι</td><td>1</td><td>ı</td><td>ı</td><td></td></th<>	Curvularia	Ī	-	1	Ι	1	1	Ι	Ι	1	ı	ı	
turn turn —<	Epicoccum	1	I	1	1	1	1	1	13	14	1		
lerma lerma Image: Ima	Fusarium	I	1	1		1	1	1	-	1	1	ı	1
oniella — </td <td>Ganoderma</td> <td>I</td> <td>[</td> <td>T</td> <td>_</td> <td>l</td> <td>1</td> <td>I</td> <td>1</td> <td></td> <td>I</td> <td>1</td> <td>1</td>	Ganoderma	I	[T	_	l	1	I	1		I	1	1
pora — <td>Memnoniella</td> <td>1</td> <td>I</td> <td>1</td> <td>_</td> <td>Ι</td> <td>1</td> <td>I</td> <td>-</td> <td>1</td> <td></td> <td></td> <td></td>	Memnoniella	1	I	1	_	Ι	1	I	-	1			
I/Peronospora — <	Nigrospora	I	I	1	_	1	1	1	1	1	1	1	
tyces — <td>Oidium/Peronospora</td> <td>I</td> <td>Į</td> <td>1</td> <td>1</td> <td>ı</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>I</td> <td>1</td> <td>1</td>	Oidium/Peronospora	I	Į	1	1	ı	1	1	1	1	I	1	1
dyxomyces/Periconia —	Pithomyces	1	I	1	I	I	1	I	1	1	1		
dyxxomyces/Periconia -	Rust	1	1	1	I	I	1	3		43		-	1
botitys — </td <td>Smut/Myxomyces/Periconia</td> <td>Ĭ</td> <td>ı</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>I</td> <td>1</td> <td>1</td>	Smut/Myxomyces/Periconia	Ĭ	ı	1	1	1	1	1	1	1	I	1	1
dium —	Stachybotrys	1	ı	1	-	-	1	I	1		-	-	1
dium —	Torula	ſ	1	1		1	1	1	I		J	1	1
Intified Spores —	Ulocladium	I	ı	1	I	I	1	I	1	1	I	I	1
Spores 3 40 2 27 7 93 2 1 I Fragments — — 2 27 —	Unidentified Spores		ı	1	ı	I	1	ı	Ī	1	I	1	1
IFragments — — 2 27 — <th< td=""><td>Total Spores</td><td>သ</td><td>40</td><td></td><td>2</td><td>27</td><td></td><td>7</td><td>93</td><td></td><td>2</td><td>27</td><td></td></th<>	Total Spores	သ	40		2	27		7	93		2	27	
- 2 27 - - - Rating 2 3 3 3 ion Limit 13 13 13 13	Hyphal Fragments	I	I		2	27		I	Į		Ι		
2 3 3 13 13 13	Pollen	1	1		2	27		ı	I		I	I	
13 13 13	Debris Rating		2			3			ω			3	
	Detection Limit		13			13			13	L		13	





EnviraHealth Corporation 1937 Station Avenue Center Valley,PA 18034 (610) 653-7216 Dr. Barb Plohocki



Built Environment Testing

Project: Boyertown SD-JR High West

Batch: 481922

Analysis Date: 1/15/2024 Report Date: 1/15/2024

Sampled: 12/20/2023 Received: 1/15/2024

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Burofins EPK Built Environment Testing, LLC - AEML
601 E. Atlantic Blvd. Pompano Beach, FL 33060

ACIVIC TEST. AUUT Spore Trap Analysis	Pn	Phone: (954) 333-8149	149	Email: customerservice@aemlinc.com	service@aemlinc.	com
Sample ID:	48	481922-09		48.	481922-10	
Client Sample ID:		JRW 9		lf.	JRW 10	
Volume Sampled (L):		75			75	
Media:		Impaction Slide		Impa	Impaction Slide	
Percent of Trace Analyzed:	100% at 60	100% at 600X Magnification		100% at 60	100% at 600X Magnification	Ш
Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%
Alternaria	1		ī	-	I	
Arthrinium	1	1	ī	-		1
Ascospores	_	13	9	J	1	1
Aspergillus/Penicillium-Like	3	40	27	1	1	1
Basidiospores	4	53	36	11	147	65
Bipolaris/Dreschlera	1	I	ī	I	1	1
Botrytis	I	ı	1			
Chaetomium	1	1	1	_	13	6
Cladosporium	_	13	9	5	67	29
Curvularia	1	ı	1	I	1	1
Epicoccum	1	1	I	1		1
Fusarium	1	1	1	I	1	1
Ganoderma	I	1	1	1	ĺ	1
Memnoniella	1	ı	1	I	Ι	1
Nigrospora	1	1	I	I	1	1
Oidium/Peronospora	1	I	I	I	1	1
Pithomyces	1	1	I	1	Ì	1
Rust	1	13	9	1	I	1
Smut/Myxomyces/Periconia	٦	13	9	1	I	
Stachybotrys	_	1	1	1	I	1
Torula	I	ı	I	1	Ι	1
Ulocladium	I	ı	1	I	Ι	1
Unidentified Spores		1	T	1	1	1
Total Spores	11	147		17	227	
Hyphal Fragments	_	1		ı		
Pollen	_	I		ı]	
Debris Rating		ω			ω	
Detection Limit		13			13	

Laboratory Technical Manager Joshua Krinsky Rober Ministy



Dr. Barb Plohocki
EnviraHealth Corporation
1937 Station Avenue (610) 653-7216 Center Valley, PA 18034

eurofins :

Built Environment Testing

Project: Boyertown SD - Support Services

Batch: 481899

Analysis Date: 1/15/2024 Report Date: 1/15/2024

Sampled: 12/20/2023 Received: 1/15/2024

Phone: (954) 333-8149 Email: customerservice@aemlinc.com

AEML

Eurofins EPK Built Environment Testing, LLC - AEML
601 E. Atlantic Blvd. Pompano Beach, FL 33060

AEML Test: A001 Spore Trap Analysis	Pho	Phone: (954) 333-8149 Email: customerservice@aemlinc.com	9	Email: customers	ervice@aemlinc.	com			
Sample ID:	481	481899-01		481	481899-02		481	481899-03	
Client Sample ID:	S	SPT 1		S	SPT 2		S	SPT 3	
Volume Sampled (L):		75			75			75	
Media:	Impac	Impaction Slide		Impac	Impaction Slide		Impac	Impaction Slide	
Percent of Trace Analyzed:		100% at 600X Magnification	L	100% at 600	100% at 600X Magnification		100% at 600	100% at 600X Magnification	
Spore Types	Raw Count	Raw Count Count/m³	%	% Raw Count Count/m³ % Raw Count	Count/m³	%	Raw Count	Count/m³	%

Sample ID:	48.	481899-01		481	481899-02		481	899-03	
Client Sample ID:	(0)	SPT 1		(0	SPT 2		S	SPT 3	
Volume Sampled (L):		75			75			75	
Media:	Impa	Impaction Slide		Impac	Impaction Slide		Impac	Impaction Slide	
Percent of Trace Analyzed:	100% at 60	100% at 600X Magnification		100% at 600	100% at 600X Magnification	L	100% at 600	0X Magnification	Ш
Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%
Alternaria	L	-	T		-	1		1	1
Arthrinium	I	-	1	I		1	1	I	1
Ascospores	2	27	22]	1	ယ	40	ၓ
Aspergillus/Penicillium-Like	٦	13	7	ı	1	1	ω	40	33
Basidiospores	3	40	33	-	I	1	2	27	22
Bipolaris/Dreschlera	Ι	1	1	1	I	1	1		1
Botrytis		I	Τ	I	1	1	Ι	1	1
Chaetomium	I	I	1	1	1	1		-	1
Cladosporium	2	27	22	I	1	1	1	13	<u> </u>
Curvularia	I	I	I	1	-	1	I	1	1
Epicoccum	l	I	1	1	1		I	1	1
Fusarium	J	1	1	1	J	1	_	I	1
Ganoderma	ı	ı	I	I	1.	1	I	Ι	1
Memnoniella		Ţ		1	1	1	I	I	1
Nigrospora	1	1	I	1	I	1	1	I	1
Oidium/Peronospora	1	1	1	1	1	1	Ι	1	1
Pithomyces	٦	13	11	ı	1	1	l	Ī	1
Rust	I	I	ı	ı	J	1	I	J	I
Smut/Myxomyces/Periconia	I	I	ı	ı	Ι	1	-	I	1
Stachybotrys	I	I	1	-	1	I	_	I	1
Torula	I	Ι	1	1	1	1	1	1	
Ulocladium	ı	1	1	I	I	1	Ι	Ι	1
Unidentified Spores	1	1		l	-		1		1
Total Spores	9	120		0	0		9	120	
Hyphal Fragments	٦	13		I	I		I	Ī	
Pollen	1	J		1	ı		٦	13	
Debris Rating		သ			2			3	
Detection Limit		13			13			13	

Joshua Krinsky

Laboratory Technical Manager



AEML Test: A001 Spore Trap Analysis



Built Environment Testing

Eurofins EPK Built Environment Testing, LLC - AEML

601 E. Atlantic Blvd. Pompano Beach, FL 33060

Batch: 481901

Project: Boyertown SD - Gilbertsville

Sampled: 12/21/2023 Received: 1/15/2024

Analysis Date: 1/15/2024

Report Date: 1/15/2024

Phone: (954) 333-8149 Email: customerservice@aemlinc.com

Sample ID:	48	481901-01	П	48	481901-02		481	481901-03		481	481901-04	Ш
Client Sample ID:		GLB 1			GLB 2		0	LB 3		G	GLB 4	
Volume Sampled (L):		75			75			75			75	
Media:		Impaction Slide		Impa	mpaction Slide		Impac	mpaction Slide		Impac	Impaction Slide	
Percent of Trace Analyzed:	100% at 60	100% at 600X Magnification	L	100% at 60	100% at 600X Magnification		100% at 600	100% at 600X Magnification		100% at 600	100% at 600X Magnification	Ц
Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%
Alternaria		1	1	I		1	_	1	1	_	1	1
Arthrinium	I	1	1		1	1	I		1	I	1	1
Ascospores	-	J	1	_	1	1	2	27	20	2	27	4
Aspergillus/Penicillium-Like	I	Ι	1	-	1	1	1	13	10	2	27	4
Basidiospores	5	67	83	I	1	1	2	27	20	5		36
Bipolaris/Dreschlera	-	I	1	1	1	1	-	I	1	ı	1	1
Botrytis	I	_	1	1	1	1	ı		1	I	I	1
Chaetomium	1		1	1	1	1	1	1	1	1	I	1
Cladosporium	_	13	17	5	67	100	5	67	50	5	67	36
Curvularia	1	Ι	1	I	_	1	1	ı	1	-	I	1
Epicoccum	1	-	1			1	1	T	1	1	1	1
Fusarium	1	J	1	1	ı	1	1		1	ı	ı	1
Ganoderma	1	1	1	ı	1	1	-	ı	1	1	I	1
Memnoniella	1	ı	1	1	1	1	Ι	I	1	-	-	
Nigrospora	1	1	1	1	1	1	1	1	1	-	ı	
Oidium/Peronospora	1	Ι	1	1	ı	1	1	1		1	ı	1
Pithomyces	1	I	1	I	1	1	I	Ι	1	_	Τ	1
Rust]	I	1	I	1	1	I	Ι	1	Í	I	1
Smut/Myxomyces/Periconia	ı	I	1	1	-	1	1	1	1	1	1	
Stachybotrys	ı	Ī	١	ı	Ι	1		1	1	Ī	Ι	1
Torula	I	J	1	1	ı	1	1		1	I	-	1
Ulocladium	1	1	1	1	1	1	1	-	1		1	1
Unidentified Spores	1	1	1	I	1	1	-	1	1	Ι	Ι	1
Total Spores	6	80		5	67		10	133		14	187	
Hyphal Fragments	1	1		Ι	Ι		1	13		1	1	
Pollen	ı	1		1	_		-	Ι		Ι	1	
Debris Rating		3			3			3			ω	
Detection Limit		13	L		13			13			13	





: eurofins

Built Environment Testing

Project: Boyertown SD - Gilbertsville

Batch: 481901

Analysis Date: 1/15/2024 Report Date: 1/15/2024

Sampled: 12/21/2023 Received: 1/15/2024

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Burofins EPK Built Environment Testing, LLC - AEML

601 E. Atlantic Blvd. Pompano Beach, FL 33060

Sample ID: 481901-05 481901-05	AEML Test: A001 Spore Trap Analysis	Ph	Phone: (954) 333-8149		Email: customerservice@aemlinc.com	service@aemlinc	.com
Client Sample (IL): GLB 5 GLB 6 Volume Sampled (L): 75 75 Yolume Sampled (L): T75 75 Wedda: Impaction Silde Impaction Silde Percent of Trace Analyzed: 100% at 600X Magnification 4 Raw Count Count/m* % Raw Count Count/m* 3 Types Raw Count Count/m* % Raw Count Count/m* % Raw Count Count/m* arris 1 13 10 2 27 gillus/Penicillium-Like -	Sample ID:	48	1901-05		48	1901-06	
Volume Sampled (L): T5 T5 T5 T5 T5 T6 T6 T6 T6 Tmpaction Slide Impaction Slide	Client Sample ID:		GLB 5			3LB 6	
Media: Impaction Silde Impaction Silde <th>Volume Sampled (L):</th> <th></th> <th>75</th> <th></th> <th></th> <th>75</th> <th></th>	Volume Sampled (L):		75			75	
Percent of Trace Analyzed: 100% at 600x Magnification 100x Magnification 1	Media:	Impa	ction Slide		Impa	ction Slide	
aTypes Raw Count Count/m³ % Raw Count mount Count/m³ % Raw Count Count/m³ % Raw Count Count/m³ and Count Count/m³ % Raw Count Count/m³ % Raw Count Count/m³ and Count Count/m³ and Count Count/m³ and Count Count/m³ and Count Count/m³ and Count	Percent of Trace Analyzed:	100% at 60	00X Magnification		100% at 60	0X Magnification	Ш
artia — <th>Spore Types</th> <th>Raw Count</th> <th>Count/m³</th> <th>%</th> <th>Raw Count</th> <th>Count/m³</th> <th>%</th>	Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%
nium — — — — — spores 1 13 100 2 27 gillus/Penicillium-Like — — — 1 13 100 2 27 gillus/Penicillium-Like — — — — 1 13 100 22 27 gillus/Penicillium-Like — — — — 1 13 100 22 27 23 23 22 22 23 23 23 22 23	Alternaria	ſ	1	I			I
spores 1 13 100 2 27 gillus/Penicillium-Like 10 2 27 jospores 1 13 josprium 93 sporium sporium sporium sporium sporium sporium sporium sporium sporium	Arthrinium	1	1	1	_	1	ı
gillus/Penicillium-Like —	Ascospores	_	13	100	2	27	13
iospores — — 7 93 vis/Dreschlera —	Aspergillus/Penicillium-Like	I	1	1	_	13	6
ris/Dreschlera is	Basidiospores	1	1	1	7	93	44
isis onium	Bipolaris/Dreschlera	I	1	I	1	1	1
omitim — <td>Botrytis</td> <td>1</td> <td>I</td> <td>1</td> <td>ı</td> <td>ı</td> <td>I</td>	Botrytis	1	I	1	ı	ı	I
sporium — </td <td>Chaetomium</td> <td>I</td> <td></td> <td>1</td> <td>ı</td> <td></td> <td>1</td>	Chaetomium	I		1	ı		1
laria — — — — — — ccum — — — — — — lum — — — — — — lerma — — — — — — pora — — — — — — m/Peronospora — — — — — — — m/Peronospora — — — — — — — — — m/Peronospora — — — — — — — — — — m/Peronospora — — — — — — — — — — m/Peronospora — — — — — </td <td>Cladosporium</td> <td></td> <td>1</td> <td>1</td> <td>6</td> <td>80</td> <td>38</td>	Cladosporium		1	1	6	80	38
ccum —	Curvularia	Ι	1	I	1	1	1
lum —	Epicoccum	1	1	1	ı	1	Ī
Jerma — <td>Fusarium</td> <td></td> <td>1</td> <td>I</td> <td>l</td> <td>I</td> <td>1</td>	Fusarium		1	I	l	I	1
oniella — </td <td>Ganoderma</td> <td>1</td> <td>1</td> <td>1</td> <td>I</td> <td>1</td> <td>1</td>	Ganoderma	1	1	1	I	1	1
spora — <td>Memnoniella</td> <td>I</td> <td>1</td> <td>1</td> <td>1</td> <td>I</td> <td>1</td>	Memnoniella	I	1	1	1	I	1
n/Peronospora — — — — — nyces — — — — — Myxomyces/Periconia — — — — — Myxomyces/Periconia — — — — — dium — — — — — dium — — — — — stified Spores — — — — — Spores 1 13 16 — I Fragments — — — — — Rating 2 — — 3 13 13 13	Nigrospora			1	1	1	
nyces — — — — — — Myxomyces/Periconia — — — — — Myxomyces/Periconia — — — — — Johitys — — — — — Johitys — — — — — John —	Oidium/Peronospora		1	1	I]	1
Myxomyces/Periconia — — — — — ybotrys — — — — — dium — — — — — dium — — — — — stified Spores — — — — — Spores 1 13 16 — Il Fragments — — — — — Rating 2 3 13 13	Pithomyces			1	ı	I	1
Myxomyces/Periconia — — — — — ybotrys — — — — — ybotrys — — — — — dium — — — — — tiffed Spores — — — — — Spores 1 13 16 — I Fragments — — — — — Rating 2 3 ion Limit 13 13	Rust	_	_	1	1	I	
ybotrys — — — — — dium — — — — — tiffed Spores — — — — — Spores 1 13 16 — I Fragments — — — — — Rating 2 3 ion Limit 13 13	Smut/Myxomyces/Periconia	I	I	1	I	I	1
Intiffed Spores	Stachybotrys	1	1	I	1	_	1
dium — — — — — ntified Spores — — — — — Spores 1 13 16 — Il Fragments — — — — Rating 2 — 3 ion Limit 13 13	Torula Torula	1	1	I	1	I	1
Intified Spores —	Jlocladium		1	1	Ι	Ι	1
Spores 1 13 16 Image: 16 mode of the program of th	Jnidentified Spores	_		1	I		1
Fragments	Total Spores	1	13		16	213	
Rating — 2 — — — — — — — — — — — — — — — — —	Hyphal Fragments	-	l		1	-	
13 13	Pollen	-	_		1	1	
13	Debris Rating		2			3	
	Detection Limit		13	L		13	

Joshua Krinsky Laboratory Technical Manager Rober Ministy





Built Environment Testing

Eurofins EPK Built Environment Testing, LLC - AEML 601 E. Atlantic Blvd. Pompano Beach, FL 33060 Phone: (954) 333-8149 Email: customerservice@aemlir

Batch: 481916

Project: Boyertown SD-JR HS East

Sampled: 12/21/2023 Received: 1/15/2024

Analysis Date: 1/15/2024

AEML Test: A001 Spore Trap Analysis	Phone: (954) 333-8149	Phone: (954) 333-8149 Email: customerservice@aemlinc.com	1	Report Date: 1/15/2024
Sample ID:	481916-01	481916-02	481916-03	481916-04
Client Sample ID:	JRE 1	JRE 2	JRE 3	JRE 4
Volume Sampled (L):	75	75	75	75
Media:	Impaction Slide	Impaction Slide	Impaction Slide	Impaction Slide
Percent of Trace Analyzed:	100% at 600X Magnification	100% at 600X Magnification	100% at 600X Magnification	100% at 600X Magnification
Spore Types	Raw Count Count/m³	Raw Count Count/m³ % Raw Count Count/m³ % Raw Count		Count/m3 0/ Daw Count Count/m3 0/

Client Sample ID:		JRE 1			JRE 2		ل	JRE 3		ے	JRE 4	
Volume Sampled (L):		75			75			75			75	
Media:	lmpa	Impaction Slide		Impa	Impaction Slide	Ш	Impac	Impaction Slide		Impac	Impaction Slide	
Percent of Trace Analyzed:	100% at 60	100% at 600X Magnification	L	100% at 60	100% at 600X Magnification		100% at 60C	100% at 600X Magnification		100% at 600	100% at 600X Magnification	
Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%
Alternaria	1	1	1	1				-	1		1	
Arthrinium	1	1	1	1	ı	1	1		1	I	ı	1
Ascospores	1	I	I	Ι	1	1	Ι	1	1	1	ı	1
Aspergillus/Penicillium-Like	-	-	I		1	1	I	Ι	1	1	1	1
Basidiospores		1	1	1	13	100	ı	ı	I	2	27	100
Bipolaris/Dreschlera	-	I	1	1	-	1	1	1	1	1	ı	1
Botrytis	1	1	1	Ţ	Ī	I	1	[1	I	1	1
Chaetomium	_	Ī	1		-	1	I	I	1	1	I	1
Cladosporium	1	13	50	Ī	-	1	2	27	100	I	I	1
Curvularia	I	_	1		I	1	1	I	1	1	ı	1
Epicoccum	J	-	1	1	I	1	1			1	1	
Fusarium	I	Ι	1	1	1	1	1	1		ı	I	1
Ganoderma	ļ	1	1	1	1	1	1	1	1	1	-	1
Memnoniella	I		1	1	I	1	-		1		1	
Nigrospora	1	I	1	1	-	1	_	1	1	1	ı	
Oidium/Peronospora	ı	I	1	1	1	1	1	Ι	1	1	I	1
Pithomyces	I	ı	1	Ι	l	1	l	I	1	1		1
Rust	I	I		1	1	1	1	I	1	-	1	1
Smut/Myxomyces/Periconia	٦	13	50	ı	-	1	-	1	1	1	I	1
Stachybotrys	I	1	1	Ι	ı	1	I	I		_		1
Torula	l	I	1	1	1	1	I	1	1	Ι	-	1
Ulocladium	I		1	I	1	1	-		1	Ι	Ι	
Unidentified Spores	1	1	1	1	1	1	I	1		I	-	1
Total Spores	2	27		-	13		2	27		2	27	
Hyphal Fragments	2	27		I	ſ		1	13		1	13	
Pollen	1	J		1	1		ı	I		Ī	1	
Debris Rating		ω			3			3			3	
Detection Limit		13			13	L		13	L		13	







Eurofins EPK Built Environment Testing, LLC - AEML

Project: Boyertown SD-JR HS East

Batch: 481916

Sampled: 12/21/2023 Received: 1/15/2024

Analysis Date: 1/15/2024

601 E. Atlantic Blvd. Pompano Beach, FL 33060

AEML Test: A001 Spore Trap Analysis Sample ID: Phone: (954) 333-8149 Email: customerservice@aemlinc.com 481916-05 481916-06 Report Date: 1/15/2024 481916-08

Sample ID:	48	481916-05		4	481916-06		48.	481916-07		481	481916-08	
Client Sample ID:		JRE 5			JRE 6			JRE 7		ے	JRE 8	- 1
Volume Sampled (L):		75			75			75			75	- 1
Media:		Impaction Slide		Impa	mpaction Slide		Impac	Impaction Slide		Impac	Impaction Slide	
Percent of Trace Analyzed:	100% at 60	100% at 600X Magnification		100% at 6	100% at 600X Magnification		100% at 600	100% at 600X Magnification		100% at 600	100% at 600X Magnification	
Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	_
Alternaria			ī		1	ī	I		1	1	I	
Arthrinium		1	T	1	1	1	Į	1	1	I	1	_
Ascospores	_	1	1	1	13	33	1	I	1	->	13	_
Aspergillus/Penicillium-Like	_	I	1	Ι	I	I	1	I	1	ı	1	_
Basidiospores	1	13	100	1	1	1	ı	I	1	Ĺ	I	-
Bipolaris/Dreschlera	I	I	1		1	1	1	ı	1	1	1	_
Botrytis			1		Ι	1	-	1	1	ı	1	_
Chaetomium	I	-	1	-		1	Ι	1	1	1	1	-
Cladosporium	I	1	1	1	-	1	1	13	100	1	I	-
Curvularia	I	1	T	-	I	1	1		1	I	1	_
Epicoccum	ļ	_	1	1		1	Ī		1	1	13	$\overline{}$
Fusarium	I	1	1		-	1	1	1			ı	-
Ganoderma	I		1	1		I	1		1	1	1	-
Memnoniella	1		I	I	-	1		1	1	I	1	-
Nigrospora	1		1	1	_	1	1	ı		I	1	_
Oidium/Peronospora	1	1	I	1	I	1	1	Ī			ı	_
Pithomyces	ı	1	ī	ı	I	1	I	_	1	1	Ι	_
Rust	1	1	1	ı	-	1	1	_	1	1	13	_
Smut/Myxomyces/Periconia	J		I	2	27	67	1	Ī	1	1	13	_
Stachybotrys	1	1	1	1	ı	I		1	1	1	Ι	_
Torula	1	Ι	I	I	1	1	1	Ţ	1	l	1	_
Ulocladium	1	I	1	I	1	1	1	1	1		1	
Unidentified Spores		ı	1	I	Ī	I	Ĺ	1	1	1	1	_
Total Spores	٠	13		ယ	40		1	13		4	53	
Hyphal Fragments	I	1		1	I		Ι	-		1		
Pollen	1	1		I	-		1	-		[1	- 1
Debris Rating		ω			3			3			3	
Detection Limit		13	L		13	L		13	L		13	

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Built Environment Testing

Project: Boyertown SD-JR HS East

Batch: 481916

Analysis Date: 1/15/2024 Report Date: 1/15/2024

Sampled: 12/21/2023 Received: 1/15/2024

AEML

AEML

Burofins EPK Built Environment Testing, LLC - AEML

601 E. Atlantic Blvd. Pompano Beach, FL 33060

Sample ID: JRE 9 JRE 10 JRE 9 JRE 10 JRE	AEML Test: A001 Spore Trap Analysis	Ph	Phone: (954) 333-8149	149	Email: customerservice@aemlinc.com	service@aemlinc	.com
Client Sampled (L): JRE 9 JRE 10 Volume Sampled (L): Impacilon Side Impacilon Side Percent of Trace Analyzed: Impacilon Side Impacilon Side Pypes Raw Count Count/m³ % Raw Count Count/m³ pipes — — — — — pipes — — — — — — pipes — — — — — — — pipes — <th>Sample ID:</th> <th>48</th> <th>1916-09</th> <th></th> <th>48.</th> <th>1916-10</th> <th></th>	Sample ID:	48	1916-09		48.	1916-10	
Volume Sampled (I.): TS TS Medila: Impaction Silve Impaction Silve Impaction Silve Impaction Silve Piypes Raw Count Count/m³ % Raw Count Count/m³ % Raw Count Count/m³ pignes — </th <th>Client Sample ID:</th> <th></th> <th>JRE 9</th> <th></th> <th>ال</th> <th>RE 10</th> <th></th>	Client Sample ID:		JRE 9		ال	RE 10	
Media: Impaction Slide Impaction Slide <th>Volume Sampled (L):</th> <th></th> <th>75</th> <th></th> <th></th> <th>75</th> <th></th>	Volume Sampled (L):		75			75	
Percent of Trace Analyzed: 100% at 600x Magnification 100% at count magnification 100% at count magnification 100% at count magnification 100% at count magnification 100% at count magnification 100% at count magnification Incomposition	Media:	Impa	ction Slide		lmpac	tion Slide	
eTypes Raw Count Count/m³ % Raw Count (count/m³ % Raw Count (count/m³ Count/m³ % Raw Count (count/m³ Count/m³ % Raw Count (count/m³ Count/m³ Au Count/m³ Au Count/m³ Au Count/m³ Au Count/m³ Au Count/m³ Au Au <th>Percent of Trace Analyzed:</th> <th>100% at 60</th> <th>0X Magnification</th> <th></th> <th>100% at 600</th> <th>0X Magnification</th> <th></th>	Percent of Trace Analyzed:	100% at 60	0X Magnification		100% at 600	0X Magnification	
lairim — <th>Spore Types</th> <th>Raw Count</th> <th>Count/m³</th> <th>%</th> <th>Raw Count</th> <th>Count/m³</th> <th>%</th>	Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%
nium —	Alternaria		1	1		1	1
spores — — — — — gillus/Penicillium-Like —	Arthrinium]	1	I	I	1	1
gillus/Penicillium-Like — — — — 40 isspores — — — — — 80 sis — — — — — — — sporium —	Ascospores	ı	I	1	1	J	I
iospores iospores iospores iospores iomium Aspergillus/Penicillium-Like	1	ı	1	3	40	15	
aris/Dreschlera —	Basidiospores	1	1	T	6	80	30
isis	Bipolaris/Dreschlera	1	1	1	1	J	1
Iomium — <td>Botrytis</td> <td>_</td> <td>I</td> <td>1</td> <td></td> <td>1</td> <td>1</td>	Botrytis	_	I	1		1	1
sporium 1 13 50 11 147 Ilaria —	Chaetomium	1	1	l	I	1	1
Ilaria — — — — — — — ccum — — — — — — — ium — — — — — — — derma — — — — — — — pora — — — — — — — pora — — — — — — — m/Peronospora — — — — — — — — — m/Peronospora — — — — — — — — — — — m/Peronospora — — — — — — — — — — — — — — <td>Cladosporium</td> <td>٦</td> <td>13</td> <td>50</td> <td>11</td> <td>147</td> <td>55</td>	Cladosporium	٦	13	50	11	147	55
ccum —	Curvularia	-	I	1	I	Т	1
ium — — — — — — derma — — — — — — pora — — — — — — pora — — — — — — m/Peronospora — — — — — — myces — — — — — — Myxomyces/Periconia 1 13 50 — — Myxomyces/Periconia — — — — — — Myxomyces/Periconia — — — — — — Myxomyces/Periconia — — — — — — mybotrys — — — — — — — difum — — — — — — — difum — — — — — — — Spores — — — — — — — I Fragments — — — — — — I Fragments — —	Epicoccum		1	I	I	1	1
derma — <td>usarium</td> <td>_</td> <td>-</td> <td>1</td> <td>1</td> <td>Ι</td> <td>1</td>	usarium	_	-	1	1	Ι	1
noniella —<	Sanoderma	1	1	1	ı	1	1
spora — <td>Memnoniella</td> <td>1</td> <td>1</td> <td>I</td> <td>1</td> <td>I</td> <td>1</td>	Memnoniella	1	1	I	1	I	1
n/Peronospora — — — — — myces — — — — — Myxomyces/Periconia 1 13 50 — — Myxomyces/Periconia — — — — — ubotrys — — — — — ubotry — — — — — ubotry </td <td>Nigrospora</td> <td>I</td> <td>Ι</td> <td>1</td> <td>1</td> <td>ı</td> <td>1</td>	Nigrospora	I	Ι	1	1	ı	1
myces — <td>Didium/Peronospora</td> <td>I</td> <td>ĺ</td> <td>1</td> <td>I</td> <td>1</td> <td>1</td>	Didium/Peronospora	I	ĺ	1	I	1	1
Myxomyces/Periconia 1 13 50 — — ybotrys — — — — — dium — — — — — strified Spores — — — — — Spores 2 27 20 — Il Fragments — — — — — Rating 3 3 13 13	⁵ ithomyces	-	_	1	-	1	1
Myxomyces/Periconia 1 13 50 — — ybotrys — — — — — ybotrys — — — — — dium — — — — — mtified Spores — — — — — Spores 2 27 20 — Il Fragments — — — — — Rating 3 3 3 iion Limit 13 13 13	Rust	I	_	1	I	1	
ybotrys — — — — — idium — — — — — htiffed Spores — — — — — Spores 2 27 20 — Il Fragments — — — — — Rating 3 3 iion Limit 13 13	Smut/Myxomyces/Periconia	1	13	50	Ι	Ι	1
Part Part	Stachybotrys			1	1	1	
dium —	Forula Forula	-	I	1	1	I	I
Intified Spores —	Jlocladium		_	1	1	I	1
Spores 2 27 20 Il Fragments — — — Rating 3 3 3 Ion Limit 13 13	Jnidentified Spores		_	1	ı	1	1
Fragments	otal Spores	2	27		20	267	
- - - - - -	Hyphal Fragments				I	1	
3 13	ollen	_			1	1	
13	Debris Rating		3			3	
	Detection Limit		13			13	

John Minty Joshua Krinsky Laboratory Technical Manager



1937 Station Avenue Center Valley,PA 18034 (610) 653-7216 EnviraHealth Corporation Dr. Barb Plohocki

AEML Test: A001 Spore Trap Analysis



Built Environment Testing

Eurofins EPK Built Environment Testing, LLC - AEML 601 E. Atlantic Blvd. Pompano Beach, FL 33060

Phone: (954) 333-8149 Email: customerservice@aemlinc.com

Batch: 481925

Project: Boyertown SD-North Hamont/Frederick

Sampled: 12/21/2023 Received: 1/15/2024

Analysis Date: 1/15/2024

Report Date: 1/15/2024 481925-04

			No.								
Sample ID:	48	481925-01		48	481925-02		48	481925-03		481	481925-04
Client Sample ID:		HAN 1			HAN 2		_	HAN 3		Н	HAN 4
Volume Sampled (L):		75			75			75			75
Media:	lmpa	Impaction Slide		lmpa	Impaction Slide		Impad	tion Slide		lmpac	Impaction Slide
Percent of Trace Analyzed:	100% at 60	100% at 600X Magnification		100% at 60	100% at 600X Magnification		100% at 600	100% at 600X Magnification	Ш	100% at 600	100% at 600X Magnification
Spore Types	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³	%	Raw Count	Count/m³
Alternaria	1	1	T			ī	1		1		-
Arthrinium		1	П	ı	1	I	I	1	1	1	1
Ascospores	1	13	<u>-1</u>	1	I	1	2	27	7	1	1
Aspergillus/Penicillium-Like	2	27	22	1	13	50	18	240	62 23	5	67
Basidiospores	2	27	22	7	13	50	3		10	1	13
Bipolaris/Dreschlera	1		1	1	1	1	I	1	1	1	I
Botrytis	J	I	1	1		T	1	1	1		1
Chaetomium	Ι	1	1	1	1	I	1		1	ı	1
Cladosporium	4	53	44		1	I	5	67	17	ı	1
Curvularia	—)	I	1	1	ı	1	1	I	1]	l
Epicoccum	l	1		1	1	1	1	13	ω	_	13
Fusarium	I	1	T	1	1	1		1	1	I	1
Ganoderma		1	1	I	[1	Ι	I	1	I	1
Memnoniella	Ι	1	1		-	1	I	Ĭ	1	I	I
Nigrospora		!	1	_	1	1	I	1	⊥	1	1
Oidium/Peronospora	-	-	1	-	1	1	Ι	I		J	ı
Pithomyces	I	_	1	1	Ī	1	I	I	1	ļ	1
Rust	-	1	1	-	I	I	1	J	1	1	
Smut/Myxomyces/Periconia	1		1	1	l	1	Ι	Ī		I	ı
Stachybotrys	1		Π	1	I	1	-	Ī	1	1	1
Torula			1	1	I	1	1	-	1	1	ı
Ulocladium	1		1	ı	1	1	I	1	1	1	1
Unidentified Spores	1		1	J	_	1	1		1	1	I
Total Spores	9	120		2	27		29	387		7	93
Hyphal Fragments	ı	1		Ī			1	13		Ι	1
Pollen	1	1		ļ			1	-		1	
Debris Rating		ω			3			3			ω
Detection Limit		13			13			13	L		13

Joshua Krinsky Laboratory Technical Manager John Maily



eurofins :

Built Environment Testing

Project: Boyertown SD-North Hamont/Frederick

Batch: 481925

Analysis Date: 1/15/2024 Report Date: 1/15/2024

Sampled: 12/21/2023 Received: 1/15/2024

Eurofins EPK Built Environment Testing, LLC - AEML 601 E. Atlantic Blvd. Pompano Beach, FL 33060
Phone: (954) 333-8149 Email: customerservice@aemlinc.com

AEML Test: A001 Spore Trap Analysis

Sample ID:	48	481925-05	
Client Sample ID:	_	HAN 5	
Volume Sampled (L):		75	
Media:	Impac	Impaction Slide	
Percent of Trace Analyzed:	100% at 600	100% at 600X Magnification	
Spore Types	Raw Count	Count/m³	%
Alternaria	I	1	1

eanipio ib.		10000	L
Client Sample ID:	_	HAN 5	
Volume Sampled (L):		75	
	Impa	Impaction Slide	
Percent of Trace Analyzed:	100% at 60	100% at 600X Magnification	L
Spore Types	Raw Count	Count/m³	%
Alternaria		1	1
Arthrinium	-	1	T
Ascospores	1	1	I
Aspergillus/Penicillium-Like	7	93	21
Basidiospores	15	200	44
Bipolaris/Dreschlera	I	1	1
Botrytis	1	_	I
Chaetomium	1	_	I
Cladosporium	11	147	32
Curvularia	I	I	1
Epicoccum	1	13	ω
Fusarium	[_	I
Ganoderma	1	_	1
Memnoniella	-		1
Nigrospora	I	Ι	I
Oidium/Peronospora	I	-	1
Pithomyces	I	_	1
Rust	I	1	Ι
Smut/Myxomyces/Periconia	I	_	ſ
Stachybotrys	_	_	1
Torula	I	_	1
Ulocladium	1	_	I
Unidentified Spores	1		1
Total Spores	34	453	
Hyphal Fragments	I		
Pollen	Ī	_	
Debris Rating		3	
Detection Limit		13	
			C Tours Shine

Joshua Krinsky Laboratory Technical Manager John Mindy





Interpreting Laboratory Results

The following can be used to better understand the laboratory results:

Viable Air Samples:

Low $< 100 \, \text{CFU/m}^3$

Low Moderate $100 - 250 \text{ CFU/m}^3$ Moderate $250 - 1000 \text{ CFU/m}^3$

High $> 1000 \text{ CFU/m}^3$

TNTC Too Numerous To Count

Viable Topical Samples:

Low < 5 CFU/square inch

Low Moderate = 6-25 CFU/square inch

Moderate = 26-100 CFU/square inch

High > 100 CFU/square inch

TNTC Too Numerous To Count

Non-Viable Air Samples:

Low ≤ 2000 Total Fungal Count/m³

Low Moderate 2000-5000 Total Fungal Count/m³
Moderate 5001-10,000 Total Fungal Count/m³

High > 10,000 Total Fungal Count/m³

TNTC Too Numerous To Count

Non-Viable Topical Samples:

Low 1+

Moderate 2+ or 3+

High 4+ or 5+

There are currently no standards or guidelines regarding results of fungal samples. There are no levels, which are typical or permissible. There are no recommended exposure limits, no permissible exposure limits, no threshold limit values and no short term exposure limits.

The above guidelines are based on historical analysis and experience and should not be used for health evaluation purposes.

Many fungi (e.g. species of Aspergillus sp, Penicillium sp, Fusarium sp, Trichoderma sp, and Memnoniella sp) in addition to Stachybotrys can produce potent mycotoxins. Mycotoxins are fungal metabolites that have been identified as toxic agents. Even low levels of these species should be remediated. For example, the original New York City Department of Health Bureau of Environmental & Occupational Disease Epidemiology Guidelines on Assessment and Remediation of Fungi in Indoor Environments recommended remediation if 1 CFU/m³ of Stachybotrys is found in the indoor air. If 1000 CFU/m³ of Stachybotrys is found in the indoor air, the guidelines recommended immediate evacuation.





Based on the visual site inspections, the test areas were clean, dry and very well-maintained. The test results are indicative of good Indoor Air Quality (IAQ) throughout each building. The Facilities Staff may wish implement the following procedures to help maintain good air quality and further enhance occupant comfort.

Building Maintenance

- 1. The Facilities Staff should immediately replace any water-stained, porous materials they identify throughout each building. It is difficult to thoroughly clean water-stained, porous building materials such as ceiling tiles and carpeting. These materials provide a good site for microbial growth. The key to proper building maintenance is not to allow a condition (temperature, relative humidity, water leakage, etc.) to reach a point that is favorable for microbial growth and amplification.
- 2. The following carpeting maintenance should be implemented throughout each building:
 - Clean spills promptly.
 - Vacuum regularly, concentrating on areas of high traffic.
 - Use a well-maintained vacuum cleaner with a rotating brush, beater/brush bar, or strong suction for the best overall cleaning.
 - Use a vacuum cleaner bag with a HEPA filter to remove fine particulates.
 - Change or empty the bag regularly and replace belt when worn.
 - Use walk-off mats at entrances to absorb soil and moisture.
 - Have the carpets professionally cleaned every 12-18 months, and ventilate the area with fresh air during and for 24 hours after cleaning.

Mold Prevention Tips

- Fix leaky plumbing and leaks in the building envelope as soon as possible.
- Watch for condensation and wet spots. Fix source(s) of moisture problem(s) as soon as possible.
- Prevent moisture due to condensation by increasing surface temperature or reducing the moisture level in air (humidity). To increase surface temperature, insulate or increase air circulation. To reduce the moisture level in air, repair leaks, increase ventilation (if outside air is cold and dry), or dehumidify (if outdoor air is warm and humid).
- Keep HVAC drip pans clean, flowing properly and unobstructed.
- Vent moisture-generating appliances.
- Maintain low relative humidity (RH), below 60% RH, ideally 40 55%, if possible.
- Perform regular building HVAC inspections and maintenance as scheduled.
- Clean and dry all wet or damp spots within 48 hours.
- Do not let foundations stay wet. Provide drainage and slope the ground away from the foundation.

General

1. The Facilities Staff should continue to implement an aggressive AHU maintenance program, which includes periodic tasks such as coil cleaning, visual ventilation system evaluations and mechanical adjustments. All AHU-related maintenance should be documented in a logbook and kept for future reference. A maintenance logbook, which documents all AHU-related activities, will be a valuable asset when addressing future IAQ concerns and/or inquiries.

Indoor Air Quality Testing Limitations

The visual observations and sampling results documented in this report were representative of the on-site conditions at the time of these investigations. IAQ is affected by occupancy, change in building use, maintenance practices, indoor and outdoor temperature and relative humidity, water infiltration, and many other factors. EnviraHealth Corporation does not guarantee, warranty or certify that the conditions represented in these investigations will not change significantly over time.

This report is not intended to provide medical or healthcare advice. All allergy or health related questions, including concerns relating to potential mold exposure should be directed to a qualified physician.

I can be reached at (610) 653-7216 or envirahealth@gmail.com.

Regards,

Dr. Barbra A. Plohocki Project Manager