Mold Assessment Report

Client/s:	***PROPERTY ADDRESSES:***
Karen Buxbaum & Ron Kwok	**40 Palo Duro Road, Santa Fe, NM 87506**
Email: karen.buxbaum@gmail.com	***SUBJECT:*** ***Mold Testing & Assessment***
Phone: **(818) 359-3644**	

Inspection Date: 11/15/19 **Inspection Time: 9:00 AM** **Report Number: 10694**

Client was Present: ☐Yes ☑No **Inspector: Robert Willis**

WEATHER: ☑Sunny ☐Cloudy ☐Rain ☐Snow Accumulation

Exterior Temp: 56^0 Exterior Humidity: 20% Interior Temp: 68^0 Interior Humidity: 10%

ACTIVEHOME INSPECTIONS™

Improving homes with SMART assessments

Email: ActiveHome2010@aol.com Website: www.activehome2010.com

1608 Old Pecos Trail ▪ Santa Fe ▪ New Mexico 87505

Mobile: (505) 501-0598 Office: (505) 986-1015 Fax: (505) 986-1860

FINDINGS & COMMENTS:

The 2004 Contemporary House was Built very well and was properly maintained for its 15-years of residential uses. Unfortunately, as reported there was an event over a year ago that caused water damages from a leaking wall's hydrant pipe under the Garage's concrete floor to the Mechanical closet and platform inside of the Garage adjacent to the interior side of the Kitchen's Pantry wall. This leak was not discovered for a long period of time and the free radical mold spores were fueled by high levels of humidity and moisture with direct contact with water along with the stagnate air that is confined between the drywall cavities of the wall between the Kitchen's Pantry and the Mechanical closet wall. Therefore, this has caused a mold growth to freely spread and become active because the mold was first hidden from visual observation until the Buyer's inspector discovered mold spots with slight elevated odors under the mechanical equipment's platform. The mold spots have dried out on the surface of the walls under the platform at the sill plate and seems to be dormant, but inside the walls this mold is very active and spreading inside the cavities. This Active Mold Zone will now need a serious Remediation Plan for its complete **MOLD** removal.

CHAIN OF CUSTODY:

HAYES MICROBIAL CONSULTING

Chain of Cust
3005 East Boundary Terra
Midlothian, VA 231
Ph. 804.562.3435 Fax. 804-

S

SHIP: FEDEX - ENV PO
DATE: 11-16-2019
8028 1579 0257

MOLD
19047672

ACTIVEHOME INSPECTIONS, INC.	Job Number:	10694 - 2nd Test - Revised	Date Collected: 11/15/2019
1608 OLD PECOS TRAIL SANTA FE, NM 87505	Job Name:	Karen Buxbaum	Collected by: ROBERT WILLIS
CELL: (505) 501-0598 FAX: (505) 986-1860		40 Palo Road, SFNM 87506	Email: activehome2010@aol.com

MS

Sample #	Sample Name	Floors:	Analysis Type	Volume	Turn Around Time	Start / Stop Time
A	Use Sample from Report #19047358	(Outdoors)	S	5L/5M	Saturday 11/16	Same As
B	Use Sample from Report #19047358	(Slab/ Crawl Space)	S	5L/5M	Saturday 11/16	Same As
C	Use Sample from Report #19047358	(Slab)	D	SLAB	Saturday 11/16	Same As
D	Inside Wall Cavity above Mechanical Platform	(Slab)	S	5L/5M	Saturday 11/16	9:30 AM - 9:35 AM
E	Garage Area	(Slab)	S	5L/5M	Saturday 11/16	9:40 AM - 9:45 AM
F	Under Mechanical Platform	(Slab)	S	5L/5M	Saturday 11/16	9:50 AM - 9:55 AM
G	Annex Hall/ Kitchen/ Living/ Dining	(Crawl Space)	S	5L/5M	Saturday 11/16	10:00 AM - 10:05 AM
H	Hall/ Entry/ Bedroom/ Bathroom	(Slab)	S	5L/5M	Saturday 11/16	10:10 AM - 10:15 AM
I	Hall/ Master Suite/ Bedroom/ Bathroom	(Slab)	S	5L/5M	Saturday 11/16	10:20 AM - 10:25 AM
Note:	Pre-Mold Test for Mold Spores' Activity					
Weather:	Clear & Sunny					
Conditions:	Times: A - C = 9:30 AM - 10:25 AM					
	Temperatures: A = 56° B - I = 68°					
	Humidity: A = 10 % B - I -= 20 %					

Analysis Type		Description	Turn Around Time	Acceptable Samples Types
Spore Trap	S	Identification & Enumeration of Fungal Spores	24 hours	Spore Trap cassettes, Impact slides
	S+	I & E of Fungal Spores + total dander, fiber and pollen count	24 hours	Spore Trap cassettes, Impact slides
Direct ID	D	ID and Semi-quantitative enumeration of spores and mycelium	24 hours	Tape, Bio-tape, swab, bulk, agar plate for ID only
	D+	ID and Enumeration with spore count	24 hours	Tape, Bio-tape, swab, bulk, agar plate for ID only
Culture	C1	Identification & Enumeration of Mold only	7 days	Anderson Air Plate, Swab, Bulk
	C2	Identification & Enumeration of Bacteria only	4 days	Anderson Air Plate, Swab, Bulk
	C3	Identification & Enumeration of Mold and Bacteria	7 days	Anderson Air Plate, Swab, Bulk
Dust Mite	A1	Semi-quantitive analysis of dust mite allergen	24 hours	Bulk Dust

Notes:	Pre-Mold Test for Mold Spores' Activity					
Relinquished By:	REW AHI	Date:	Rcvd. By: YH	11/16	Date:	Time:

LAB RESULTS:

HAYES MICROBIAL CONSULTING

#19047672

Analysis Report prepared for

Active Home Inspections

1608 Old Pecos Trail
Santa Fe, NM 87505

Phone: **(505) 986-1015**

10694 - 2nd Test - Revised
Karen Buxbaum
40 Palo Road
Santa Fe, NM 87506

Collected: **November 15, 2019**
Received: **November 16, 2019**
Reported: **November 16, 2019**

We would like to thank you for trusting Hayes Microbial for your analytical needs!
We received 9 samples by FedEx in good condition for this project on November 16th, 2019.

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

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

EPA Laboratory ID: VA01419 | Lab ID: #188863 | NVLAP Lab Code: 500096-0 | DPH License: #PH-0198

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Spore Trap
SOP - HMC#101

Sample Number	1	A		2	B		4	D		5	E	
Sample Name	Control Sample Outdoors x 5 FT From Entry			Kitchen / Pantry Closet			Inside Wall Cavity above Mech. Platform			Garage Area		
Sample Volume	25.00 liter			25.00 liter			25.00 liter			25.00 liter		
Reporting Limit	40 spores/m³			40 spores/m³			40 spores/m³			40 spores/m³		
Background	2			2			3			2		
Fragments	40/m³			ND			160/m³			ND		
Organism	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**
Alternaria				1	40	5.0%						
Ascospores	2	80	12.5%	2	80	10.0%				5	200	45.5%
Aspergillus|Penicillium	9	360	56.3%	6	240	30.0%				4	160	36.4%
Basidiospores	2	80	12.5%	7	280	35.0%						
Bipolaris|Drechslera												
Chaetomium							28	1120	57.1%			
Cladosporium	3	120	18.8%	3	120	15.0%				1	40	9.1%
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes										1	40	9.1%
Pithomyces												
Stachybotrys				1	40	5.0%	21	840	42.9%			
Stemphylium												
Torula												
Ulocladium												
Total	16	640	100%	20	800	100%	49	1960	100%	11	440	100%

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

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Collected: **Nov 15, 2019** Received: **Nov 16, 2019** Reported: **Nov 16, 2019**

Project Analyst: Steve Hayes, BSMT — Date: **11 - 16 - 2019**
Reviewed By: Ramesh Poluri, PhD — Date: **11 - 16 - 2019**

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Spore Trap
SOP - HMC#101

Sample Number	6	F		7	G		8	H		9	I	
Sample Name	Under Mechanical Platform			Annex Hall/Kitchen/Living/Dining			Hall/Entry/Bedroom/Bathroom			Hall/Master Suite/Bedroom/Bathroom		
Sample Volume	25.00 liter			25.00 liter			25.00 liter			25.00 liter		
Reporting Limit	40 spores/m³			40 spores/m³			40 spores/m³			40 spores/m³		
Background	3			2			2			2		
Fragments	40/m³			ND			ND			ND		
Organism	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**
Alternaria				1	40	11.1%						
Ascospores	3	120	27.3%	5	200	55.6%	3	120	37.5%	2	80	66.7%
Aspergillus|Penicillium	4	160	36.4%	2	80	22.2%	3	120	37.5%	1	40	33.3%
Basidiospores												
Bipolaris|Drechslera												
Chaetomium												
Cladosporium				1	40	11.1%	2	80	25.0%			
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys	4	160	36.4%									
Stemphylium												
Torula												
Ulocladium												
Total	11	440	100%	9	360	100%	8	320	100%	3	120	100%

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

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Direct Analysis
SOP - HMC#102

#3	Swab (1.00 cm2)	Organism	Spore Estimate	Mycelial Estimate
C - Swab Sample Taken Below Wall of Mechanical Platform		Stachybotrys	Very Heavy	Many

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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 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	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

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

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.
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.

As demonstrated on the Hayes Microbial Consulting Laboratories, **AHI** ran 8-air-spore traps, and one contact mold SWAB; Samples: "A" through "I" throughout the House to analyze the entire house for its healthy and breathable air environment for habitation with occupants and to make sure that any possible mold spread has been confined to the Active Mold Zone as first discovered.

The architecture of this house is elevated approximately 40% over a Crawl Space under the Kitchen, Great Room, Dining Room and Annex to the central Entry. The rest of the floors are elevated concrete slab-on-grade construction contained by stem walls with several split levels and stairs raising to the master suite on the East wing.

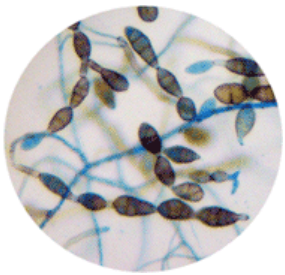
At the eight sites where air spore trap samples were taken illustrates that the worst of the mold growth is at the Mechanical closet and platform. The contact SWAB Sample, "C" shows that **Stachybotrys,** "**black mold**" is very heavy. Sample "F" under the platform shows 4-raw counts of **Stachybotrys** and Sample "D" inside the wall cavity between the Mechanical and Pantry wall shows two serious molds of 21-raw counts of **Stachybotrys** and 28-raw counts of **Chaetomium,** both very serious and concerning, but fortunately they are confined inside the wall and have not spread beyond the confinement as of yet. Even if the mold spores are existent on the exterior of the dwellings, (Control Sample, "A" there were several mold spores, mostly harmless, such as the **Cladosporium**, **Ascospores** and **Basidiospores**, which are not necessarily becoming an active mold growth; and if they ever become active, it would only be short lived, but for now, it is probably an inactive mold, but still present on several surfaces of the many spores found floating around from a typical atmosphere, like with pollen as a common Allergen. There was **Aspergillus/ Penicillium** mold spores that were found to at 9-raw counts outside and 6-raw counts on the Interiors are considering, but no direct cause has been identified. Further air-spore trap testing throughout the house away from the Active Mold Zone have become minimal and the breathable environment is manageable.

This mold spores found are caused from water leaks and a moisture build-up inside the identified wall cavities and could become harmful if not remediated. In order for mold to grow, it needs trapped moisture and dead air. Any mold growth that could occur inside are fueled by stagnate air and water as a fuel and by a lack of ventilation to cause these conditions for mold growth. Most mold growth cannot take root outside on exposed surfaces to the elements except for the anomaly of the high raw counts **Aspergillus/ Penicillium** molds found outside that may need further testing at another location.

Alternaria: A Well Recognized Allergy Causing Fungus…

The mold *Alternaria* is a well-recognized allergy causing fungus. *Alternaria* spores can be detected from spring through late fall in most temperate areas, and can reach levels of thousands of spores per cubic meter of air. *Alternaria* spores can be at their highest concentrations during dry, windy conditions that are ideal for the spores to become airborne. *Alternaria* is currently comprised of about 40-50 species. It is commonly isolated from plants, soil, food, and indoor air. One of the species, *Alternaria alternata*, has been isolated from numerous kinds of organic materials in damp situations, including textiles, stored food, canvas, cardboard and paper, electric cables, polyurethane, jet fuel, sewage and effluents.

Airborne spores of *Alternaria alternata* and *Alternaria tenuissima* are found in very high numbers in the outdoor environment during summer. The presence of *Alternaria* together with other molds such as *Ulocladium* spp, *Stachybotrys* spp, *Fusarium* spp and Pharma spp, in indoor environment is indicative of humid conditions.



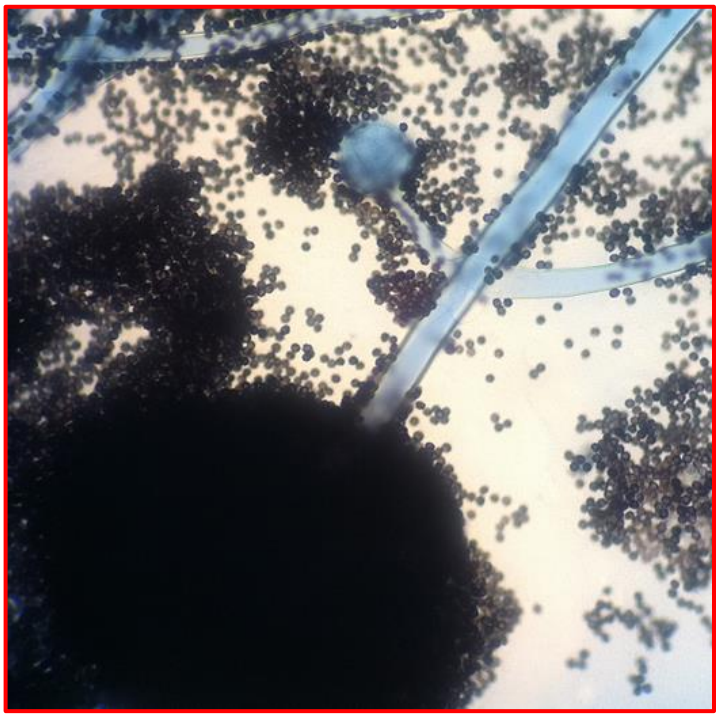
Alternaria spores

A. *Alternata* is not commonly isolated from indoor building materials and in most instances, spores found in indoor air environment may have originated from outdoor sources. A closely related mold, *Ulocladium chartarum*, which is very common in indoor environments is frequently misidentified as *Alternaria alternata*. *Ulocladium chartarum* is common on wallpaper and drywall, and has been isolated from emulsion paint, polyurethane, plywood and manila fiber. *A. alternata* shows significant morphological variation and is believed to be a species complex meaning that it is an amalgam of closely related strains rather than a single homogeneous species.

B. *Alternata* is recognized as an important allergen with airborne spores and mycelial fragments being responsible for the allergic symptoms in individuals with rhinitis or bronchial asthma. *Alternaria* sensitivity can also lead to severe and potentially fatal asthma. Studies have shown that up to 70% of mold-allergic patients have skin test reactivity to *Alternaria*. It has also been shown that prolonged heavy exposure to *A. alternata* spores and mycelial fragments mimics that of other allergens such as cat dander and dust mites. It has also been recorded as an opportunistic pathogen causing skin diseases particularly in immunocompromised patients such as the bone marrow transplant patients.

Note: The presence of *Stachybotrys* and *Chaetomium*, and other bacteria inside an indoor environment are generally indicative of wet conditions with higher humidity or condensation areas on indoor surfaces. This “Black Mold,” *Stachybotrys* is associated with the wet damages form a leaky pipe that was spreading active mold growth to the inside the wall cavities trapped by the drywalling of the Mechanical and Pantry walls and will need further Remediation Work to eradicate the mold.

Aspergillus:



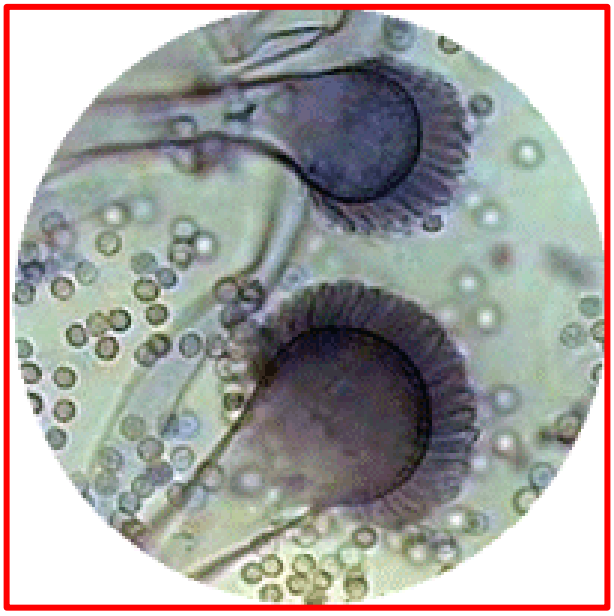
Aspergillus/ Penicillium & Unidentified Spores:

Indoor air sampling for mold spores may be conducted to help in evaluating the air quality after occupants' complaints of ill health, to determine the effectiveness of remediation procedures, to assess health hazards or to proactively monitor indoor air quality. Mold spores enter a building from outdoors through air intakes for the heating, ventilation, and/or air conditioning system (HVAC), doors and windows contaminated building materials and contents.

Sampling for Airborne Aspergillus species:

Aspergillus is one the most common types of molds in indoor environment. Some members of Aspergillus group are recognized health hazards and are of great concern if they appear in built environment. The most important species as concerns health are Aspergillus calvados, Aspergillus fumigates, Aspergillus Niger and Aspergillus versicolor. Aspergillus calvados is often associated with allergic diseases in workers of malt-houses. Aspergillus fumigates is the most important and well known.

FILED UNDER: MOLD TAGGED WITH: AIRBORNE, ASPERGILLUS, ASPERGILLUS SPORES, MOLD AIR SAMPLING, MOLD SAMPLING, MOLD SPORES, SAMPLING



The mold Aspergillus has close to 200 species and varieties. Aspergillus is widely distributed from the arctic region to the tropics. Aspergillus species are frequently found in air and soil. As for concerns of indoor air quality the most important species are Aspergillus fumigates, Aspergillus flatus, Aspergillus calvados, Aspergillus Niger, Aspergillus versicolor. Aspergillus:

Ascomycetes/ Ascospores:

Natural Origin - A large category of spores (produced in a sac-like structure) that are found everywhere in nature. They are considered a wet weather spore. They are plentiful during light rainfall or in pre-dawn hours when condensation is heavy. Ascomycete/Ascospores is sometimes used as a general morphological identification (i.e. the ascus or sac structure is present) for certain samples in those cases when the spores do not appear to represent any of the indoor air quality (IAQ) significant genera.
Indoor Origin - Most commonly brought in by outside air movement (wind disseminated).
Pathogenicity - Most Ascospores of health or IAQ importance are identified separately by their genus (e.g. Chaetomium).
Diseases - If there are any known, they will be listed with the identified genus.
Allergen - If there are any known, they will be listed with the identified genus.

Aspergillus/ Penicillium:

Natural Origin – It is commonly found outdoors in soil, food, cellulose and grains.
Indoor Origin – It is common fungal genus, especially in indoor environments. They can pose a danger indoors because they can grow in a few days. Commonly found in water damaged homes, but it can be isolated from paints, soil, and building materials wall, wallpaper, and house dust.
Pathogenicity - May be in the form of invasive infection, infecting various sites in individuals with lower resistance due to immunocompromised systems. Some species produced mycotoxins. It is commonly considered a contaminant.
Diseases - Some Aspergillum species can cause a group of diseases known as Aspergillosis. Penicillium has been known to cause Keratitis, external ear infections, respiratory infections and urinary tract infections.
Allergen - Known to be allergenic.

Basidiomycetes/ Basidiospores:

Natural Origin - A general class is spore formed on a structure known as a basidium. This category is commonly found in outdoor air samples. They are considered a wet weather spore. They are plentiful during light rainfall. In mushrooms and bracket fungi, the releases of spores require high humidity and so are most abundant in the pre-dawn hours. Spores can be transported short distances in light rain. These spores come from mushrooms, toad stools, puffballs, and bracket fungi. In puffballs, spores are released as raindrops strike them, with strong gusts of wind, or when small animals hit them. They are found in lawns, fields, parks and wooded areas from spring through fall within a few days after rainfall.
Indoor Origin - Some species are associated with dry rot in wood. Elevated airborne concentrations indoors might be indicative of water damage or too high of humidity.
Pathogenicity - No known infections have been reported in humans at this time.
Diseases - There are no known diseases associated with this spore at this time
Allergen - Many species are reported to be allergenic and high levels of these spores inside can contribute to allergy.

Chaetomium Species: *the other type of* ***"Black Mold"***

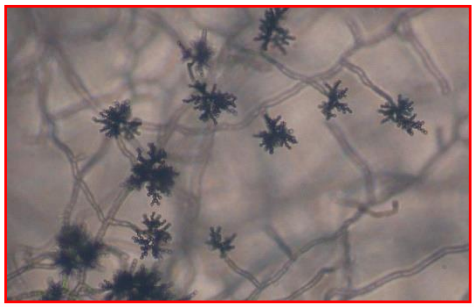
Chaetomium species are found worldwide in soil, dung, or decaying plants. Most species are prolific producers of the enzyme cellulase that breaks down cellulose. Destruction of paper and other materials containing cellulose (including foods, feeds, paper, textile, bird feathers, seeds and military equipment) by species of this mould is well documented. Due to their strong ability to destroy material, *Chaetomium* species are often used in testing materials for resistance to mould growth.

Chaetomium is perhaps the third most common indoor fungal contaminant of mouldy damp buildings. It may be found on wet drywall, wallpaper, carpets, window frames, baseboards and plywood. The most widespread and common species is *Chaetomium globosum*. This species causes many problems of biodeterioration of paper and other cellulose containing material. It is considered a "weed" of mushroom beds, where it inhibits the growth of cultivated mushrooms.

Health Effects:

Although *Chaetomium* species are rarely associated with human infections, there are reports of infections involving individuals with weak immune system. *Chaetomium globosum* is known to produce 2 toxins in moisture damaged buildings, chaetoglobosins A and C. These toxins have the potential to cause illness to building occupants.

Cladosporium:



Natural Origin - Cladosporium grows on leaves and soft stems. It is the most prevalent spore to be found in outdoor air samples. Cladosporium is also known to be very resistant to changes in the amount of water available, as they have been observed to resume growth after extended periods of drying.

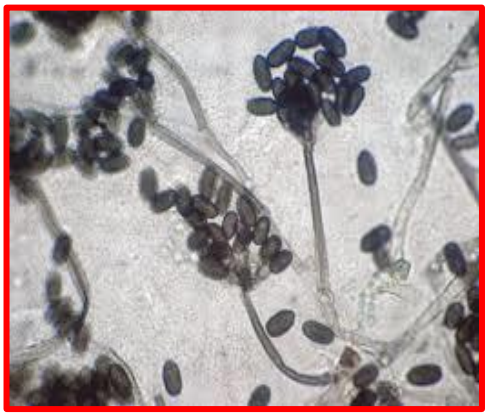
Indoor Origin - Cladosporium can be found in refrigerator drip pans, the bottom of refrigerators, on moist window frames and on painted surfaces which are moist, or in high humidity locations. It can also grow on textiles, wood, paper and various man-made materials. It is widely distributed in air and rotten organic material and as a contaminant on foods.

Pathogenicity – Is commonly considered saprophytic contaminants. They have only occasionally been implicated in infections. Perceived to be primarily nonpathogenic.

Diseases - Rare documented cases of Keratitis and Onychomycoses.

Allergen - It is one of the most important fungal airway allergens and is frequently isolated as a contaminant. The spores are known to be prevalent sources of allergens in the atmosphere and cause symptoms that include hay fever, asthma, and hypersensitivity pneumonitis.

Stachybotrys: *"Black Mold"*



The presence of *Stachybotrys*, within an indoor environment is generally indicative of wet conditions, and not just high humidity or condensation on indoor surfaces. "Black Mold" was found on many areas associated with the water damages due to a leaky pipe in the Mechanical closet under the platform and inside the Mechanical closet and Pantry walls. Remediation will be necessary for removal to remedy this situation.

Natural Origin - A soil fungus in the natural environment, it is found with decaying plant materials.

Indoor Origin - Stachybotrys is a slimy black mold rarely found outdoors but can be common where there has been water damage due to flooding or leaks. Because it needs cellulose to grow, it is found on drywall, and other materials containing paper on wood.

Pathogenicity - It produces several mycotoxins that appear to have the ability to affect humans and animals after ingestion, inhalation or percutaneous absorption. Commonly considered a contaminant.
Diseases - The fungus has been associated with pulmonary hemorrhage and Hemosiderosis in infants. It has been implicated in illnesses (coughing, wheezing runny nose, irritated eyes or throat, skin rash, etc.) in occupants (all ages) of water damaged homes and other buildings. The long-term health effects of Stachybotrys are not known at this time. Ongoing studies are in progress.
Allergen - Some consider it allergenic, although little is known.

CONCLUSION AND RECOMMENDATION:

There are concerns upon this inspection of the aforementioned Property and ActiveHome Inspections' shall herein, **CERTIFY** that this dwellings other than the **Active Mold Zone** will need immediate Remediation to be reasonably safe from active mold growth on the Interiors that were inspected and tested, (See Hayes Lab Report and Analysis).

At this time, a Remediation Plan shall be needed to remove the effected mold growth found within the **Active Mold Zone**.

Since the faulty plumbing has been repaired, all that is left to do is to remove the Active Mold Growth that still exists within the **Active Mold Zone**.

Of the entire mold spores found in this report, most are still lingering after finding the higher humidity and condensation levels in the Mechanical closet.

Some of trapped mold spores throughout the **Active Mold Zone** may be causing moderate problems with allergies. See a Health advisor for recommendations due to reoccurring symptoms.

THEREFORE:

1. It is further recommended to further clean and to fumigate the entire house and/ or use of Bio-Cide Mold Bomb to render this breathable environment to be Mold Free from any free radicals with mold spores and then, retest.

2. The Pantry Room wood floor over the concrete slab will need a further analysis to determine if the Mold Growth has not spread under the wood and concrete substrate.

The Assessment and the Results of the Hayes Lab Report illustrates that this property will need immediate Remediation work.

Don't hesitate to call me if you need any further information and solutions and a cost analysis to proceed based on my recommendations.

Sincerely yours,

Electronically signed

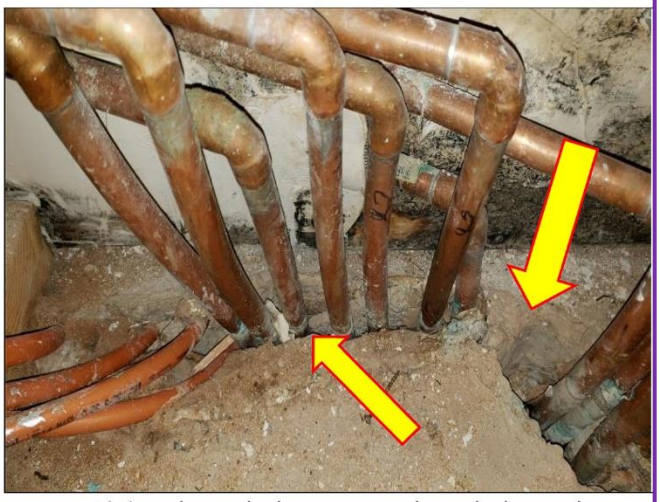
Robert Willis

PHOTO ARRAY: ACTIVE MOLD ZONE

1. Mechanical closet is now the Active Mold Zone and will need immediate Remediation. Hole cut for the air test on the Mechanical and Pantry wall.

2. Garage area is generally reasonable safe from mold activity. See the Hayes Lab Report.

3. Black mold spots found under the Mechanical platform on the walls and sill plate; whereas the drywall will need to be removed for Remediation.



4. Piping through the concrete have holes and are badly cracked and will need to be epoxy sealed to prevent water and moisture from penetrating.

5. Pantry wood floor showed higher levels of moisture under the concrete substrate by 22% that is suspicious.

6. Pantry is easy to isolate from the rest of the Kitchen and House and the wood floor can be cut to remove, if necessary, for further Remediation.

SITE PHOTOGRAPHS
Project No. 10694

TYPICAL PRODUCTS to be USED:

MOLDerizer 100% Organic Mold and Mildew Remover That Breaks Apart DNA of Mold Spores, as needed.

- Kills Mold Literally in Just Seconds
- Removes Nasty Old Mold Stains
- Deodorizes Musty Mold Odors
- Used by Mold Professionals, Health Facilities, & Resorts
- Used by The Indoor Air Quality Industry (IAQ)

Concrobium Mold Control

Concrobium Mold Control effectively eliminates and prevents mold with no bleach, ammonia or VOCs. Concrobium works as it dries by crushing the mold spores at the roots and leaving behind an invisible antimicrobial barrier to prevent future mold growth. Also used for fogging.

BioCide Mold Bomb

Use as needed in conjunction with and prior to mold testing.

BlueDri AS-550 Blue Air Scrubber

HEPA Air Filtration System Negative Air Machine Airborne Air Cleaner HEPA Air Scrubber for Mold Air Purifier with 8" Flexible Duct.

*****End of Report*****

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