



HILLMANN
CONSULTING

May 2, 2019

Ms. Rebecca Lopez
East Stroudsburg Area School District
50 Vine Street
East Stroudsburg, Pennsylvania 18301

RE: Microbial Investigation – Air Quality Sampling
East Stroudsburg Senior High School South
279 North Courtland Street
East Stroudsburg, Pennsylvania 18301
Hillmann Project Number: PH-0755

Dear Ms. Lopez:

Thank you for retaining Hillmann Consulting, LLC (Hillmann) to address your environmental concerns. On April 17, 2019, Mr. John Murphy, CMI, conducted a Microbial Investigation and Air Quality Sampling of the Old Gym, Cafe, and Classrooms 98, 93, 111, 108, 116, 227, 21, 15, 26, 103, 310, 303, and 201 located within the East Stroudsburg Senior High School South. This investigation is part of a biannual sampling plan in order to document air quality within East Stroudsburg Senior High School South. The parameters for the investigation included a visual inspection and the collection of one airborne fungal spore sample within the subject spaces listed above.

Hillmann selected the sampling parameters based on consultations with the client (East Stroudsburg Area School District), the laboratory performing the analysis, and our in-house experts. The inspection was a general screening to randomly assess indoor airborne spore concentrations within the subject spaces.

Airborne fungal spores were collected by drawing air through an Air-O-Cell® cassette utilizing a Zefon BioPump. Samples were collected for a time period of five (5) minutes at a calibrated flow rate of 15 L/min yielding a total sample volume of 75 liters. These cassettes were then sent to an AIHA EMLAP accredited laboratory where fungal spores were identified by genera and concentration. Fungal spores are present in normal indoor settings. If found in excess amounts, these spores can produce allergy-like symptoms as well as asthmatic reactions in those who are sensitive to them. If the indoor samples are found to have a greater diversity of genera, and/or higher amounts of fungal spores than outdoor samples, it can be presumed that the subject space may be facilitating microbial growth.

OBSERVATIONS AND FINDINGS

Hillmann was met on site by facility personnel, who escorted Hillmann through the subject spaces to conduct airborne microbial quality assurance sampling.

The East Stroudsburg Senior High School South is primarily composed of a combination of masonry block units and wallboard walls, a combination of tile and carpet flooring, and drop ceiling tiles. Hillmann did not observe any water staining or visible microbial growth on accessible surfaces.

Average temperature and relative humidity readings were 71.1°F and 33.2% respectively.

Fifteen (15) airborne fungal spore samples were collected from the Old Gym, Cafe, and Classrooms 98, 93, 111, 108, 116, 227, 21, 15, 26, 103, 310, 303, and 201 within the East Stroudsburg Senior High School South. Laboratory analysis showed total indoor fungal spore concentrations and individual fungal genera were lower and/or comparable to the outdoor reference levels.

In the absence of health-based federal standards, Hillmann has adopted industry standard practice and recommended practices by the ACGIH to compare indoor/outdoor fungal concentrations. Samples are deemed “comparable” or “acceptable” when the following criteria are met:

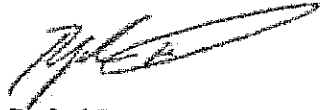
- Overall indoor/outdoor fungal genera identified are similar on the day of sampling. Raw spore counts less than ten (10) do not represent a statistically significant number. Therefore, the presence of one (1) spore of certain indicator genera (i.e. *Stachybotrys*) will not be grounds for failure.
- Common outdoor genera identified indoors are similar to or less than outdoor concentrations.
- Common water intrusion indicator genera including but not limited to: *Penicillium/Aspergillus group*, *Chaetomium*, etc. are similar to outdoor concentrations and/or within one order of magnitude (10 times difference). Exceptions will be made depending on conditions, fungal genera identified, and outlying factors.
- Hillmann also recommends that common water intrusion indicator genera be below a level of 1,000 CFU/m³ of air. Exceptions will be made depending on conditions, fungal genera identified, and outlying factors.

CONCLUSIONS & RECOMMENDATIONS

Based upon the findings and laboratory results, the subject spaces do not appear to be facilitating microbial growth at this time.

If you have any questions, or need additional information, please feel free to contact our office at (856) 581-9055.

Regards,
Hillmann Consulting, LLC



Rafael L. Torres, III
Director of Operations
Philadelphia Area Regional Office



John Murphy
Industrial Hygienist, CMI

File: PH-0755
Enclosed: Laboratory Results

Date of Sampling: 04/17/2019 Job #: PH-0755
 Date of Sample Receipt: 04/19/2019 Order#: 0419376
 Client: EAST STROUDSBURG AREA SCHOOL DISTRICT #Received: 17
 50 VINE STREET
 EAST STROUDSBURG, PA 18301




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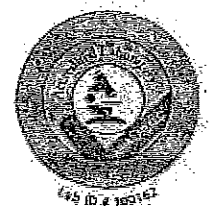
Attn:
 Collection Site: EAST STROUDSBURG/ PA/ SOUTH HIGH SCHOOL
 Field Technician: John Murphy
 Date of Analysis: 04/19/2019
 Date of Issue: 04/22/2019
 Sampling Method: Air-O-Cell

SPORE TRAP REPORT: Method (Fungal Spore SOP)

Location:	Old Gym			Room 98			Room 93		
Lab ID#:	F48128			F48129			F48130		
Volume (Liters):	75			75			75		
Background Debris: *	Light			Light			Light		
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Basidiospores	1	61	100%	1	61	25%	1	61	100%
Cladosporium				1	61	25%			
Penicillium/Aspergillus				2	120	50%			
Total Spores/m3	61			240			61		
Analytical Sensitivity ***	61			61			61		

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 Background debris are expressed qualitatively; heavy > medium > light.
 ** Percentages may not equal 100% due to rounding.
 *** Analytical sensitivity is based on 1000X magnification and 15% of trace analyzed.
 Samples arrived in acceptable condition unless otherwise noted.
 Uncertainty of measurement available upon request.
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Signature: 
 Angelo Tango Laboratory Manager #Analyzed: 17



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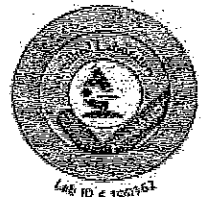
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 Date of Analysis: 04/19/2019
 Date of Issue: 04/22/2019
 Sampling Method: Air-O-Cell

SCOPE TRAP REPORT: Method (Fungal Spore SOD)

Location:	Room 111			Room 108			Room 116		
Lab ID#:	F48131			F48132			F48133		
Volume (Liters):	75			75			75		
Background Debris: *	Light			Light			Light		
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Basidiospores	1	61	100%	2	120	100%	2	120	66%
Cladosporium							1	61	34%
Total Spores/m3	61			120			180		
Analytical Sensitivity ***	61			61			61		

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Field Technician: John Murphy
 Date of Analysis: 04/19/2019
 Date of Issue: 04/22/2019
 Sampling Method: Air-O-Cell

SPORE TRAP REPORT: Method (Fungal Spore SOD)

Location:	Room 227			Room 21			Room 15		
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Lab ID#:	F48134			F48135			F48136		
Volume (Liters):	75			75			75		
Background Debris: *	Light			Light			Light		
Ascospores	1	61	25%						
Basidiospores	3	180	75%	5	310	56%	3	180	33%
Cladosporium							2	120	22%
Myxo./Periconia/Rusts/Smuts				1	61	11%	1	61	11%
Penicillium/Aspergillus				3	180	33%	3	180	33%
Total Spores/m3	240			550			540		
Analytical Sensitivity ***	61			61			61		

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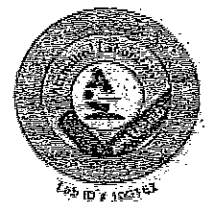
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 Date of Analysis: 04/19/2019
 Date of Issue: 04/22/2019
 Sampling Method: Air-O-Cell

SPODE TRAP REPORT: Method (Fungal Spore SOP)

Location:	Room 26			Music Room 103			Cafe		
Lab ID#:	F48137			F48138			F48139		
Volume (Liters):	75			75			75		
Background Debris: *	Light			Light			Light		
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Ascospores							1	61	9%
Basidiospores	4	240	80%				8	490	73%
Cladosporium				2	120	40%			
Hyphal Fragments				1	61	20%			
Penicillium/Aspergillus	1	61	20%	2	120	40%	2	120	18%
Total Spores/m3	300			300			670		
Analytical Sensitivity ***	61			61			61		

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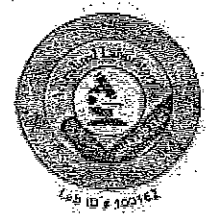
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 Sampling Method: Air-O-Cell

SPODE TRAP REPORT: Method (Fungal Spore SOP)

Location:	Room 310			Room 303			Room 201		
Lab ID#:	F48140			F48141			F48142		
Volume (Liters):	75			75			75		
Background Debris: *	Light			Light			Light		
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Basidiospores	2	120	66%	4	240	57%	2	120	66%
Myxo./Periconia/Rusts/Smuts				2	120	29%	1	61	34%
Penicillium/Aspergillus	1	61	34%	1	61	14%			
Total Spores/m3	180			420			180		
Analytical Sensitivity ***	61			61			61		

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SPORE TRAP REPORT: Method (Fungal Spore SOP)

Location:	Outside			Outside					
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Lab ID#:	F48143			F48144					
Volume (Liters):	75			75					
Background Debris: *	Light			Light					
Ascospores				1	61	11%			
Basidiospores	8	490	54%	6	370	67%			
Cladosporium	1	61	7%						
Coprinus	1	61	7%						
Hyphal Fragments	2	120	13%						
Penicillium/Aspergillus	3	180	20%	2	120	22%			
Total Spores/m3	910			550					
Analytical Sensitivity ***	61			61					

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