



August 12, 2019

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

RE: Microbial Investigation – Air Quality Sampling
Smithfield Elementary School
245 River Road
East Stroudsburg, Pennsylvania 18301
Hillmann Project Number: PH-0867

Dear Ms. Lopez:

Thank you for retaining Hillmann Consulting, LLC (Hillmann) to address your environmental concerns. On July 30, 2019, Ms. Alyson Albertson conducted a Microbial Investigation and Air Quality Sampling of the Faculty Room, Library, and Rooms 1, 100, 113, 123, and 208 located within the Smithfield Elementary School. This investigation is part of a biannual sampling plan in order to document air quality within the Smithfield Elementary School. 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 Smithfield Elementary School is primarily composed of a combination of masonry block units and wallboard walls, carpet and vinyl tile 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 76.8°F and 51.0% respectively.

Seven (7) airborne fungal spore samples were collected from the Faculty Room, Library, and Rooms 1, 100, 113, 123, and 208 within Smithfield Elementary School. 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.

Hillmann has no further recommendations 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



Alyson Albertson, LEED Green Associate
Environmental Specialist

File: PH-0867
Enclosed: Laboratory Results

Date of Sampling: 07/30/2019 **Job #:** PH-0867
Date of Sample Receipt: 07/31/2019 **Order#:** 0819020
Client: EAST STROUDSBURG AREA SCHOOL DISTRICT
 50 VINE STREET
 EAST STROUDSBURG, PA 18301 **#Received:** 9



HILLMANN CONSULTING, L.L.C.
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 PHONE: (908) 688-7800 FAX: (908) 686-2636
 www.hillmannconsulting.com

Attn:
Collection Site: SMITHFIELD ELEMENTARY/ 245 RIVER ROAD

Field Technician: Alyson Albertson
Date of Analysis: 08/01/2019
Date of Issue: 08/02/2019
Sampling Method: Air-O-Cell

SPODE TRAP REPORT: Method (Fungal Spore SOD)

Location:	Faculty Room			Library			Room 1/ Main Office		
Lab ID#:	F49127			F49128			F49129		
Volume (Liters):	75			75			75		
Background Debris: *	Light			Light			Light		
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Basidiospores				2	130	100%	1	64	50%
Cladosporium							1	64	50%
Total Spores/m3	No Spores Detected			130			130		
Analytical Sensitivity ***	64			64			64		

* Background debris may affect analysis of sample causing results to be reported lower than actually present in the air.
 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.
 This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by Hillmann Consulting, LLC.

Signature: 

 Dylan Jaycox, Laboratory Director #Analyzed: 9



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Attn:

Collection Site: SMITHFIELD ELEMENTARY/ 245 RIVER ROAD

Field Technician: Alyson Albertson
Date of Analysis: 08/01/2019
Date of Issue: 08/02/2019
Sampling Method: Air-O-Cell

SPODE TRAP REPORT: Method (Fungal Spore SOD)

Location:	Room 123			Room 113			Room 100		
Lab ID#:	F49130			F49131			F49132		
Volume (Liters):	75			75			75		
Background Debris: *	Light			Light			Light		
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Basidiospores	1	64	50%						
Cladosporium				1	64	50%			
Ganoderma	1	64	50%						
Penicillium/Aspergillus				1	64	50%			
Total Spores/m3	130			130			No Spores Detected		
Analytical Sensitivity ***	64			64			64		

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Attn:
Collection Site: SMITHFIELD ELEMENTARY/ 245 RIVER ROAD
Field Technician: Alyson Albertson
Date of Analysis: 08/01/2019
Date of Issue: 08/02/2019
Sampling Method: Air-O-Cell

SPODE TRAP REPORT: Method (Fungal Spore SOD)

Location:	Room 208			Outside			Outside		
Lab ID#:	F49133			F49134			F49135		
Volume (Liters):	75			75			75		
Background Debris: *	Light			Light			Light		
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Alternaria				4	480	1%	1	64	0%
Ascospores				4	480	1%	8	510	2%
Basidiospores				47	5,600	9%	50	3,200	10%
Cladosporium	1	64	100%	407	48,800	78%	375	24,000	74%
Coprinus				2	240	0%	4	260	1%
Curvularia				6	720	1%	7	450	1%
Epicoccum				1	120	0%	1	64	0%
Ganoderma				1	120	0%	2	130	0%
Hyphal Fragments				3	360	1%	1	64	0%
Myxo./Periconia/Rusts/Smuts				1	120	0%	4	260	1%
Penicillium/Aspergillus				10	1,200	2%	6	380	1%
Pithomyces				33	4,000	6%	45	2,900	9%
Spegazzina							3	190	1%
Torula				3	360	1%			
Xylariaceae				1	120	0%	1	64	0%
Total Spores/m3	64			62,700			32,500		
Analytical Sensitivity ***	64			120			64		

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Fungal Spore Chain-of-Custody and Analysis Request Form

Date of Sampling: 7/30/19

Job #: PH-0867
Order #: 0819020

Date of Sample Receipt: _____

Client: East Stroudsburg Area School District

Location: Smithfield Elementary - 245 River Road

Field Hygienist: Alyson Albertson



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Sample ID Lab ID	Sample Type (Air, Bulk, Tape)	Air-Flow Time		Air-Flow Rate		Air Volume(L) or Area (in) ²	Sample Location Description	Turnaround Time						Comments		
		Start	End	Start	End			3-6hr	8-12hr	24hr	48hr	72hr	5-7 day			
ESA-SE-01 <u>F49127</u>	Air	1432	1437	15	15	75	Faculty Room						X			
ESA-SE-02	↓	1442	1447	↓	↓	↓	Library						X			
ESA-SE-03 <u>28</u>		1431	1436				Room 1 - Main office					X				
ESA-SE-04 <u>29</u>		1440	1445				Room 123					X				
ESA-SE-05 <u>30</u>		1449	1454				Room 113					X				
ESA-SE-06 <u>31</u>		1452	1457				Room 100					X				
ESA-SE-07 <u>32</u>		1500	1505				Room 208					X				
ESA-SE-08 <u>33</u>		1508	1513				Outside					X				
ESA-SE-09 <u>34</u>		1509	1514				outside					X				
ESA-SE-09 <u>35</u>																

Sampled By:	Transported By:	Received By:	Prepared By:	Analyzed By:
Name: <u>Alyson Albertson</u>	<u>FedEx</u>	<u>Cassandra Lacovora</u>	<u>[Signature]</u>	<u>[Signature]</u>
Signature: <u>[Signature]</u>				
Date: <u>7/30/19</u>		<u>7/31/19 09:00</u>		<u>8/1/19</u>