

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: 10/29/2018
Date Reported: 10/30/2018
Project ID: 18041451
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1054 Spore Trap Analysis: SOP 3.8

Client Sample Number	26611694				26611447			
Sample Location	A105				OUTDOOR			
Sample Volume (L)	75				75			
Lab Sample Number	18041451-001				18041451-013			
Spore Identification	Raw Ct	spr/m ³	% Ttl	In/Out	Raw Ct	spr/m ³	% Ttl	In/Out
ascospores	4	213	29	1/3	11	587	57	-
basidiospores	1	53	7	1/1	1	53	5	-
Cladosporium	4	213	29	2/1	2	107	10	-
Epicoccum	-	-	-	-	1	53	5	-
Penicillium/Aspergillus group	5	267	36	1/1	4	213	21	-
Stachybotrys	-	-	-	-	1	13	1	-
	Debris Rating 2				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m ³				Analytical Sensitivity: 13 spr/m ³			
Comments								
Total *See Footnotes	14	747	~100%	1/1	20	1027	~100%	-

Client Sample Number	26611696				26611447			
Sample Location	A103				OUTDOOR			
Sample Volume (L)	75				75			
Lab Sample Number	18041451-002				18041451-013			
Spore Identification	Raw Ct	spr/m ³	% Ttl	In/Out	Raw Ct	spr/m ³	% Ttl	In/Out
ascospores	2	107	40	1/6	11	587	57	-
basidiospores	-	-	-	-	1	53	5	-
Cladosporium	-	-	-	-	2	107	10	-
Epicoccum	-	-	-	-	1	53	5	-
Penicillium/Aspergillus group	3	160	60	1/1	4	213	21	-
Stachybotrys	-	-	-	-	1	13	1	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m ³				Analytical Sensitivity: 13 spr/m ³			
Comments								
Total *See Footnotes	5	267	~100%	1/4	20	1027	~100%	-

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Client Sample Number	26611687				26611447			
Sample Location	A101				OUTDOOR			
Sample Volume (L)	75				75			
Lab Sample Number	18041451-003				18041451-013			
Spore Identification	Raw Ct	spr/m ³	% Ttl	In/Out	Raw Ct	spr/m ³	% Ttl	In/Out
ascospores	2	107	12	1/6	11	587	57	-
basidiospores	2	107	12	2/1	1	53	5	-
Cladosporium	-	-	-	-	2	107	10	-
Epicoccum	-	-	-	-	1	53	5	-
Penicillium/Aspergillus group	12	640	75	3/1	4	213	21	-
Stachybotrys	-	-	-	-	1	13	1	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m³				Analytical Sensitivity: 13 spr/m³			
Comments								
Total *See Footnotes	16	853	~100%	1/1	20	1027	~100%	-

Client Sample Number	26611678				26611447			
Sample Location	GYM				OUTDOOR			
Sample Volume (L)	75				75			
Lab Sample Number	18041451-004				18041451-013			
Spore Identification	Raw Ct	spr/m ³	% Ttl	In/Out	Raw Ct	spr/m ³	% Ttl	In/Out
ascospores	2	107	25	1/6	11	587	57	-
basidiospores	-	-	-	-	1	53	5	-
Cladosporium	-	-	-	-	2	107	10	-
Epicoccum	-	-	-	-	1	53	5	-
Penicillium/Aspergillus group	4	213	50	1/1	4	213	21	-
Smuts,Periconia,Myxomycetes	2	107	25	-	-	-	-	-
Stachybotrys	-	-	-	-	1	13	1	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m³				Analytical Sensitivity: 13 spr/m³			
Comments								
Total *See Footnotes	8	427	~100%	1/2	20	1027	~100%	-

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Client Sample Number	26611684				26611447			
Sample Location	GYM OFFICE 1				OUTDOOR			
Sample Volume (L)	75				75			
Lab Sample Number	18041451-005				18041451-013			
Spore Identification	Raw Ct	spr/m ³	% Ttl	In/Out	Raw Ct	spr/m ³	% Ttl	In/Out
ascospores	-	-	-	-	11	587	57	-
basidiospores	-	-	-	-	1	53	5	-
Cladosporium	-	-	-	-	2	107	10	-
Epicoccum	-	-	-	-	1	53	5	-
Penicillium/Aspergillus group	2	107	100	1/2	4	213	21	-
Stachybotrys	-	-	-	-	1	13	1	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m ³				Analytical Sensitivity: 13 spr/m ³			
Comments								
Total *See Footnotes	2	107	~100%	1/10	20	1027	~100%	-

Client Sample Number	26611685				26611447			
Sample Location	GYM OFFICE 2				OUTDOOR			
Sample Volume (L)	75				75			
Lab Sample Number	18041451-006				18041451-013			
Spore Identification	Raw Ct	spr/m ³	% Ttl	In/Out	Raw Ct	spr/m ³	% Ttl	In/Out
ascospores	1	53	25	1/11	11	587	57	-
basidiospores	-	-	-	-	1	53	5	-
Cladosporium	-	-	-	-	2	107	10	-
Epicoccum	-	-	-	-	1	53	5	-
Penicillium/Aspergillus group	1	53	25	1/4	4	213	21	-
Smuts,Periconia,Myxomycetes	2	107	50	-	-	-	-	-
Stachybotrys	-	-	-	-	1	13	1	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m ³				Analytical Sensitivity: 13 spr/m ³			
Comments								
Total *See Footnotes	4	213	~100%	1/5	20	1027	~100%	-

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Client Sample Number	26611691				26611447			
Sample Location	PTO ROOM				OUTDOOR			
Sample Volume (L)	75				75			
Lab Sample Number	18041451-007				18041451-013			
Spore Identification	Raw Ct	spr/m ³	% Ttl	In/Out	Raw Ct	spr/m ³	% Ttl	In/Out
ascospores	4	213	27	1/3	11	587	57	-
basidiospores	1	53	7	1/1	1	53	5	-
Cladosporium	3	160	20	2/1	2	107	10	-
Epicoccum	-	-	-	-	1	53	5	-
Penicillium/Aspergillus group	5	267	33	1/1	4	213	21	-
Smuts,Periconia,Myxomycetes	2	107	13	-	-	-	-	-
Stachybotrys	-	-	-	-	1	13	1	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m ³				Analytical Sensitivity: 13 spr/m ³			
Comments								
Total *See Footnotes	15	800	~100%	1/1	20	1027	~100%	-

Client Sample Number	26611721				26611447			
Sample Location	AUDITORIUM				OUTDOOR			
Sample Volume (L)	75				75			
Lab Sample Number	18041451-008				18041451-013			
Spore Identification	Raw Ct	spr/m ³	% Ttl	In/Out	Raw Ct	spr/m ³	% Ttl	In/Out
ascospores	-	-	-	-	11	587	57	-
basidiospores	-	-	-	-	1	53	5	-
Cladosporium	1	53	2	1/2	2	107	10	-
Epicoccum	-	-	-	-	1	53	5	-
Penicillium/Aspergillus group	48	2560	98	12/1	4	213	21	-
Stachybotrys	-	-	-	-	1	13	1	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m ³				Analytical Sensitivity: 13 spr/m ³			
Comments								
Total *See Footnotes	49	2613	~100%	3/1	20	1027	~100%	-

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Client Sample Number	26611706				26611447			
Sample Location	TEACHERS RM CAFÉ				OUTDOOR			
Sample Volume (L)	75				75			
Lab Sample Number	18041451-009				18041451-013			
Spore Identification	Raw Ct	spr/m ³	% Ttl	In/Out	Raw Ct	spr/m ³	% Ttl	In/Out
ascospores	1	53	25	1/11	11	587	57	-
basidiospores	1	53	25	1/1	1	53	5	-
Cladosporium	-	-	-	-	2	107	10	-
Epicoccum	-	-	-	-	1	53	5	-
Penicillium/Aspergillus group	2	107	50	1/2	4	213	21	-
Stachybotrys	-	-	-	-	1	13	1	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m ³				Analytical Sensitivity: 13 spr/m ³			
Comments								
Total *See Footnotes	4	213	~100%	1/5	20	1027	~100%	-

Client Sample Number	26611692				26611447			
Sample Location	MEDIA CENTRE				OUTDOOR			
Sample Volume (L)	75				75			
Lab Sample Number	18041451-010				18041451-013			
Spore Identification	Raw Ct	spr/m ³	% Ttl	In/Out	Raw Ct	spr/m ³	% Ttl	In/Out
ascospores	1	53	25	1/11	11	587	57	-
basidiospores	1	53	25	1/1	1	53	5	-
Cladosporium	-	-	-	-	2	107	10	-
Epicoccum	-	-	-	-	1	53	5	-
Penicillium/Aspergillus group	2	107	50	1/2	4	213	21	-
Stachybotrys	-	-	-	-	1	13	1	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m ³				Analytical Sensitivity: 13 spr/m ³			
Comments								
Total *See Footnotes	4	213	~100%	1/5	20	1027	~100%	-

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Client Sample Number	26611689				26611447			
Sample Location	COMPUTER RM (1)				OUTDOOR			
Sample Volume (L)	75				75			
Lab Sample Number	18041451-011				18041451-013			
Spore Identification	Raw Ct	spr/m ³	% Ttl	In/Out	Raw Ct	spr/m ³	% Ttl	In/Out
ascospores	1	53	50	1/11	11	587	57	-
basidiospores	-	-	-	-	1	53	5	-
Cladosporium	-	-	-	-	2	107	10	-
Epicoccum	-	-	-	-	1	53	5	-
Penicillium/Aspergillus group	1	53	50	1/4	4	213	21	-
Stachybotrys	-	-	-	-	1	13	1	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m ³				Analytical Sensitivity: 13 spr/m ³			
Comments								
Total *See Footnotes	2	107	~100%	1/10	20	1027	~100%	-

Client Sample Number	26611695				26611447			
Sample Location	COMPUTER RM (2)				OUTDOOR			
Sample Volume (L)	75				75			
Lab Sample Number	18041451-012				18041451-013			
Spore Identification	Raw Ct	spr/m ³	% Ttl	In/Out	Raw Ct	spr/m ³	% Ttl	In/Out
ascospores	-	-	-	-	11	587	57	-
basidiospores	1	53	50	1/1	1	53	5	-
Cladosporium	-	-	-	-	2	107	10	-
Epicoccum	-	-	-	-	1	53	5	-
Penicillium/Aspergillus group	1	53	50	1/4	4	213	21	-
Stachybotrys	-	-	-	-	1	13	1	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m ³				Analytical Sensitivity: 13 spr/m ³			
Comments								
Total *See Footnotes	2	107	~100%	1/10	20	1027	~100%	-

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Client Sample Number	26611439				26611447			
Sample Location	CUSTODIAL OFFICE				OUTDOOR			
Sample Volume (L)	75				75			
Lab Sample Number	18041451-014				18041451-013			
Spore Identification	Raw Ct	spr/m ³	% Ttl	In/Out	Raw Ct	spr/m ³	% Ttl	In/Out
ascospores	2	107	7	1/6	11	587	57	-
basidiospores	4	213	14	4/1	1	53	5	-
Cladosporium	2	107	7	1/1	2	107	10	-
Epicoccum	-	-	-	-	1	53	5	-
Penicillium/Aspergillus group	19	1013	66	5/1	4	213	21	-
Smuts,Periconia,Myxomycetes	2	107	7	-	-	-	-	-
Stachybotrys	-	-	-	-	1	13	1	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 13 spr/m³				Analytical Sensitivity: 13 spr/m³			
Comments								
Total *See Footnotes	29	1547	~100%	2/1	20	1027	~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 spr/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 spr/m^3 at 100% read, Analytical Sensitivity at 50% read would be 27 spr/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.

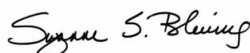
12. The results in this report are related to this project and these samples only.

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 spr/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 spr/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)
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