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PREPARED FOR: TOP NOTCH HOME INSPECTION

TEST ADDRESS: 1728 S GOLD ST CENTRALIA, WA 98531

CERTIFICATE OF MOLD ANALYSIS

PREPARED FOR:

TOP NOTCH HOME INSPECTION

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TEST LOCATION:

ROB SMITH

1728 S GOLD ST

CENTRALIA, WA 98531

CHAIN OF CUSTODY # 52034724

COLLECTED: THU SEPTEMBER 01, 2022

RECEIVED: WED SEPTEMBER 14, 2022

REPORTED: WED SEPTEMBER 14, 2022

APPROVED BY:

**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. InspectorLab bears no responsibility for sample collection activities or analytical method limitations. No warranty is either express or implied and InspectorLab assumes no responsibility or liability for error in public information utilized, statements from sources other than InspectorLab, 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. InspectorLab 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 #	52034724-1	52034724-2	52034724-3	52034724-4
Sample Identification	21023444	21045322	21042361	21042362
Sample Location	OUTSIDE CONTROL	MASTER BEDROOM	TV ROOM	TV ROOM CLOSET WALL
Sample Type / Metric	Air-O-Cell/150L	Air-O-Cell/150L	Air-O-Cell/150L	Swab
Analysis Date	Wed June 10, 2015	Wed June 10, 2015	Wed June 10, 2015	Wed June 10, 2015
Determination	CONTROL	NORMAL	PROBLEM	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											
Cladosporium sphaerospermum	---	---	---	---	---	---	---	---	---	Present	
Penicillium	---	---	---	---	---	---	---	---	---	Present	
Penicillium/Aspergillus	---	---	---	---	---	---	1,625	10,888	66	Present	
Scopulariopsis	---	---	---	---	---	---	771	5,166	31	Present	
**Non-Problem Fungi											
Alternaria	7	47	2	---	---	---	3	20	<1	---	
Ascospores	19	127	7	17	114	9	---	---	---	---	
Basidiospores	47	315	17	7	47	4	9	60	<1	---	
Bipolaris/Drechslera	5	34	1	1	7	<1	---	---	---	---	
Cladosporium	124	831	47	37	248	21	3	20	<1	---	
Curvularia	7	47	2	1	7	<1	---	---	---	---	
Epicoccum	6	40	2	2	13	1	---	---	---	---	
Nigrospora	4	27	1	---	---	---	---	---	---	---	
Penicillium/Aspergillus	6	40	2	91	610	52	*	*	*	*	
Pithomyces	6	40	2	2	13	1	---	---	---	---	
Smut/Myxomycetes	31	208	11	14	94	8	17	114	<1	---	
Total Spore Count[#]	260	1,800	100	170	1,200	100	2,400	16,000	100	NA	
Minimum Detection Limit	7			7			7			1	
Comments/Definitions	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.			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. The LIGHT DEBRIS present in the sample likely had no 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 limited affect 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.

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Basidiospores

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

Indoor Habitat: Mushrooms can grow on very wet wood products, especially on footer plates, basements, and crawlspaces. 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.

Bipolaris/Drechslera

Outdoor Habitat: Commonly observed spores in the outdoor air worldwide, normally in low numbers.

Indoor Habitat: Wetted wood and gypsum wallboard paper

Allergy Potential: Type I (hay fever, asthma)

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

Toxin Potential: None known

Comments: This category represents at least three genera, including *Bipolaris*, *Drechslera*, and *Exserohilum*. This group cannot be consistently separated by spore morphology alone.

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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.

Cladosporium sphaerospermum

Outdoor Habitat: Dead or dying cellulosic materials like wood and leaves.

Indoor Habitat: A favorite place for this mold type to grow is on wetted or rotting window sills. Also likes to grow on all type of wetted or rotting wood.

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.

Toxin Potential: None known

Comments: A common mold on wetted wood, especially on window sills. Not frequently found in the air.

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Curvularia**Outdoor Habitat:** Soil and decaying vegetation**Indoor Habitat:** Wetted wood and gypsum wallboard paper, many cellulytic substrates**Allergy Potential:** Type I (hay fever, asthma), common cause of allergenic rhinitis**Disease Potential:** Potential human pathogen in immunocompromised people**Toxin Potential:** None known**Comments:** None***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.***Nigrospora*****Outdoor Habitat:** Soil and decaying vegetation**Indoor Habitat:** Can grow on wetted wood and gypsum wallboard paper**Allergy Potential:** Type I (hay fever, asthma)**Disease Potential:** None known**Toxin Potential:** None known**Comments:** Rarely observed growing indoors, but is often found in the indoor air in small amounts because this spore type is frequently found in outdoor air.

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Penicillium**Outdoor Habitat:** Soil and decaying vegetation, textiles, fruits**Indoor Habitat:** Wetted wood and gypsum wallboard paper, textiles, leather**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, but without the fruiting bodies associated with the spores will be listed as "Penicillium / Aspergillus" group. Penicillium identified in air samples indicates that the fruiting bodies were observed. This usually suggests that the source of the mold is nearby and / or a growth was disturbed. The fruiting bodies are not easily sent airborne, nor do they stay in the air long.***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.

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Pithomyces**Outdoor Habitat:** Soil and decaying vegetation and their spores are easily dispersed into the air by wind**Indoor Habitat:** Wetted wood and gypsum wallboard paper**Allergy Potential:** None known**Disease Potential:** None known**Toxin Potential:** One known (sporidesmin)**Comments:** A very common spore type in outdoor air. Can be a water indicator mold type when growing on surfaces indoors.***Scopulariopsis*****Outdoor Habitat:** Soil and decaying vegetation, dung**Indoor Habitat:** Wetted wood and gypsum wallboard paper**Allergy Potential:** Type III (hypersensitivity pneumonitis)**Disease Potential:** Opportunistic pathogen in immunocompromised persons, not normally a pathogen in healthy individuals.**Toxin Potential:** Not well studied**Comments:** Easily dispersed by wind and air currents. Can grow with very little water and can readily grow on wallboard in high humidity situations, e.g. closets. Capable of growing on leather clothes.

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Smut/Myxomycetes**Outdoor Habitat:** Soil and decaying vegetation and wood, especially dead stumps and bark**Indoor Habitat:** Not normally known to grow indoors. However the Myxomycetes can sometimes be found on firewood inside the home and especially on wood paneling. Sometimes known to grow on wood framing inside walls, ceilings and woodwork in closets.**Allergy Potential:** Type I (hay fever, asthma), rare**Disease Potential:** None known**Toxin Potential:** None known**Comments:** These two groups are difficult to distinguish due to their "round and brown" morphology. Smuts are especially common in the outside environment and can be seen in indoor air samples even during the winter in homes because the spores enter homes. These spores can be recycled through the indoor environment all year in small amounts.

An large number of these types of spores indoors can mean that there are fruiting bodies inside the home due to excessive water, usually on a wood surface(s).