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Analysis Report prepared for

Powers Environmental, LLC

**PO Box 914
New Milford, CT. 06776
Phone: 203-775-4885**

**Job Number: 20172.22
Job Name: 100 Candlewood Lake Rd.
Brookfield, CT
Date Sampled: 08-30-2017
Date Analyzed: 08-31-2017
Report Date: 08-31-2017**

EPA Laboratory ID# VA01419



LAB #188863

AIHA EMPAT Lab ID# 188863



Mold License: LAB1021



License: #PH-0198



HAYES

MICROBIAL CONSULTING
3005 East Boundary Terrace, #F
Midlothian, VA 23112, USA
804.562.3435 Fax: 804.447.5562

HMC #17025051

Powers Environmental, LLC
PO Box 914
New Milford, CT 06776

August 31, 2017

Client Job Number: 20172.22
Client Job Name: 100 Candlewood Lake Rd.
Brookfield, CT

Dear Powers Environmental, LLC,

We would like to thank you for trusting Hayes Microbial for your analytical needs. On August 31, 2017 we received 6 samples by FedEx for the job referenced above. 6 samples were received in good condition.

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 Consulting. In no event, shall Hayes Microbial Consulting or any of its employees be liable for lost profits or any special, incidental or consequential damages arising out of your use of the test results.

Steve Hayes, BSMT(ASCP)
Laboratory Director
Hayes Microbial Consulting, LLC



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Spore Trap Analysis
SOP #HMC101

HMC #17025051

Job Number: 20172.22	Job Name: 100 Candlewood Lake Rd.	Date Collected: 08/30/2017
Collected by: William Powers	Brookfield, CT	Date Received: 08/31/2017
Email: wpowers@powersiaq.com		Date Reported: 08/31/2017

HMC ID Number	17025051 - 1	17025051 - 2	17025051 - 3	
Sample ID#	ST-1	ST-2	ST-3	
Sample Name	Outside	Room 502	Room 501	
Sample Volume	150 liters	150 liters	150 liters	
Reporting Limit	7 spores/M3	7 spores/M3	7 spores/M3	
Background	2	2	2	
Fragments	ND	7/M3	7/M3	

Organism	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total	
Alternaria				1	7	< 1%				
Ascospores	27	180	15.9%	4	27	1.1%	1	7	< 1%	
Aspergillus Penicillium	3	20	1.8%	356	2373	95.4%	632	4213	97.4%	
Basidiospores	61	407	35.9%	2	13	< 1%	1	7	< 1%	
Bipolaris Drechslera										
Chaetomium										
Cladosporium	73	487	43.0%	7	47	1.9%	14	93	2.1%	
Curvularia										
Epicoccum	2	13	1.1%	1	7	< 1%				
Fusarium										
Memnoniella										
Myxomycetes	2	13	1.1%	1	7	< 1%	1	7	< 1%	
Pithomyces	2	13	1.1%	1	7	< 1%				
Stachybotrys										
Stemphylium										
Torula										
Ulocladium										
Unspecified Spore										
Total	170	1133		373	2488		649	4327		

Water Damage Indicator

Common Allergen

Slightly Higher than Outside Air

Significantly Higher than Outside Air

Ratio Abnormality

Signature: J. Baek

Date: 08/31/2017

Reviewed by: Stephen N. Hayes

Date: 08/31/2017

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Direct ID Analysis
SOP #HMC102

HMC #17025051

Job Number: 20172.22	Job Name: 100 Candlewood Lake Rd.	Date Collected: 08/30/2017
Collected by: William Powers	Brookfield, CT	Date Received: 08/31/2017
Email: wpowers@powersiaq.com		Date Reported: 08/31/2017

HMC ID Number: 17025051 - 4		Sample Media: Bio-Tape	
Sample ID Number: TL-1		Sample Name: Underside Blue Table	
Organism	Spore Estimate	Mycelial Estimate	Note
Aspergillus	Very Heavy	Many	

HMC ID Number: 17025051 - 5		Sample Media: Bio-Tape	
Sample ID Number: TL-2		Sample Name: Underside Wood Grain Table	
Organism	Spore Estimate	Mycelial Estimate	Note
Aspergillus	Very Heavy	Many	

HMC ID Number: 17025051 - 6		Sample Media: Bio-Tape	
Sample ID Number: TL-3		Sample Name: Room 504 Wall	
Organism	Spore Estimate	Mycelial Estimate	Note
Cladosporium	Very Heavy	Many	

Signature: J. Baek

Date: 08/31/2017

Reviewed by: Stephen N. Hayes

Date: 08/31/2017



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Spore Trap Information

HMC #17025051

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 <i>Aspergillus</i> and <i>Penicillium</i> may be obscured. The background is rated on a scale of 1 to 4 and each level is determined as follows:</p> <p>ND : No background detected. (Pump or cassette malfunction.) Recollect sample.</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. Suggest 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.
Indoor/Outdoor 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.
Water Damage Indicators	These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem.
Common Allergens	Although all molds are potential allergens, these are the most common allergens that may be found indoors.
Slightly Higher than Outside Air	The spore count is slightly higher than the outside count and may or may not indicate a source of contamination.
Significantly Higher than Outside Air	The spore count is significantly higher than the outdoor count and probably indicates a source of contamination.
Ratio Abnormality	The types of spores found indoors should be similar to the ones that were identified in the outdoor 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.
Color Note	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.



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Direct Information

HMC #17025051

Additional Information for Direct Identification Analysis

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



Alternaria

Habitat: Commonly found outdoors in soil and decaying plants. Indoors, it is commonly found on window sills and other horizontal surfaces.

Health Effects: A common allergen and has been associated with hypersensitivity pneumonitis. Alternaria is capable of producing toxic metabolites which may be associated with disease in humans or animals. Occasionally an agent of onychomycosis, ulcerated cutaneous infection and chronic sinusitis, principally in the immunocompromised patient.

Ascospores

Habitat: A large group consisting of more than 3000 species of fungi. Common plant pathogens and outdoor numbers become very high following rain. Most of the genera are indistinguishable by spore trap analysis and are combined on the report.

Health Effects: Health affects are poorly studied, but many are likely to be allergenic.

Aspergillus

Habitat: One of the most common fungi isolated from the environment. Found in soil, decomposing plant material, and indoors on a wide variety of cellulose containing materials.

Health Effects: Known to be allergenic and many species also produce mycotoxins. They are a common cause of extrinsic asthma and hypersensitivity pneumonitis. Many species are opportunistic pathogens and are known to cause sinus lesions, ear infections, respiratory infections, and invasive systemic disease.

Aspergillus|Penicillium

Habitat: The most common fungi isolated from the environment. Very common in soil and on decaying plant material. Are able to grow well indoors on a wide variety of substrates.

Health Effects: This group contains common allergens and many can cause hypersensitivity pneumonitis. They may cause extrinsic asthma, and many are opportunistic pathogens. Many species produce mycotoxins which may be associated with disease in humans and other animals. Toxin production is dependent on the species, the food source, competition with other organisms, and other environmental conditions.

Basidiospores

Habitat: A common group of Fungi that includes the mushrooms and bracket fungi. They are saprophytes and plant pathogens. In wet conditions they can cause structural damage to buildings.

Health Effects: Common allergens and are also associated with hypersensitivity pneumonitis.

Cladosporium

Habitat: One of the most common genera worldwide. Found in soil and plant debris and on the leaf surfaces of living plants. The outdoor numbers are lower in the winter and often relatively high in the summer, especially in high humidity. The outdoor numbers often spike in the late afternoon and evening. Indoors, it can be found growing on textiles, wood, sheetrock, moist window sills and in HVAC supply ducts.

Health Effects: A common allergen, producing more than 10 allergenic antigens and a common cause of hypersensitivity pneumonitis.



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Organism Descriptions

HMC #17025051

Epicoccum

Habitat: It is found in soil and plant litter and is a plant pathogen. It can grow indoors on a variety of substrates, including paper and textiles and is commonly found on wet drywall.

Health Effects: It is a common allergen. No cases of infection have been reported in humans.

Myxomycetes

Habitat: Found on decaying plant material and as a plant pathogen.

Health Effects: Some allergenic properties reported, but generally pose no health concerns to humans.

Pithomyces

Habitat: Common fungus isolated from soil, decaying plant material. Rarely found indoors.

Health Effects: Allergenic properties are poorly studied. No cases of infection in humans.
