

Analysis Report prepared for

BNF Consulting, Inc.

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ABC Street.
New York, NY 10591

Collected: **December 9, 2019**
Received: **December 10, 2019**
Reported: **December 10, 2019**

We would like to thank you for trusting Hayes Microbial for your analytical needs!
We received 8 samples by FedEx in good condition for this project on December 10th, 2019.

The results in this analysis pertain only to this job, collected on the stated date, and should not be used in the interpretation of any other job. This report may not be duplicated, except in full, without the written consent of Hayes Microbial Consulting, LLC..

This laboratory bears no responsibility for sample collection activities, analytical method limitations, or your use of the test results. Interpretation and use of test results are your responsibility. Any reference to health effects or interpretation of mold levels is strictly the opinion of Hayes Microbial. In no event, shall Hayes Microbial or any of its employees be liable for lost profits or any special, incidental or consequential damages arising out of the use of these test results.



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Laboratory Director
Hayes Microbial Consulting, LLC.



EPA Laboratory ID: VA01419



Lab ID: #188863



DPH License: #PH-0198

Particle Analysis

Sample Number	1 01			2 02			3 03			4 04		
Sample Name	Outside (Control)			Kitchen & Dining Room			Living Room			2nd FL Staircase Landing		
Sample Volume	75.00 liter			75.00 liter			75.00 liter			75.00 liter		
Reporting Limit	13 particles/m ³			13 particles/m ³			13 particles/m ³			13 particles/m ³		
Particle	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total
Cellulose Fibers	2	27	11.1%	8	107	1.3%	8	107	1.2%	22	293	2%
Synthetic Fibers				2	27	<1%	3	40	<1%	5	67	<1%
Fiberglass										2	27	<1%
Dander	10	133	55.6%	544	7253	89.5%	608	8107	88.4%	1024	13653	94.9%
Plant Hair										1	13	<1%
Talc				2	27	<1%				2	27	<1%
Aciniform-like Soot												
Animal Hair												
Human Hair												
Wood Fibers				2	27	<1%						
Feather Barbule												
Pollen												
Gypsum												
Silicates	5	67	27.8%	32	427	5.3%	48	640	7%	14	187	1.3%
Carpet Beetle Larvae												
Insect Frass												
Dust Mite Parts												
Insect Parts							1	13	<1%			
Mineral Salts												
Opaque Particles												
Ash and Char-like Soot	1	13	5.6%	18	240	3%	20	267	2.9%	9	120	<1%
Rust												
Total	18	240	100%	608	8108	100%	688	9174	100%	1079	14387	100%



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 Ramesh Poluri, PhD *P. Ramesh*

Date:
12 - 10 - 2019

Reviewed By:
 Steve Hayes, BSMT *Stephen N. Hayes*

Date:
12 - 10 - 2019

Sample Number	5 05			6 06			7 07					
Sample Name	Back of 2nd FL Hallway			Workshop			Laundry Room					
Sample Volume	75.00 liter			75.00 liter			75.00 liter					
Reporting Limit	13 particles/m ³			13 particles/m ³			13 particles/m ³					
Particle	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total			
Cellulose Fibers	5	67	<1%	6	80	1.4%	10	133	1%			
Synthetic Fibers	1	13	<1%	1	13	<1%	2	27	<1%			
Fiberglass				4	53	<1%	3	40	<1%			
Dander	640	8533	96.4%	384	5120	86.5%	800	10667	82.6%			
Plant Hair												
Talc												
Aciniform-like Soot	1	13	<1%	1	13	<1%	1	13	<1%			
Animal Hair												
Human Hair												
Wood Fibers												
Feather Barbule												
Pollen												
Gypsum												
Silicates	16	213	2.4%	40	533	9%	128	1707	13.2%			
Carpet Beetle Larvae				1	13	<1%	1	13	<1%			
Insect Frass												
Dust Mite Parts												
Insect Parts				1	13	<1%						
Mineral Salts												
Opaque Particles												
Ash and Char-like Soot	1	13	<1%	6	80	1.4%	24	320	2.5%			
Rust												
Total	664	8852	100%	444	5918	100%	969	12920	100%			



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Spore Trap Information

Reporting Limit	The Reporting Limit is the lowest number of spores that can be detected based on the total volume of the sample collected and the percentage of the slide that is counted. At Hayes Microbial, 100% of the slide is read so the LOD is based solely on the total volume. Raw spore counts that exceed 500 spores will be estimated.					
Blanks	Results have not been corrected for field or laboratory blanks.					
Background	<p>The Background is the amount of debris that is present in the sample. This debris consists of skin cells, dirt, dust, pollen, drywall dust and other organic and non-organic matter. As the background density increases, the likelihood of spores, especially small spores such as those of Aspergillus and Penicillium may be obscured. The background is rated on a scale of 1 to 5 and each level is determined as follows:</p> <p>NBD: No background detected due to possible pump or cassette malfunction. Recollect sample. (Field Blanks will display NBD)</p> <p>1 : <5% of field occluded. No spores will be uncountable.</p> <p>2 : 5-25% of field occluded.</p> <p>3 : 25-75% of field occluded.</p> <p>4 : 75-90% of field occluded.</p> <p>5 : >90% of field occluded. Suggested recollection of sample.</p>					
Fragments	Fragments are small pieces of fungal mycelium or spores. They are not identifiable as to type and when present in very large numbers, may indicate the presence of mold amplification.					
Control Comparisons	There are no national standards for the numbers of fungal spores that may be present in the indoor environment. As a general rule and guideline that is widely accepted in the indoor air quality field, the numbers and types of spores that are present in the indoor environment should not exceed those that are present outdoors at any given time. There will always be some mold spores present in "normal" indoor environments. The purpose of sampling and counting spores is to help determine whether an abnormal condition exists within the indoor environment and if it does, to help pinpoint the area of contamination. Spore counts should not be used as the sole determining factor of mold contamination. There are many factors that can cause anomalies in the comparison of indoor and outdoor samples due to the dynamic nature of both of those environments.					
<table border="1"> <tr><td>Water Damage Indicator</td></tr> <tr><td>Common Allergen</td></tr> <tr><td>Slightly Higher than Baseline</td></tr> <tr><td>Significantly Higher than Baseline</td></tr> <tr><td>Ratio Abnormality</td></tr> </table>	Water Damage Indicator	Common Allergen	Slightly Higher than Baseline	Significantly Higher than Baseline	Ratio Abnormality	<p>Blue: These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem.</p> <p>Green: Although all molds are potential allergens, these are the most common allergens that may be found indoors.</p> <p>Orange: The spore count is slightly higher than the outside count and may or may not indicate a source of contamination.</p> <p>Red: The spore count is significantly higher than the baseline count and probably indicates a source of contamination.</p> <p>Violet: The types of spores found indoors should be similar to the ones that were identified in the baseline sample. Significant increases (more than 25%) in the ratio of a particular spore type may indicate the presence of abnormal levels of mold, even if the total number of spores of that type is lower in the indoor environment than it was outdoors.</p>
Water Damage Indicator						
Common Allergen						
Slightly Higher than Baseline						
Significantly Higher than Baseline						
Ratio Abnormality						
Color Coding	Fungi that are present in indoor samples at levels lower than 200 per cubic meter are not color coded on the report, unless they are one of the water damage indicators.					

Total Particulate Analysis Information

Our Total Particulate Analysis test is based on the initial screening procedures from ASTM #D6602. Our Lab only uses light, polarized light, and phase contrast microscopy. No SEM or X-ray defraction is performed. Below are some guidelines to help find totals for the most common particle counts analyzed by light microscopy.

Particle		Air *	Surface *
Dander	Home (Carpeted Areas)	1,000-6,000 / M ³	10,000-16,000 / cm ²
	Home (Hard Surface Areas)	500-5,000 / M ³	5,000-16,000 / cm ²
	Office or Classroom (Carpeted)	4,000-12,000 / M ³	14,000-24,000 / cm ²
	Office or Classroom (Hard Surface Areas)	3,000-10,000 / M ³	12,000-20,000 / cm ²
Cellulose Fibers		0-250 / M ³	0-1,600 / cm ²
Synthetic Fibers		0-250 / M ³	0-1,600 / cm ²
Fiberglass Fibers		0-60 / M ³	0-400 / cm ²
Gypsum Fibers		0-400 / M ³	0-1,800 / cm ²
Talc		0-250 / M ³	0-2,000 / cm ²
Dust Mites (parts)		0-30 / M ³	0-200 / cm ²
Insect Parts		0-30 / M ³	0-200 / cm ²
Animal Hair		0-30 / M ³	0-200 / cm ²
Wood Fibers		0-60 / M ³	0-200 / cm ²
Plant Hairs		0-60 / M ³	0-200 / cm ²
Human Hair		0-60 / M ³	0-200 / cm ²
Carpet Beetle Larvae		0-40 / M ³	0-200 / cm ²
Insect Frass		0-40 / M ³	0-400 / cm ²
Feather Barbules		0-40 / M ³	0-200 / cm ²
Opaque Particles		0-100 / M ³	0-600 / cm ²
Starch		0-40 / M ³	0-200 / cm ²
Rust		0-60 / M ³	0-400 / cm ²
Ash and Char-like Soot		0-100 / M ³	0-300 / cm ²
Aciniform-like Soot		0-100 / M ³	0-800 / cm ²
Silicates	(Varies greatly depending on area)	0-500 / M ³	0-2,800 / cm ²
Pollen	(Varies with outdoor pollen levels and whether there are live indoor plants)	0-500 / M ³	0-2,800 / cm ²

* Estimated Normal Ranges are based on prior experience. There are no standard ranges for this form of testing.

M³ = Cubic Meter

cm² = Square Centimeter

Spore Estimate		Percentages
ND	None Detected	0%
Rare	Less than 10 spores	< 1%
Light	10 - 99 spores	1-10%
Moderate	100 - 999 spores	11-25%
Heavy	1000 - 9999 spores	26-50%
Very Heavy	10000 or greater spores	51-100%

Mycelial Estimate	
ND	None Detected No active growth at site.
Trace	Very small amount of Mycelium Probably no active growth at site.
Few	Some Mycelium Possible active growth at site.
Many	Large amount of Mycelium Probable active growth at site.