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Analysis Report prepared for

[redacted]

[redacted]
4866 Paseo De Vega
Irvine, CA 92603

Collected:
Received: **May 3, 2021**
Reported: **May 3, 2021**

[redacted]

[redacted]

[redacted].

[redacted].

EPA Laboratory ID: [redacted]

Lab ID: #[redacted]

DPH License: #[redacted]

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4866 Paseo De Vega
Irvine, CA 92603

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Spore Trap
SOP -HMC#101

Sample Number	1	1	2	2	4	4
Sample Name	Kitchen Cabinet Area		Upstairs Bathroom		Outside	
Sample Volume	75.00 liter		75.00 liter		75.00 liter	
Reporting Limit	13 spores/m³		13 spores/m³		13 spores/m³	
Background	3		3		3	
Fragments	ND		13/m³		40/m³	

Organism	Raw Count	Count / m³	% of Total	Raw Count	Count / m³	% of Total	Raw Count	Count / m³	% of Total
Alternaria									
Ascospores	3	40	8.3%	4	53	22.2%	4	53	26.7%
Aspergillus|Penicillium	13	173	36.1%	2	27	11.1%			
Basidiospores	5	67	13.9%	1	13	5.6%	2	27	13.3%
Bipolaris|Drechslera									
Chaetomium	2	27	5.6%						
Cladosporium	2	27	5.6%	10	133	55.6%	5	67	33.3%
Curvularia									
Epicoccum				1	13	5.6%	1	13	6.7%
Fusarium									
Memnoniella									
Myxomycetes							2	27	13.3%
Pithomyces							1	13	6.7%
Stachybotrys	6	80	16.7%						
Stemphylium									
Torula									
Ulocladium									
Arthrobotrys	5	67	13.9%						
Total	36	481	100%	18	239	100%	15	200	100%

Water Damage Indicator | Common Allergen | Slightly Higher than Baseline | Significantly Higher than Baseline | Ratio Abnormality

Collected: Received: **May 3, 2021** Reported: **May 3, 2021** Revision: **2**

Project Analyst: [redacted] Date: **05 - 03 - 2021** Reviewed By: [redacted] Date: **05 - 08 - 2021**

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Direct Analysis
SOP - HMC#102

#3	Swab (1.00 cm2)	Organism	Spore Estimate	Mycelial Estimate
3 - Upstairs Shower Pan - Floor		Chaetomium	Moderate	Few

Collected: Received: **May 3, 2021** Reported: **May 3, 2021** Revision: **2**

Project Analyst:	Date:	Reviewed By:	Date:
[redacted]	**05 - 03 - 2021**	[redacted]	**05 - 08 - 2021**

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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 [redacted], 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	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: **NBD:** No background detected due to possible pump or cassette malfunction. Recollect sample. (Field Blanks will display NBD) **1 :** <5% of field occluded. No spores will be uncountable. **2 :** 5-25% of field occluded. **3 :** 25-75% of field occluded. **4 :** 75-90% of field occluded. **5 :** >90% of field occluded. Suggested recollection of sample.
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.
Water Damage Indicator Common Allergen Slightly Higher than Baseline Significantly Higher than Baseline Ratio Abnormality	**Blue:** These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem. **Green:** Although all molds are potential allergens, these are the most common allergens that may be found indoors. **Orange:** The spore count is slightly higher than the outside count and may or may not indicate a source of contamination. **Red:** The spore count is significantly higher than the baseline count and probably indicates a source of contamination. **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.
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.

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Direct Analysis Information

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.

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Organism Descriptions

Arthrobotrys

Habitat: Found on wood, soil and decaying plant matter. Pathogen of round worms.

Effects: No known health effects.

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.

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

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.

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.

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

Chaetomium

Habitat: Ascomycete fungus, commonly isolated from soil and decaying plant materials. It is cellulolytic and grows well indoors on damp sheetrock and other paper substrates. It is often found growing with Stachybotrys.

Effects: It is reported to be allergenic and may produce toxins.

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.

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

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Organism Descriptions

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.

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.

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.

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

Stachybotrys

Habitat: Commonly found in soil and on decaying plant material. It is cellulolytic, and can be found indoors on wet materials containing cellulose, such as wallboard, ceiling tile, and other paper-based materials. It is found outdoors on decaying plant material although it is rarely detected on outdoor air samples.

Effects: Allergenic properties are poorly studied and no cases of infection have been reported in humans. They do however produce potent tricothecene mycotoxins. The toxins produced by this fungus can suppress the immune system affecting the lymphoid tissue and the bone marrow. The mycotoxin is also reported to be a liver and kidney carcinogen.

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SHIP: FEDEX - PAK SO
DATE: 05-03-2021

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MOLD

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Analysis Type		Analysis Description	Turnaround	Accepled Media Types
Spore Trap	S	Identification & Enumeration of Fungal Spores	24 Hour	Air Cassettes, Impact Slides
	S+	Spore Trap Analysis with Dander , Fiber, and Pollen counts	24 Hour	Air Ca ssettes, Impact Slides
Direct ID	D	ID & Semi-Quantat ive Enumeration of spores and mycelium	24 Hour	Bio-Tape, Tape, Swab , Bulk, Agar Plate
	D+	Direct Analysis with Fully Quantitative spore count	24 Hour	Bio-Tape, Tape, Swab, Bulk, Agar Plate
Culture	Cl	Identification & Enumeration of Mold only	7 Day	Air Plate, Agar Plate, Swab, Bulk
	C2	Identification & Enumeration of Bacteria only	4 Day	Air Plate, Agar Plate, Swab, Bulk
	C3	Identification & Enumeration of Mold and Bacteria	7 Day	Air Plate, Agar Plate, Swab, Bulk
	C5	Coliform Screen for Sewage Bacte ria	2 Day	Agar Plate, Swab, Bulk
Particle	TPA	Total Particulate Analysis , ID & Count (Does Not Include Mold)	24 Hour	Air Cassettes, Impact Slides, Bio-Tape

#	Number	Sample	Analysis	Volume	Notes
[redacted]					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Release d by: [redacted] Date : Receiv ed By: [redacted] Date 3.0