



August 12, 2019

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

**RE: Microbial Investigation – Air Quality Sampling**  
JM Hill School  
151 East Broad Street  
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 Gym and Classrooms 105, 112, 117, 201, 211, and 212 located within the JM Hill School. This investigation is part of a biannual sampling plan in order to document air quality within the JM Hill 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 JM Hill School is primarily composed of a combination of masonry block units and wallboard walls, hardwood 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 70.8°F and 42.5% respectively.

Seven (7) airborne fungal spore samples were collected from the Gym and Classrooms 105, 112, 117, 201, 211, and 212 within the JM Hill 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/m<sup>3</sup> 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#:** 0819010  
**Client:** EAST STROUDSBURG AREA SCHOOL DISTRICT  
 50 VINE STREET  
 EAST STROUDSBURG, PA 18301      **#Received:** 9



HILLMANN CONSULTING, L.L.C.  
 ENVIRONMENTAL CONSULTING, LAB SERVICES  
 1600 ROUTE 22 EAST  
 P.O. BOX 1597  
 UNION, NEW JERSEY 07083-1597  
 PHONE: (908) 688-7800      FAX: (908) 686-2636  
 www.hillmannconsulting.com

**Attn:**  
**Collection Site:** JM HILL/ 151 EAST BROAD STREET  
  
**Field Technician:** Alyson Albertson  
**Date of Analysis:** 08/01/2019  
**Date of Issue:** 08/01/2019  
**Sampling Method:** Air-O-Cell

**SPODE TRAP REPORT: Method (Fungal Spore SOD)**

Location:	Gym			Room 105			Room 117		
<b>Lab ID#:</b>	F49118			F49119			F49120		
<b>Volume (Liters):</b>	75			75			75		
<b>Background Debris: *</b>	Light			Light			Light		
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Penicillium/Aspergillus				1	64	100%			
<b>Total Spores/m3</b>	<b>No Spores Detected</b>			<b>64</b>			<b>No Spores Detected</b>		
<b>Analytical Sensitivity ***</b>	<b>64</b>			<b>64</b>			<b>64</b>		

\* 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:**   
 Mina Beshay Senior TEM Analyst      #Analyzed: 9



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Attn:

**Collection Site:** JM HILL/ 151 EAST BROAD STREET

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

**SPODE TRAP REPORT: Method (Fungal Spore SOD)**

Location:	Room 112			Room 211			Room 201		
Lab ID#:	F49121			F49122			F49123		
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	67%	2	130	50%	2	130	100%
Cladosporium				1	64	25%			
Penicillium/Aspergillus	1	64	33%						
Pithomyces				1	64	25%			
<b>Total Spores/m3</b>	<b>190</b>			<b>260</b>			<b>130</b>		
<b>Analytical Sensitivity ***</b>	<b>64</b>			<b>64</b>			<b>64</b>		

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 Mina Beshay Senior TEM Analyst #Analyzed: 9



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Attn:

**Collection Site:** JM HILL/ 151 EAST BROAD STREET

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

**SPODE TRAP REPORT: Method (Fungal Spore SOD)**

Location:	Room 212			Outside			Outside		
Lab ID#:	F49124			F49125			F49126		
Volume (Liters):	75			75			75		
Background Debris: *	Light			Light			Light		
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Alternaria				1	64	1%			
Ascospores	1	64	25%	3	190	3%	6	380	3%
Basidiospores	3	190	75%	23	1,500	24%	88	5,600	41%
Cladosporium				40	2,600	42%	91	5,800	43%
Coprinus				2	130	2%			
Ganoderma				8	510	8%	5	320	2%
Helicomycetes				6	380	6%			
Hyphal Fragments							1	64	0%
Myxo./Periconia/Rusts/Smuts				1	64	1%	1	64	0%
Penicillium/Aspergillus				4	260	4%	12	770	6%
Polythrincium				8	510	8%	4	260	2%
Xylariaceae							4	260	2%
<b>Total Spores/m3</b>	<b>250</b>			<b>6,200</b>			<b>14,000</b>		
<b>Analytical Sensitivity ***</b>	<b>64</b>			<b>64</b>			<b>64</b>		

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Signature: \_\_\_\_\_

*Mina Beshay*

Mina Beshay Senior TEM Analyst #Analyzed: 9



# Fungal Spore Chain-of-Custody and Analysis Request Form

Date of Sampling: 7/30/19

Job #: PH-0862  
Order #: 0819010

Date of Sample Receipt: \_\_\_\_\_

Client: East Spaulding Area School District

Location: J.M. Hill - 151 East Broad Street

Field Hygienist: Alyson Albertson



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1600 ROUTE 22 EAST  
P.O. BOX 1597  
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FAX (908) 688-2441  
www.hillmanngroup.com

Sample ID Lab ID	Sample Type (Air, Bulk, Tape)	Air-Flow Time		Air-Flow Rate		Air Volume(L) or Area (in) <sup>2</sup>	Sample Location Description	Turnaround Time						Comments
		Start	End	Start	End			3-6hr	8-12hr	24hr	48hr	72hr	5-7 day	
ESA-JMH-01 <u>F49118</u>	Air	0949	0954	15	15	75	Gym						X	
ESA-JMH-02 <u>19</u>		0956	1001				Room 105						X	
ESA-JMH-03 <u>20</u>		0957	1002				Room 117						X	
ESA-JMH-04 <u>21</u>		1004	1009				Room 112						X	
ESA-JMH-05 <u>22</u>		1018	1023				Room 211						X	
ESA-JMH-06 <u>23</u>		1019	1024				Room 201						X	
ESA-JMH-07 <u>24</u>		1011	1016				Room 212						X	
ESA-JMH-08 <u>25</u>		1028	1033				outside						X	
ESA-JMH-09 <u>26</u>		1029	1034				outside						X	

Sampled By:		Transported By:		Received By:		Prepared By:		Analyzed By:	
Name: <u>Alyson Albertson</u>		Name: <u>Fed Ex</u>		Name: <u>Cassandra Lavers</u>		Name: <u>[Signature]</u>		Name: <u>[Signature]</u>	
Signature: <u>[Signature]</u>		Signature: <u>[Signature]</u>		Signature: <u>[Signature]</u>		Signature: <u>[Signature]</u>		Signature: <u>[Signature]</u>	
Date: <u>7/30/19</u>		Date: _____		Date: <u>7/31/19 @ 09:00</u>		Date: <u>8-1-19</u>		Date: _____	