INSPECTORLAB
3301 N.W. 55TH ST., FT. LAUDERDALE, FL 33309
888-854-0477

PREPARED FOR: HERO HOME INSPECTION SERVICES **TEST ADDRESS:** 104 QUAIL CIR CALHOUN, GA 30201

CERTIFICATE OF MOLD ANALYSIS

PREPARED FOR:

HERO HOME INSPECTION SERVICES

PHONE NUMBER: (770) 356-3561

EMAIL: DCHILDERS@HEROHIS.COM

TEST LOCATION:

Customer

104 QUAIL CIR

CALHOUN, GA 30201

CHAIN OF CUSTODY # 52255264

COLLECTED: TUE APRIL 02, 2019

RECEIVED: FRI APRIL 05, 2019

REPORTED: FRI APRIL 05, 2019

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.

A version greater than 1.0 indicates that the lab report has been revised.

IF YOU HAVE QUESTIONS REGARDING THIS REPORT, PLEASE CONTACT INSPECTORLAB AT (888) 854-0477 OR EMAIL ASK@INSPECTORLAB.COM.

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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	Intentionally Blank
Lab Sample #	52255264-1	52255264-2	52255264-3	
Sample Identification	26232458	26232455	26232466	
Sample Location	WEST WING	EAST WING	OUTDOOR	
Sample Type / Metric	Air-O-Cell/150.0L	Air-O-Cell/150.0L	Air-O-Cell/150.0L	
Analysis Date	Fri April 05, 2019	Fri April 05, 2019	Fri April 05, 2019	
Determination	**PROBLEM**	**PROBLEM**	**CONTROL**	

Fungal Types Identified	Raw Count	Spores / m^3	% of Total	Raw Count	Spores / m^3	% of Total	Raw Count	Spores / m^3	% of Total	
✳INDOOR PROBLEM FUNGI										
Penicillium/Aspergillus	340	2,278	52	---	---	---	---	---	---	
Stachybotrys	124	831	19	27	181	19	---	---	---	
✳✳Non-Problem Fungi										
Ascospores	2	13	<1	---	---	---	---	---	---	
Basidiospores	11	74	1	13	87	9	3	20	10	
Chaetomium	1	7	<1	---	---	---	---	---	---	
Cladosporium	161	1,079	24	67	449	47	7	47	25	
Curvularia	---	---	---	---	---	---	1	7	3	
Epicoccum	---	---	---	---	---	---	1	7	3	
Microascus	4	27	<1	1	7	<1	---	---	---	
Penicillium/Aspergillus	✳	✳	✳	32	214	22	3	20	10	
Pithomyces	---	---	---	---	---	---	1	7	3	
Rusts	---	---	---	1	7	<1	---	---	---	
Smut/Myxomycetes	3	20	<1	1	7	<1	5	34	18	
Spegazzinia	---	---	---	---	---	---	1	7	3	
Stemphylium	---	---	---	---	---	---	1	7	3	
Torula	---	---	---	---	---	---	3	20	10	
Unclassified Pigmented Spores	3	20	<1	---	---	---	1	7	3	
Total Spore Count	649	4,349	100	142	952	100	27	183	100	
Minimum Detection Limit		7			7			7		
Comments/Definitions **Raw Count:** Actual number of spores observed and counted. **Spores/m^3:** Spores per cubic meter. **% of Total:** Percentage of a particular spore in relation to total number of spores. **X:** Spore type was observed. **---:** Spore type was not observed.	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. LIGHT DEBRIS: The 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. LIGHT DEBRIS: The debris present in the sample likely had no 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.			INTENTIONALLY BLANK

* **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.

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Mold Glossary

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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.

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 Ascotricha. If these types of ascspores are observed they will be listed in the report under their own names.

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.

Chaetomium

Outdoor Habitat: Commonly found on paper products, soil, decaying vegetation, wood and natural fiber textiles (such as jute-backed carpets, canvas, etc.) and similar materials. They are rarely identified in outdoor air. These spores can be disseminated by insects, wind and water splash, etc. It is also known as a soft-rot fungus for softwood and hardwood timber.

Indoor Habitat: Chaetomium is often found on a variety of substrates containing cellulose that are chronically wetted, including paper documents, wallpaper, textiles and construction materials like gypsum board (paper-coated sheet rock) and wood.

Chaetomium can development quickly, covering a surface with substantial growth after two weeks.

Chaetomium globosum is the most commonly found species indoors. It is not that unusual to find the occasional Chaetomium spore in the air indoors.

Allergy Potential: Type I (hay fever, asthma) potential. However, no allergens have yet been characterised. However, at least two potential allergens have been isolated.

Disease Potential: Rarely reported as human pathogen.

Toxin Potential: Several known

Comments: Chaetomium spores are easily disseminated when it becomes dry. However, Chaetomium spores do not remain airborne for long unless disturbed.

High numbers of spores of this genus is not normal for indoor environments and indicate a current or former water problem. Furthermore, since the spores are held together by mucilage and trapped by hairs, few become airborne until the mold has completely dried out or is mechanically disturbed during renovations remediation. It is, therefore, not uncommon to find low Chaetomium spore counts in pre-remediation air samples and relatively higher counts in post-remediation samples.

Chaetomium species colonize surfaces under similar conditions as Stachybotrys, Alternaria, Fusarium and Ulocladium.

HIGH CONCENTRATIONS AND LONG EXPOSURES TO CHAETOMIUM SHOULD BE AVOIDED.

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.

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.

Microascus

Outdoor Habitat: Leaves and certain seeds

Indoor Habitat: Wetted celluosic products

Allergy Potential: None known

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

Toxin Potential: Not known

Comments: Rarely observed in air samples.

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 amounts. This type of spore should not constitute an overwhelming percentage and be present in very high numbers.

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

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 the air. Can be a water indicator mold type indoors

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Rusts

Outdoor Habitat: Parasitic on living plants

Indoor Habitat: Not known to grow indoors, unless on and infected living house plant

Allergy Potential: Type I (hay fever, asthma)

Disease Potential: None known

Toxin Potential: None known

Comments: Common and abundant plant pathogen and are normally robust spores that can persistent indoors, especially from carpets and dirty HVAC systems

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Smut/Myxomycetes

Outdoor Habitat: Soil and decaying vegetation and wood, especially dead stumps and bark

Indoor Habitat: Not known to grow indoors, sometimes found on firewood

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, brown" morphology. Smuts are especially common in the environment and can be seen in indoor air samples even during the winter in homes because the spores can get trapped in carpets

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Spegazzinia

Outdoor Habitat: Soil and decaying vegetation, especially in St. Augustine grass

Indoor Habitat: Not known to grow indoors

Allergy Potential: None known

Disease Potential: None known

Toxin Potential: None known

Comments: A common mold found in St. Augustine grass and other decaying vegetation

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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.

Stemphylium

Outdoor Habitat: Soil and decaying vegetation

Indoor Habitat: Rarely found indoors on 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: Spores can be dispersed into the air by wind. Not commonly observed in outdoor air samples.

Torula

Outdoor Habitat: Soil and decaying vegetation
Indoor Habitat: Wetted wood and gypsum wallboard paper
Allergy Potential: Type I (hay fever, asthma)
Disease Potential: None known
Toxin Potential: None known
Comments: Grows on wood and wicker, and sometimes on wallboard indoors.

Unclassified Pigmented Spores

Outdoor Habitat: None specified
Indoor Habitat: None specified
Allergy Potential: Unknown
Disease Potential: None known
Toxin Potential: Unknown
Comments: Unknown spores that have at least some color, but do not have enough distinctive characteristics to be identified as any particular type of spore.

This type of spore may also be new to science and therefore, unclassified.
