Aerobiology Laboratory Associates, Incorporated
Expertise Since 1997

7184 North Park Drive
Pennsauken, New Jersey 08109
(856) 486-1177
www.aerobiology.net

Certificate of Analysis
AIHA-LAP EMLAP# 102747

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: 18041518

1054 Spore Trap Analysis: SOP 3.8

Client Sample Number	**26611688**				**26611681**			
Sample Location	**B128**				**B126**			
Sample Volume (L)	**75**				**75**			
Lab Sample Number	**18041518-001**				**18041518-002**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
basidiospores	2	107	5	-	-	-	-	-
Cladosporium	1	53	2	-	-	-	-	-
Penicillium/Aspergillus group	40	2133	93	-	-	-	-	-
Unknown	-	-	-	-	1	53	100	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **13** spr/m³				Analytical Sensitivity: **13** spr/m³			
Comments								
Total *See Footnotes	43	2293	~100%	-	1	53	~100%	-

Client Sample Number	**26611682**				**26611728**			
Sample Location	**B125**				**B124**			
Sample Volume (L)	**75**				**75**			
Lab Sample Number	**18041518-003**				**18041518-004**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
ascospores	3	160	19	-	4	213	29	-
basidiospores	1	53	6	-	3	160	21	-
Cladosporium	-	-	-	-	1	53	7	-
Penicillium/Aspergillus group	12	640	75	-	4	213	29	-
Smuts,Periconia,Myxomycetes	-	-	-	-	2	107	14	-
	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%	-	14	747	~100%	-

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Client Sample Number	26609617				26611699			
Sample Location	B123				B122			
Sample Volume (L)	75				75			
Lab Sample Number	18041518-005				18041518-006			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
ascospores	-	-	-	-	2	107	29	-
basidiospores	1	53	19	-	-	-	-	-
Cladosporium	-	-	-	-	2	107	29	-
Penicillium/Aspergillus group	1	53	19	-	2	107	29	-
Smuts,Periconia,Myxomycetes	3	160	57	-	1	53	14	-
Stachybotrys	1	13	5	-	-	-	-	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **13** spr/m³				Analytical Sensitivity: **13** spr/m³			
Comments								
Total *See Footnotes	6	280	~100%	-	7	373	~100%	-

Client Sample Number	26611703				26611680			
Sample Location	B118				B114			
Sample Volume (L)	75				75			
Lab Sample Number	18041518-007				18041518-008			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
ascospores	-	-	-	-	1	53	2	-
basidiospores	-	-	-	-	3	160	7	-
Cladosporium	-	-	-	-	9	480	20	-
Curvularia	1	53	33	-	-	-	-	-
Penicillium/Aspergillus group	1	53	33	-	29	1547	66	-
Smuts,Periconia,Myxomycetes	1	53	33	-	2	107	5	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **13** spr/m³				Analytical Sensitivity: **13** spr/m³			
Comments								
Total *See Footnotes	3	160	~100%	-	44	2347	~100%	-

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Client Sample Number	**26611693**				**26611683**			
Sample Location	**B112**				**STORAGE B BY 112/114**			
Sample Volume (L)	**75**				**75**			
Lab Sample Number	**18041518-009**				**18041518-010**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
ascospores	-	-	-	-	1	53	2	-
Cladosporium	3	160	9	-	3	160	5	-
hyphal elements	-	-	-	-	1	53	2	-
Penicillium/Aspergillus group	31	1653	91	-	53	2827	83	-
Smuts,Periconia,Myxomycetes	-	-	-	-	6	320	9	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **13** spr/m³				Analytical Sensitivity: **13** spr/m³			
Comments								
Total *See Footnotes	34	1813	~100%	-	64	3413	~100%	-

Client Sample Number	**26619500**				**26611686**			
Sample Location	**B110**				**B108**			
Sample Volume (L)	**75**				**75**			
Lab Sample Number	**18041518-011**				**18041518-012**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Alternaria	-	-	-	-	1	53	1	-
ascospores	1	53	1	-	-	-	-	-
basidiospores	-	-	-	-	1	53	1	-
Cladosporium	2	107	3	-	1	53	1	-
hyphal elements	1	53	1	-	-	-	-	-
Penicillium/Aspergillus group	57	3040	85	-	73	3893	96	-
Smuts,Periconia,Myxomycetes	6	320	9	-	-	-	-	-
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	67	3573	~100%	-	77	4067	~100%	-

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Client Sample Number	**26609624**			
Sample Location	**A107**			
Sample Volume (L)	**75**			
Lab Sample Number	**18041518-013**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out
basidiospores	1	53	3	-
Penicillium/Aspergillus group	37	1973	95	-
Smuts,Periconia,Myxomycetes	1	53	3	-
	Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **13** spr/m³			
Comments				
Total *See Footnotes	39	2080	~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. spr/m^3 = raw counts x (100/ % read) x (1000/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 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)
Laboratory Director