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CERTIFICATE OF MOLD ANALYSIS

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INSPECTOVA

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CHAIN OF CUSTODY # 52823208

APPROVED BY:

A handwritten signature in black ink that reads "John D. Shane".

John D. Shane PhD
Laboratory Manager

VERSION: 1.0 (A VERSION NUMBER GREATER THAN ONE (1) INDICATES THAT THE DATA IN THIS REPORT HAS BEEN AMENDED)

EPA regulations or standards for airborne or surface mold concentrations have not been established. There are also no EPA regulations or standards for evaluating health effects due to mold exposure. Information about mold can be found at www.epa.gov/mold.

All samples were received in an acceptable condition for analysis unless noted specifically in the Comments section under a particular sample. All results relate only to the samples submitted for analysis and apply to the samples as received by the laboratory. Volumes, flowrates, areas or other information are supplied by the customer. This information can affect the validity of the results. Results have not been adjusted for field or laboratory unless otherwise noted. PriorityLab bears no responsibility for sample collection activities or analytical method limitations. No warranty is either express or implied and PriorityLab assumes no responsibility or liability for errors in public information utilized, statements from sources other than PriorityLab, or developments resulting from situations outside the scope of this analysis, nor for the purpose for which the client uses the analysis. The determinations in this report are outside the scope of the AIHA LAP, LLC scope of accreditation. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. PriorityLab liability is limited to the cost of the sample analysis and may not exceed the amount of the fee paid by the client.

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Detailed Mold Report

(WATER-INDICATING FUNGI, IF PRESENT, ARE SHOWN BELOW IN RED)

Analysis Method	Air Analysis	Air Analysis	Air Analysis	Surface Analysis
Lab Sample #	52823208-1	52823208-2	52823208-3	52823208-4
Sample Identification	19871916	19871950	19872409	14957292
Sample Location	KITCHEN	BASEMENT FINISHED AREA	OUTSIDE	BASEMENT CLOSET LEFT WALL
Sample Type / Metric	Breeze ST/150L	Breeze ST/150L	Breeze ST/150L	Swab
Analysis Date	Wed May 22, 2024	Wed May 22, 2024	Wed May 22, 2024	Wed May 22, 2024
Determination	NORMAL	PROBLEM	CONTROL	GROWTH

Fungal Types Identified	Raw Count	Spores / m ³	% of Total	Raw Count	Spores / m ³	% of Total	Raw Count	Spores / m ³	% of Total	Mold Present	
*INDOOR PROBLEM FUNGI											
Hyphae	---	---	---	---	---	---	---	---	---	Present	
Penicillium/Aspergillus	---	---	---	859	5,755	92	---	---	---	Present	
Stachybotrys	---	---	---	62	415	6	---	---	---	Present	
**Non-Problem Fungi											
Alternaria	---	---	---	---	---	---	8	54	2	---	
Ascospores	2	13	2	2	13	<1	81	543	24	---	
Basidiospores	2	13	2	3	20	<1	94	630	28	---	
Cladosporium	27	181	32	4	27	<1	147	985	43	---	
Epicoccum	---	---	---	---	---	---	5	34	1	---	
Penicillium/Aspergillus	52	348	62	*	*	*	---	---	---	*	
Total Spore Count[#]	83	560	100	930	6,200	100	340	2,200	100	NA	
Minimum Detection Limit	7			7			7			1	
Comments/Definitions Raw Count: Actual number of spores observed and counted. Spores/m³: Spores per cubic meter. % of Total: Percentage of a particular spore in relation to total number of spores. Present = growth observed. ---: Spore type was not observed. * : Indicates to look above at the names in red under "indoor problem fungi".	Mold counts are within a NORMAL RANGE and there is no indication, based on the mold counts, that there is any exposure concern to the occupants. MODERATE DEBRIS: The debris present in the sample likely had limited effect on the accuracy of the mold count.			Mold concentrations in the air are ABNORMAL and based on the mold counts, you likely have a mold source from which spores are able to become airborne and are an exposure concern to the occupants. MODERATE DEBRIS in the sample likely had a limited effect on the accuracy of the mold count.			CONTROL samples are normally taken outside a building to provide a baseline from which samples on the interior of the building are compared. Outside air is considered normal whatever the mold counts may be. LIGHT DEBRIS: The debris present in the sample likely had no effect on the accuracy of the mold count.			Presence of current or former MOLD GROWTH observed. EXPOSURE TO SPORES LIKELY and will continue if the growth is not removed. An active or intermittent water source will cause the mold to continue to grow if the water source is not eliminated.	

* Indoor Problem Fungi are generally capable of growing on wetted building materials.

** Non-Problem Fungi are less capable or do not grow on wetted building materials. They are commonly found in the air outside and infiltrate into indoor air naturally.

High numbers of any one of these spore types as compared to the Control sample may indicate that they are growing on wetted building materials indoors.

Spore types not listed in this report were not observed.

Background debris estimates the amount of non-spore particles. Increasing amount of debris will affect the accuracy of the spore counts. Total percent may not equal 100% due to rounding.

[#]Total Spore Counts are reported to 2 significant figures.

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Introduction

All spores found in indoor air are also normally found in outdoor air because most originate or live in the soil and on dead or decaying plants. Therefore, it is not unusual to find mold spores in indoor air. This Mold Glossary is only intended to provide general information about the mold found in the samples that were provided to the laboratory.

Alternaria

Outdoor Habitat: One of the most commonly observed spores in the outdoor air worldwide, normally in low numbers.

Indoor Habitat: Capable of growing on a wide variety of substrates and manufactured products found indoors when wetted.

Allergy Potential: Type I (hay fever, asthma), Type III (hypersensitivity pneumonitis), Common cause of extrinsic asthma

Disease Potential: Not normally considered a pathogen, but can become so in immunocompromised persons.

Toxin Potential: Several known

Comments: One of the most common and potent allergens in the indoor and outdoor air. Seen in indoor air in low concentrations, probably as a result of outdoor air infiltration and/or recycling of settled dust. However, it is frequently found growing on indoor substrates.

Ascospores

Outdoor Habitat: Soil and decaying vegetation, dead and dying insects. These spores constitute a large part of the spores in the air and can be found in the air in very large numbers in the spring and summer, especially during and up to three (3) days after a rain.

Indoor Habitat: Very few of fungi that produce ascospores grow indoors. Some fungi that produce ascospores are recognizable by their spores and when observed are listed under their own categories. Wetted wood and gypsum wallboard paper

Allergy Potential: Depends on the type of fungus producing the ascospores.

Disease Potential: Not normally pathogenic as a group

Toxin Potential: None known

Comments: Ascospores are produced from a very large group of fungi. Notable ascospores that are considered problematic for indoor environments are Chaetomium, Peziza, and Ascotracha. If these types of ascspores are observed they will be listed in the report under their own names.

PREPARED FOR: INSPECTOVA***Basidiospores***

Outdoor Habitat: These are mushroom spores and are common everywhere outside, especially in the late summer and fall.

Indoor Habitat: Sometimes mushrooms can be observed growing in potted plants indoors.

Allergy Potential: Rarely reported, but some Type I (hay fever, asthma) and Type III (hypersensitivity pneumonitis) has been reported.

Disease Potential: None known

Toxin Potential: None known

Comments: Mushroom spores are commonly found indoors, especially when the outdoor spore count is high. When spores of this group are derived from wood rotting fungi, including dry rot (*Serpula* and *Poria*), they can be especially destructive to buildings. When spores from destructive types of mushrooms (dry and wet rot group) are observed in the sample they are listed under their own names on the report.

Cladosporium

Outdoor Habitat: *Cladosporium* is one of the most common environmental fungi observed worldwide and is widely reported from soil and decaying vegetation.

Cladosporium herbarum and *C. cladosporioides* are among the most frequently encountered species, both in outdoor and indoor environments.

Indoor Habitat: Wetted wood and gypsum wallboard paper, paper products, textiles, rubber, window sills. *Cladosporium* has the ability to grow at low temperatures and can thus, grow on rubber gaskets and food in refrigerators.

Allergy Potential: Type I (hay fever, asthma) - an important and common outdoor allergen

Disease Potential: Opportunistic pathogen in immunocompromised persons, not normally a pathogen in healthy individuals. *Cladosporium* are some of the most common species reported as indoor contaminants, occasionally linked to health problems.

Toxin Potential: *Cladosporium* has two known toxins (cladosporin and emodin). These toxins are not known to be highly toxic. There is no evidence in the literature of toxic effects associated to inhalation of *Cladosporium* conidia (spores) indoors.

Comments: The most commonly reported spore in the outdoor air worldwide. This makes *Cladosporium* one of the most commonly reported and abundant spore types both indoors and outdoors. The prevalence of this spore can vary throughout the year, but is especially high in late summer and autumn, especially where cereal crops are commonly planted.

An important and common allergen source.

PREPARED FOR: INSPECTOVA***Epicoccum***

Outdoor Habitat: Epicoccum is a widespread cosmopolitan that grows on dead or decaying organic matter, wood, textiles, paper, a variety of foods, insects and human skin. It is commonly found in the soil. Epicoccum spores are more prevalent on dry, windy days, with higher counts late in the day.

Indoor Habitat: Capable of growing on a wide variety of substrates and manufactured products found indoors when wetted such as gypsum board, floors, carpets, mattress dust, and house plants.

Allergy Potential: Type I (hay fever, asthma)

Disease Potential: None known

Toxin Potential: None known

Comments: Very common in outdoor air in the summer months, especially in the midwest USA during harvest times.

Hyphae

Outdoor Habitat: Any cellulose-based substance that fungi can inhabit.

Indoor Habitat: Wetted wood and gypsum wallboard paper, etc.

Allergy Potential: Known to be allergenic.

Disease Potential: None known

Toxin Potential: None known

Comments: "Root-like" structures of fungal growth that can become airborne and can possibly be allergenic. When hyphae are found growing on a surface and associated with fruiting bodies and/or fungal spores, they indicate that growth has taken. Sometimes hyphae grow and do not produce spores. Hyphae are generally not specific to any particular type of fungus or mold type. A mass of hyphae on a surface is indicative of mold growth.

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Penicillium/Aspergillus

Outdoor Habitat: Soil and decaying vegetation, textiles, fruits. These spores are commonly observed and are a normal part of outside air.

Indoor Habitat: Wetted wood and gypsum wallboard paper, textiles, leather, able to grow on many types of substrates.

Allergy Potential: Type I (hay fever, asthma), Type III (hypersensitivity pneumonitis)

Disease Potential: Opportunistic pathogen in immunocompromised persons, not normally a pathogen in healthy individuals.

Toxin Potential: Several known

Comments: Extremely common in indoor air in low to moderate amounts as compared to the outside air. This type of spore should not be present in very high numbers as compared to the outside (control) nor constitute an overwhelming percentage (e.g., 90% or greater) of the total spores in that room(s). However, this type of mold spore is not always detected in outside air and when diversity of mold types are low in the indoor sample(s), their percentage can be 90% or more. Therefore, when the raw numbers are low the determination would be NORMAL even if the percentage is high.

There is a wide range of what is a NORMAL amount of this type of mold spores in indoor air and 200 - 700 spores per cubic meter are commonly seen in homes.

These two genera are grouped together because they cannot be reliably differentiated into their respective genera based solely on spore morphology.

Stachybotrys

Outdoor Habitat: Soil and decaying vegetation, especially straw

Indoor Habitat: Wetted wood, gypsum wallboard paper, cardboard boxes and ceiling tiles. This type of mold needs significant water to grow and thrive

Allergy Potential: Type I (hay fever, asthma)

Disease Potential: None known

Toxin Potential: Several known (including macrocyclic trichothecenes, satratoxin F, G, H)

Comments: Spores can be dispersed into the air when old and dry, but are wet, slimy and heavy when actively growing and thus are not easily dispersed into the air. Significantly higher numbers of spores, as compared to outside background levels, of this genus are not normal for indoor environments and indicate a current or former water problem. It is not that unusual to find the occasional *Stachybotrys* spore in the air indoors. *Stachybotrys* has several mycotoxins and has been implicated as a causative agent in disease. HIGH CONCENTRATIONS AND LONG EXPOSURES TO STACHYBOTRYS SHOULD BE AVOIDED.