

Hygenix, Inc  
49 Woodside St.  
Stamford, Connecticut 06902  
Project: **STAMFORD P.S - WESTOVER SCHOOL**  
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 10/27/2018  
Date Received: 10/29/2018  
Date Analyzed: 10/30/2018  
Date Reported: 10/30/2018  
Project ID: 18041537  
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1054 Spore Trap Analysis: SOP 3.8

Client Sample Number	26611418				26611417			
Sample Location	SCIENCE ROOM GRADE 4				BOOK RM C213			
Sample Volume (L)	75				75			
Lab Sample Number	18041537-001				18041537-002			
Spore Identification	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
ascospores	3	160	12	-	5	267	21	-
basidiospores	2	107	8	-	-	-	-	-
Cladosporium	7	373	27	-	11	587	46	-
Penicillium/Aspergillus group	12	640	46	-	8	427	33	-
Pithomyces	1	53	4	-	-	-	-	-
Smuts,Periconia,Myxomycetes	1	53	4	-	-	-	-	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m <sup>3</sup>				Analytical Sensitivity: 13 spr/m <sup>3</sup>			
Comments								
Total *See Footnotes	26	1387	~100%	-	24	1280	~100%	-

Client Sample Number	26611397				26611406			
Sample Location	ROOM C216				ROOM 133			
Sample Volume (L)	75				75			
Lab Sample Number	18041537-003				18041537-004			
Spore Identification	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
ascospores	2	107	29	-	3	160	3	-
basidiospores	-	-	-	-	1	53	1	-
Cladosporium	3	160	43	-	3	160	3	-
Penicillium/Aspergillus group	2	107	29	-	102	5440	89	-
Pithomyces	-	-	-	-	2	107	2	-
Smuts,Periconia,Myxomycetes	-	-	-	-	3	160	3	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m <sup>3</sup>				Analytical Sensitivity: 13 spr/m <sup>3</sup>			
Comments								
Total *See Footnotes	7	373	~100%	-	114	6080	~100%	-

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Client Sample Number	<b>26611407</b>				<b>26611410</b>			
Sample Location	<b>ROOM 132</b>				<b>ROOM 131</b>			
Sample Volume (L)	<b>75</b>				<b>75</b>			
Lab Sample Number	<b>18041537-005</b>				<b>18041537-006</b>			
<b>Spore Identification</b>	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
ascospores	2	107	18	-	1	53	4	-
Cladosporium	3	160	27	-	2	107	9	-
Penicillium/Aspergillus group	6	320	55	-	19	1013	83	-
Smuts,Periconia,Myxomycetes	-	-	-	-	1	53	4	-
	Debris Rating <b>3</b>				Debris Rating <b>3</b>			
Analytical Sensitivity	Analytical Sensitivity: <b>13 spr/m<sup>3</sup></b>				Analytical Sensitivity: <b>13 spr/m<sup>3</sup></b>			
Comments								
Total *See Footnotes	11	587	~100%	-	23	1227	~100%	-

Client Sample Number	<b>26611399</b>				<b>26611408</b>			
Sample Location	<b>ROOM 129</b>				<b>ROOM B127</b>			
Sample Volume (L)	<b>75</b>				<b>75</b>			
Lab Sample Number	<b>18041537-007</b>				<b>18041537-008</b>			
<b>Spore Identification</b>	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
ascospores	2	107	18	-	8	427	31	-
basidiospores	1	53	9	-	7	373	27	-
Cladosporium	4	213	36	-	2	107	8	-
Penicillium/Aspergillus group	3	160	27	-	8	427	31	-
Smuts,Periconia,Myxomycetes	1	53	9	-	1	53	4	-
	Debris Rating <b>3</b>				Debris Rating <b>3</b>			
Analytical Sensitivity	Analytical Sensitivity: <b>13 spr/m<sup>3</sup></b>				Analytical Sensitivity: <b>13 spr/m<sup>3</sup></b>			
Comments								
Total *See Footnotes	11	587	~100%	-	26	1387	~100%	-

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Client Sample Number	26611419				26611411			
Sample Location	CLOSET STORAGE				ROOM 121			
Sample Volume (L)	75				75			
Lab Sample Number	18041537-009				18041537-010			
Spore Identification	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
ascospores	2	107	6	-	3	160	33	-
Chaetomium	1	53	3	-	-	-	-	-
Cladosporium	8	427	24	-	2	107	22	-
hyphal elements	1	53	3	-	-	-	-	-
Penicillium/Aspergillus group	15	800	45	-	3	160	33	-
Smuts,Periconia,Myxomycetes	5	267	15	-	1	53	11	-
Stachybotrys	1	53	3	-	-	-	-	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m <sup>3</sup>				Analytical Sensitivity: 13 spr/m <sup>3</sup>			
Comments								
Total *See Footnotes	33	1760	~100%	-	9	480	~100%	-

Client Sample Number	26611413				26611416			
Sample Location	ROOM B119				ROOM B117			
Sample Volume (L)	75				75			
Lab Sample Number	18041537-011				18041537-012			
Spore Identification	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
ascospores	3	160	18	-	2	107	6	-
basidiospores	1	53	6	-	-	-	-	-
Cladosporium	2	107	12	-	4	213	12	-
Penicillium/Aspergillus group	8	427	47	-	24	1280	71	-
Smuts,Periconia,Myxomycetes	3	160	18	-	4	213	12	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m <sup>3</sup>				Analytical Sensitivity: 13 spr/m <sup>3</sup>			
Comments								
Total *See Footnotes	17	907	~100%	-	34	1813	~100%	-

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Client Sample Number	<b>26611422</b>				<b>26611420</b>			
Sample Location	<b>ROOM B116</b>				<b>ROOM B115</b>			
Sample Volume (L)	<b>75</b>				<b>75</b>			
Lab Sample Number	<b>18041537-013</b>				<b>18041537-014</b>			
<b>Spore Identification</b>	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
ascospores	2	107	1	-	8	427	7	-
Cladosporium	90	4800	30	-	32	1707	28	-
hyphal elements	1	53	<1	-	-	-	-	-
Penicillium/Aspergillus group	194	10347	65	-	68	3627	60	-
Pithomyces	1	53	<1	-	-	-	-	-
Smuts,Periconia,Myxomycetes	9	480	3	-	6	320	5	-
	Debris Rating <b>3</b>				Debris Rating <b>3</b>			
Analytical Sensitivity	Analytical Sensitivity: <b>13 spr/m<sup>3</sup></b>				Analytical Sensitivity: <b>13 spr/m<sup>3</sup></b>			
Comments								
Total *See Footnotes	297	15840	~100%	-	114	6080	~100%	-

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## Footnotes and Additional Report Information

### Debris Rating Table

1	Minimal (<5%) particulate present	Reported values are minimally affected by particulate load.
2	5% to 25% of the trace occluded with particulate	Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded.
3	26% to 75% of the trace occluded with particulate	Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded.
4	75% to 90% of the trace occluded with particulate	Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded.
5	Greater than 90% of the trace occluded with particulate	Quantification not possible due to large negative bias. A new sample should be collected at a shorter time interval or other measures taken to reduce particulate load.

1. Penicillium/Aspergillus group spores are characterized by their small size, round to ovoid shape, being unicellular, and usually colorless to lightly pigmented. There are numerous genera of fungi whose spore morphology is similar to that of the Penicillium/Aspergillus type. Two common examples would be Paecilomyces and Acremonium. Although the majority of spores placed in this group are Penicillium, Aspergillus, or a combination of both. Keep in mind that these are not the only two possibilities.

2. Ascospores are sexually produced fungal spores formed within an ascus. An ascus is a sac-like structure designed to discharge the ascospores into the environment, e.g. Ascobolus.

3. Basidiospores are typically blown indoors from outdoors and rarely have an indoor source. However, in certain situations a high basidiospore count indoors may be indicative of a wood decay problem or wet soil.

4. The colorless group contains colorless spores which were unidentifiable to a specific genus. Examples of this group include Acremonium, Aphanocladium, Beauveria, Chrysosporium, Engyodontium microconidia, yeast, some arthrospores, as well as many others.

5. Hyphae are the vegetative mode of fungi. Hyphal elements are fragments of individual Hyphae. They can break apart and become airborne much like spores and are potentially allergenic. A mass of hyphal elements is termed the mycelium. Hyphae in high concentration may be indicative of colonization.

6. Dash (-) in this report, under raw count column means 'not detected (ND)'; otherwise 'not applicable' (NA).

7. The positive-hole correction factor is a statistical tool which calculates a probable count from the raw count, taking into consideration that multiple particles can impact on the same hole; for this reason the sum of the calculated counts may be less than the positive hole corrected total.

8. Due to rounding totals may not equal 100%.

9. Analytical Sensitivity for each spores is different for Non-viable sample when the spores are read at different percentage. Analytical Sensitivity is calculated as  $\text{spr}/\text{m}^3$  divided by raw count.  $\text{spr}/\text{m}^3 = \text{raw counts} \times (100/\% \text{ read}) \times (1000/\text{Sample volume})$ . If Analytical Sensitivity is 13  $\text{spr}/\text{m}^3$  at 100% read, Analytical Sensitivity at 50% read would be 27  $\text{spr}/\text{m}^3$ , which is 2 times higher. Analytical Sensitivity provided on the report is based on an assumed 100% of the trace being analyzed.

10. Minimum Reporting Limits (MRL) for BULKS, DUSTS, SWABS, and WATER samples are a calculation based on the sample size and the dilution plate on which the organism was counted. Results are a compilation of counts taken from multiple dilutions and multiple medias. This means that every genus of fungi or bacteria recovered can be counted on the plate on which it is best represented.

11. If the final quantitative result is corrected for contamination based on the blank, the blank correction is stated in the sample comments section of the report.

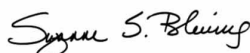
12. The results in this report are related to this project and these samples only.

13. For samples with an air volume of < 100L, the number of significant figures in the result should be considered (2) two. For samples with air volumes between 100-999L, the number of significant figures in the result should be considered (3) three. For example, a sample with a result of 55,443  $\text{spr}/\text{m}^3$  from a 75L sample using significant figures should be considered 55,000. The same result of 55,443 from a 150L sample using significant figures should be considered 55,400  $\text{spr}/\text{m}^3$ .

14. If the In/Out ratio is greater than 100 times it is indicated >100/1, rather than showing the real value.

#### Terminology Used in Direct Exam Reporting

**Conidiophores are a type of modified hyphae from which spores are born. When seen on a surface sample in moderate to numerous concentrations they may be indicative of fungal growth.**



Suzanne S. Blevins, B.S., SM (ASCP)  
Laboratory Director