Mold Inspection Sciences Texas, Inc. Lab Report 2512 S IH 35, Suite 110 Austin, TX 78704 USA (512) 535-2493





EMLab P & K

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Project: Sample Client Date of Sampling: 09-13-2017 Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

MoldREPORT EMLab P & K

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 Fax (623) 780-7695

Table of Contents

Thank you for choosing MoldREPORTTM from EMLab P&K. Our mission is to provide industry leadership for the assessment of mold in the home indoor environment.

Your MoldREPORTTM is designed and intended for use by professional inspectors in office and residential home inspections to help in the assessment of mold growth in the living areas sampled by professional inspectors. Our laboratory analysis is based on the samples submitted to EMLab P&K. Please read the entire report to fully understand the complete MoldREPORTTM process. The following is a summary of the report sections:

- 1. Detailed Results of Sample Analysis Laboratory results from the samples collected at the site.
- 2. Understanding Your Sample Analysis Results Detailed summary of how to understand the analytical results from the air samples and/or surface samples including interpretive guidelines.
- 3. Important Information, Terms and Conditions General information to help you understand and interpret your MoldREPORTTM, including important terms, conditions and applicable legal provision relating to this report.
- **4. Scope and Limitations -** Important information regarding the scope of the MoldREPORTTM system, and limitations of mold inspection, air sampling, and surface sampling.
- 5. Glossary Definitions and descriptions of frequently used terms and commonly found mold.

SAMPLX

6. References and Resources - Literature, websites, and other materials that can provide more in-depth information about mold and indoor air quality.

Project: Sample Client Date of Sampling: 09-13-2017 Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

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Summary of Sample Analysis Results

Do not take any action based on the results of this report until you have read the entire report.

Air Sample Summary:

The MoldSCORETM was in the HIGH range for the following area(s): ST1, ST2. A high MoldSCORETM indicates a high likelihood of mold growth in the area tested at the time of the inspection. If mold growth is in fact present, it should be cleaned or physically removed using appropriate controls and precautions by a trained professional and any associated water source that led to the problem should also be corrected.

Please see the sections titled "Detailed Results of the Air Sample Analysis" and "Understanding Your Air Sample Analysis Results" for important additional information.

Location	MoldSCO	ORE TM			Exposu	re Leve	el	
ST1: Family room * see p. 4 for details	Lower <110 200	Higher 300	Mold Score 299	Lower <200 1K	10K	Higher >70K	Location spores/m3 3,193	Outside spores/m3 8,800
ST2: Master bedroom * see p. 5 for details	Lower <110 200	Higher 300	Mold Score 294	Lower <200 1K	10K	Higher >70K	Location spores/m3 2,843	Outside spores/m3 8,800

Surface Sample Summary:

The surface sample results of DE1, DE2, DE3 indicated mold growth on the surface(s) sampled at the time of sampling.

Please see the sections titled "Detailed Results of the Surface Sample Analysis", "Understanding Your Surface Sample Analysis Results", "Important Information, Terms and Conditions" and "Scope and Limitations" for additional information.

Location	Mold Growth	Dominant Types
DE1: Family room ceiling * see p. 10 for details	Mold Growth	Cladosporium species Penicillium/Aspergillus group
DE2: HVAC unit in attic * see p. 11 for details	Mold Growth	Cladosporium species Acremonium species Penicillium/Aspergillus group
DE3: Master bedroom ceiling * see p. 12 for details	Mold Growth	Cladosporium species

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Project: Sample Client Date of Sampling: 09-13-2017 Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

MoldREPORT

1501 West Knudsen Drive, Phoenix, AZ 85027

(800) 651-4802 Fax (623) 780-7695

Detailed Results of the Air Sample Analysis

Location		all Mold Sou hood spores			Overall Exposure Level (Shown on a log scale)					
ST1: Family room	Lower <110	200	Higher 300	Mold Score	Lower <200	1K	10K	Higher >70K	Location spores/m3	Outside spores/m3
				299					3,193	8,800
Indicators of Mold Growth										
Indoors		Indicator Mold Source Assessment* (Likelihood spores originated inside)					Indicator Exp (Shown on	posure Le a log scal	vel e)	
	Lower		Higher	Mold	Lower			Higher	Location	Outside
A) Penicillium/Aspergillus types**	<110	200	300	Score 299	<200	1K	10K	>70K	spores/m3 2,800	spores/m3
B) Cladosporium species spores				100					270	3,800
C) Basidiospores				100					110	4,100
D) "Marker" spore types***				105					13	27
"Markers" with MoldSCORE TM > 100) (maximun	n of three li	sted): 1)Ch	naetomiun	1					
E) "Other" spore types***,****				100					< 13	422
"Others" with MoldSCOPETM > 100	(movimum	of five liste	d). None							

^{&#}x27;Others" with MoldSCORETM > 100 (maximum of five listed): None

Other Sample Information

Sample clarity & visibility

	Good	Moderate	Poor
Location		X	
Outside		X	

"Good" = background debris is light enough to pose no difficulty in analyzing air samples. "Poor" = background debris so heavy that it poses a significant difficulty in analyzing the air sample accurately. Results are most likely lower limits.

Other "normal trapping" spores

	(Highly	Exposure unlikely to		indoors)	
Lower <200	1K	10K		Location spores/m3	Outside spores/m3
				< 13	320
			Г		0 11

	Location	Outside
Sample volume (liters)	75	75

Comments

			_ \	
Location	None			
Outside	None			

^{*} Rated on a scale from low to high. A MoldSCORETM rating of <150 is low and indicates a low probability of spores originating inside. A MoldSCORETM rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A MoldSCORETM between 150 and 250 indicates a moderate likelihood of indoor fungal growth. EMLab P&K's MoldSCORETM analysis is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the MoldSCORETM analysis on other samples (like wall cavity samples) will lead to misleading results.

^{**} The spores of *Penicillium* and *Aspergillus* (and others such as *Acremonium* and *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by spore trap sampling methods. Also some species with very small spores are easily missed, and may be undercounted. The Penicillium/Aspergillus indicator operates on the assumption that the majority of the spores in this category are, in fact, Penicillium or Aspergillus.

^{***} The spores reported in this category come from many different mold types. As a result, the mold types represented by the counts for the "Location" sample may be different than the mold types represented by the counts for the outside sample.

^{****} The spores of smuts, Periconia, and myxomycetes look similar and cannot generally be distinguished by spore trap analysis. Smuts are plant pathogens and are not likely to be on indoor surfaces. *Periconia* is rarely found growing indoors. However, myxomycetes, the spores of which look similar, can occasionally grow indoors. Because there is a small probability of indoor sources, these spore types are indicated in the "other" spore types category. False positives may result if the spores are smuts, not myxomycetes.

Project: Sample Client Date of Sampling: 09-13-2017 Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

MoldREPORT

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Detailed Results of the Air Sample Analysis

Location		Mold Sour			Overall Exposure Level (Shown on a log scale)					
ST2: Master bedroom	Lower <110	200	Higher 300	Mold Score	Lower <200	1K	10K	Higher >70K	Location spores/m3	Outside spores/m3
Indicators of Mold Growth				294					2,843	8,800
Indoors		Indicator Mold Source Assessment* (Likelihood spores originated inside)					Indicator Exp (Shown on	posure Le a log scal	vel e)	
A) Penicillium/Aspergillus types**	Lower <110	200	Higher 300	Mold Score 294	Lower <200	1K	10K	Higher >70K	Location spores/m3 2,200	Outside spores/m3
B) Cladosporium species spores				100					160	3,800
C) Basidiospores				100					110	4,100
D) "Marker" spore types***				100					< 13	27
"Markers" with MoldSCORETM > 100) (maximum	of three lis	ted): None	e						
E) "Other" spore types***,**** "Others" with MoldSCOPETM > 100 (185					320	422

²⁾ Smuts, Periconia, Myxomycetes 'Others" with MoldSCORETM > 100 (maximum of five listed): 1)Curvularia

Other Sample Information

Sample clarity & visibility

	Good	Moderate	Poor
Location		X	
Outside		X	

"Good" = background debris is light enough to pose no difficulty in analyzing air samples. "Poor" = background debris so heavy that it poses a significant difficulty in analyzing the air sample accurately. Results are most likely lower limits.

Other "normal trapping" spores

	Exposure Level										
	(Highly unlikely to be from indoors)										
Lower				Location	Outside						
< 200	1K	10K	>70K	spores/m3	spores/m3						
				53	320						

	Location	Outside
Sample volume (liters)	75	75

Comments

			_ \	
Location	None			
Outside	None			

^{*} Rated on a scale from low to high. A MoldSCORETM rating of <150 is low and indicates a low probability of spores originating inside. A MoldSCORETM rating of >250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A MoldSCORETM between 150 and 250 indicates a moderate likelihood of indoor fungal growth. EMLab P&K's MoldSCORETM analysis is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the MoldSCORETM analysis on other samples (like wall cavity samples) will lead to misleading results.

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^{***} The spores reported in this category come from many different mold types. As a result, the mold types represented by the counts for the "Location" sample may be different than the mold types represented by the counts for the outside sample.

^{****} The spores of smuts, Periconia, and myxomycetes look similar and cannot generally be distinguished by spore trap analysis. Smuts are plant pathogens and are not likely to be on indoor surfaces. *Periconia* is rarely found growing indoors. However, myxomycetes, the spores of which look similar, can occasionally grow indoors. Because there is a small probability of indoor sources, these spore types are indicated in the "other" spore types category. False positives may result if the spores are smuts, not myxomycetes.

Project: Sample Client Date of Sampling: 09-13-2017 Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

MoldREPORT EMLab P & K

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Understanding Your Air Sample Analysis Results

Description of the Air MoldREPORTTM Analysis

Mold spores are present in virtually all environments, both indoors and outdoors, with a few notable exceptions such as industrial clean rooms and hospital organ transplant rooms. Generally, in "normal" or "clean" indoor environments, indoor spore levels are lower, on average, than outdoor levels. However, even the most simple rules (such as "inside/outside" ratios) are not always appropriate for determining whether there is a source of mold growth indoors, and may provide false or misleading results. One reason these simple methods do not always work is because both outdoor and indoor spores levels vary widely due to factors such as weather conditions and activity levels within the room. For example, even in a "normal" home, spore levels can be higher than outdoors at certain times, such as after vacuuming (when airborne indoor levels could be unusually high) or after a heavy snow (when outdoor levels could be unusually low).

MoldREPORTTM is designed and intended to provide an easily understood report for residential home inspections to help in the assessment of mold growth in the living areas sampled. MoldREPORTTM relies on non-invasive and nondestructive tests, so it cannot guarantee that hidden mold problems will be detected and reported. MoldREPORTTM results apply only to the rooms or areas tested, at the time of sampling. Factors taken into consideration include, but are not limited to, the distribution of spore types, absolute levels inside and outside, relative levels inside and outside, the range and variation of spore levels that normally occur outside, and the types of spores present.

Providing you with a helpful, understandable and top quality interpretation requires special expertise. EMLab P&K recognizes this and has taken the following steps to provide the best possible interpretation of your air sampling results.

- 1. Your samples were analyzed by EMLab P&K,
- 2. We utilize the proprietary MoldREPORTTM analysis system, which was developed by a team including leading professionals in the indoor air quality (IAQ) industry.

MoldSCORETM

The MoldSCORETM indicates the likelihood, based upon the air sample laboratory data, that there is unusual or excessive mold growth in the properly sampled indoor area(s). It is calculated using EMLab P&K's proprietary MoldREPORTTM system, based upon the indicator scores described in the following paragraphs. When the on-site inspection and sampling are done properly, MoldREPORTTM is less likely to give false results than other, simpler methods of interpretation often employed for routine home inspections, such as ratio analysis. It is important to bear in mind that any analytical method, findings, and interpretation should be used with a degree of caution and common sense. Any decisions related to health should be made in consultation with a medical doctor, and nothing in this report is intended to provide medical advice or indicate whether a medical or safety problem exists.

Descriptions of the indicators:

Quantity and concentration of *Penicillium/Aspergillus* spore types

This score indicates the likelihood that spores of *Penicillium* or *Aspergillus* present in the indoor sample originated from indoor sources. A high score suggests that there is a high probability that *Penicillium* or *Aspergillus* is originating indoors, such as from active mold growth. A low score indicates that the spores present are more likely to have originated from outdoor sources and come inside through doors and windows, carried in on people's clothing, or similar methods. Penicillium and Aspergillus are among the most common molds found growing indoors and are one of the more commonly found molds outside as well. Their spores are frequently present in both outdoor and indoor air, even in relatively clean, mold-growth-free, indoor environments. Additionally, their levels vary significantly based upon activity levels, dustiness, weather conditions, outside air exchange rates, and other factors.

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Project: Sample Client

Date of Sampling: 09-13-2017 Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

MoldREPORT EMLab P & K

1501 West Knudsen Drive, Phoenix, AZ 85027

(800) 651-4802 Fax (623) 780-7695

Understanding Your Air Sample Analysis Results (continued)

Quantity and concentration of Cladosporium spores

This score indicates the likelihood that spores of *Cladosporium* present in the indoor sample originated from indoor sources. A high rating indicates that there is probably a source of *Cladosporium* spores in this location. Cladosporium is one of the most commonly found molds outdoors and is also frequently found growing indoors. Even more so than *Penicillium* and *Aspergillus*, spores from *Cladosporium* are generally present in outdoor and indoor air, even in relatively clean, mold-growth-free, indoor environments. Its levels also vary based upon activity levels, weather conditions, dustiness, outside air exchange rates, and other factors.

Quantity and concentration of basidiospores

This score indicates the likelihood that basidiospores present in the indoor sample originated from indoor sources. Basidiospores are extremely common outdoors and originate from fungi in gardens, forests, and woodlands. It is rare for the source of basidiospores to be indoors because basidiospores are produced by a group of fungi that includes mushrooms and other "macrofungi" (and are not technically molds). Their concentrations can be extremely high outdoors during wet conditions such as rain. Nevertheless, in certain conditions basidiospores can be produced indoors, and a high rating indicates that there is probably a source of basidiospores indoors. One reason basidiospores are important is that they can be an indicator of wood decay (e.g. "dry rot"), a condition that can dramatically reduce the structural integrity of a building.

Quantity and concentration of "marker" spore types

This score indicates the likelihood that certain distinctive types of mold present in the indoor sample originated from indoor sources. Certain types of mold are generally found in very low numbers outdoors. Consequently, their presence indoors, even in relatively low numbers compared to *Penicillium*, for example, is often an indication that these molds are originating from growth indoors. When present, these mold types are often the clearest indicator of a mold problem. Note, however, that the absence of marker spore types does not mean that a mold problem does not exist in a house; it just means that if a problem is present, it either involves types of mold that are more commonly found both indoors and outdoors, or that the spores from these molds were not airborne at the time of sampling.

Quantity and concentration of "other" spore types

This score indicates the likelihood that other types of mold present in the indoor sample originated from indoor sources. This score includes a heterogeneous group of genera that are not covered by any of the scores discussed above, and so it is difficult to make generalizations about this group. Molds in the "other" category are generally found outdoors in moderate numbers, and are therefore not considered markers of indoor growth. They are frequently found indoors but in lower numbers compared to Cladosporium and Penicillium/Aspergillus spores.

Other Sample Information:

Sample clarity and visibility

Air samples collect dirt and debris in addition to mold spores. Higher levels of debris make analysis more difficult, because they obscure the analyst's view of spores and can therefore lead to undercounting of the mold spores present. When sample clarity and visibility is rated "poor", the analytical results should be regarded as minimal and actual counts may be higher than reported.

Other "normal trapping" spores

Some molds do not grow on wet building materials and, consequently, are not usually indicative of building problems, or growth on building surfaces. Strict plant pathogens, for example, even if present in high numbers indoors, are not an indication of a building leak or mold growth on a wall or carpet. This section of the report focuses on the exposure level that may be due to these spore types.

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MoldREPORT EMLab P & K

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 Fax (623) 780-7695

Understanding Your Air Sample Analysis Results (continued)

Sample volume

The "sample volume" indicates the volume of air sampled and is reported in liters. A high volume indicates a greater sensitivity, but is more likely to result in poor sample clarity and visibility. A low volume is more likely to have good sample clarity and visibility, but has less sensitivity.

Comments

This is where analysts can comment on unusual details or add additional information that is not captured by the other areas of the air sampling report.



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Project: Sample Client Date of Sampling: 09-13-2017 Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

MoldREPORT EMLab P & K

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 Fax (623) 780-7695

Interpretive Guidelines to MoldSCORETM Levels

MoldSCORETM Level: LOW

A low MoldSCORETM indicates the air sample did not detect, relative to the outside air, the presence of indoor mold growth in this room at the time of sampling. This result, by itself, is evidence for, but does not prove, the absence of indoor mold growth in the location sampled.

Mold is a living organism that can grow very rapidly under certain conditions. If any portion of the room tested is, or has been, damp for an extended period since the time of testing, the likelihood of mold growth may have increased substantially since the time of the inspection.

MoldSCORETM Level: MODERATE

The air sampling MoldSCORETM indicated the possibility of mold growth indoors. Generally, a MODERATE level means that the results are inconclusive, and suggests that a more detailed inspection may make sense if there are any other reasons to believe that mold growth could be a problem in this location. Indoor mold growth is a possibility, but was not confirmed in the areas sampled at the time of the inspection. Factors such as recent cleaning, HVAC cycles, high winds, rain, or other indoor or outdoor conditions could have contributed to a MODERATE result in the absence of indoor mold growth. If mold growth is found, regardless of the magnitude of the growth, it is recommended that the growth be physically removed using appropriate controls and precautions. If mold has been located and removed, it is also important to identify and correct the source of moisture or dampness that allowed the mold to grow. If the affected area becomes moist again, mold growth will occur again. We recommend that you consult a professional if you are not familiar with how to locate and safely remove mold growth or how to identify and correct moisture problems that may exist.

Mold is a living organism that can grow very rapidly under certain conditions. If any portion of the room tested is, or has been, damp for an extended period since the time of testing, the likelihood of mold growth may have increased substantially since the time of the inspection.

MoldSCORETM Level: HIGH

The air sampling MoldSCORETM indicated a high likelihood of mold growth in the area tested at the time of the inspection. This result is NOT necessarily an indication that any such mold growth was extensive. If mold growth is found, regardless of the magnitude of the growth, it is recommended that the growth be physically removed using appropriate controls and precautions. If mold has been located and removed, it is also important to identify and correct the source of moisture or dampness that allowed the mold to grow. If the affected area becomes moist again, mold growth will occur again. We recommend that you consult a professional if you are not familiar with how to locate and safely remove mold growth or how to identify and correct moisture problems that may exist.

Neither this report nor any MoldSCORETM rating is intended to provide medical advice, nor shall it be interpreted as an indicator of potential medical or safety problems. If you have concerns or questions relating to your health, please contact your physician for advice.

Client: Mold Inspection Sciences Texas, Inc. Contact: Lab Report
Project: Sample Client
Date of Sampling: 09-13-2017
Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

MoldREPORT

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 Fax (623) 780-7695

Detailed Results of Surface Sample Analysis

Location:	DE1: Family room ceiling			
Sample Type:	Swab sample			
Mold growth present*:	No growth	Low		High
Low=small amounts of mold growth present	found			
High=large amounts of mold growth present				
Acremonium species				
Alternaria species				
Aspergillus species				
Aureobasidium species				
Chaetomium species				
Cladosporium species				
Penicillium species				
Penicillium/Aspergillus group				
Stachybotrys species		()		
Trichoderma species				
Ulocladium species		<u>'</u>		
Miscellaneous spores present: Indicative of normal conditions**	Very few			
Indicative of normal conditions**				
Background debris:	Light			
	1			
Other comments:	None			

^{*} Quantities of molds seen growing are graded Low to High with High denoting the highest numbers.

^{**} Indicative of normal conditions, i.e. seen on surfaces everywhere. Includes basidiospores (mushroom spores), myxomycetes, plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating. Distribution of spore types seen mirrors that usually seen outdoors.

Client: Mold Inspection Sciences Texas, Inc. Contact: Lab Report
Project: Sample Client
Date of Sampling: 09-13-2017
Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

MoldREPORT

1501 West Knudsen Drive, Phoenix, AZ 85027

(800) 651-4802 Fax (623) 780-7695

Detailed Results of Surface Sample Analysis

Location:	DE2: HVAC unit in attic			
Sample Type:	Tape sample			
Mold growth present*:	No growth	Low		High
Low=small amounts of mold growth present	found			
High=large amounts of mold growth present				
Acremonium species				
Alternaria species				
Aspergillus species				
Aureobasidium species				
Chaetomium species				
Cladosporium species				
Penicillium species		_ < _		
Penicillium/Aspergillus group				
Stachybotrys species				
Trichoderma species				
Ulocladium species		<u>'</u>		
Miscellaneous spores present: Indicative of normal conditions**	Very few			
Indicative of normal conditions**				
Background debris:	Heavy			
Other comments:	None			

^{*} Quantities of molds seen growing are graded Low to High with High denoting the highest numbers.

^{**} Indicative of normal conditions, i.e. seen on surfaces everywhere. Includes basidiospores (mushroom spores), myxomycetes, plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating. Distribution of spore types seen mirrors that usually seen outdoors.

Client: Mold Inspection Sciences Texas, Inc. Contact: Lab Report
Project: Sample Client
Date of Sampling: 09-13-2017
Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

MoldREPORT EMLab P & K

EMLab ID: 1794960, Page 12 of 20

1501 West Knudsen Drive, Phoenix, AZ 85027

(800) 651-4802 Fax (623) 780-7695

Detailed Results of Surface Sample Analysis

Location:	DE3: Master bedroom ceiling			
Sample Type:	Tape sample			
		I		
Mold growth present*:	No growth	Low		High
Low=small amounts of mold growth present	found			
High=large amounts of mold growth present				
Acremonium species				
Alternaria species				
Aspergillus species				
Aureobasidium species				
Chaetomium species				
Cladosporium species				
Penicillium species				
Stachybotrys species				
Trichoderma species				
Ulocladium species				
Miscellaneous spores present:	Very few	>		
Indicative of normal conditions**				
Background debris:	Heavy			
	_			
	Ta a			
Other comments:	None			

^{*} Quantities of molds seen growing are graded Low to High with High denoting the highest numbers.

^{**} Indicative of normal conditions, i.e. seen on surfaces everywhere. Includes basidiospores (mushroom spores), myxomycetes, plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating. Distribution of spore types seen mirrors that usually seen outdoors.

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Understanding Your Surface Sample Analysis Results

Analysis by direct microscopic examination

Each surface sample was analyzed by direct microscopic examination. This method of analysis is an effective means of determining whether or not mold is growing on the surface sampled, and if so, what kinds of molds are present. A direct microscopic examination, in the absence of evidence of growth on the surface sampled, may also occasionally pick up indications of mold growth in the vicinity based upon the mix of spore types present in the sample. Most surfaces collect a mix of spores that are normally present in the environment. At times it is possible to note a skewing of the normal distribution of spore types, and also to note marker genera that may indicate indoor mold growth. Note that locating an area of mold growth indoors using surface samples does not provide information regarding airborne spore levels.

Mold growth present

Samples are examined for the presence of mold growth, as indicated by groups, clumps, and/or chains of single spore types, usually accompanied by intact mycelial and/or sporulating structures. These areas of growth are then identified to genus name, if possible. Quantities are estimated and are graded on a scale from "Low" to "High," with "High" denoting the highest amount.

If mold growth is found, regardless of the magnitude of the growth, it is recommended that the growth be physically removed using appropriate controls and precautions. If mold has been located and removed, it is also important to identify and correct the source of moisture or dampness that allowed the mold to grow. If the affected area becomes moist again, mold growth will occur again. We recommend that you consult a professional if you are not familiar with how to locate and safely remove mold growth or how to identify and correct moisture problems that may exist.

Miscellaneous spores present

This is a measure of the mix of spores that are present and are indicative of normal conditions, in other words, seen normally on surfaces almost everywhere. This includes basidiospores (mushroom spores), myxomycetes ("slime molds"), plant pathogens such as rusts and smuts, and a mix of saprobic mold with no particular spore type predominating. The distribution of these spore types resembles that seen outdoors.

Background debris

Background debris is an indication of the amounts of non-biological particulate matter present. This background material is graded and described as light, medium, heavy, or very heavy. Very heavy background debris may obscure visibility for the analyst. Bulk samples are not graded in this category.

Other comments

Additional relevant information is provided, such as the presence of marker genera or the abnormal distribution of spore types. Bacteria may be noted, as well as significant numbers of other biological particles such as algae, lichen, dust mites, etc. In addition, when deemed to be helpful, non-biological particles are also described.

Project: Sample Client

Date of Sampling: 09-13-2017 Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

MoldREPORT EMLab P & K

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Important Information, Terms and Conditions Relating to your MoldREPORTTM

The study and understanding of molds is a progressing science. Because different methods of sampling, collection and analysis exist within the indoor air quality industry, different inspectors or analysts may not always agree on the mold concentrations present in a given environment. Additionally, the airborne levels of mold change frequently and by large amounts due to many factors including activity levels, weather, air exchange rates (indoors), and disturbance of growth sites. It is possible for report interpretations and ranges of accuracy to vary since comprehensive, generally accepted industry standards do not currently exist for indoor air quality inspections of mold in residential indoor environments. MoldREPORTTM is intended to provide an analysis based upon samples taken at the site at the time of the inspection. Mold levels can and do change rapidly, especially if home building materials or contents remain wet for more than 24 hours, or if they are wet frequently. MoldREPORTTM is not intended to provide medical or healthcare advice. All allergy or medical-related questions and concerns, including health concerns relating to possible mold exposure, should be directed to a qualified physician. If this report indicates scores that are higher than in typical indoor living spaces relative to the outdoor environment, or indicates any findings that are of concern to you, further evaluation by a trained mold professional or a Certified Industrial Hygienist (CIH) may be advisable.

Warranties, legal disclaimers and limitations

MoldREPORTTM is designed and intended for use only in residential home inspections to help in the assessment of mold growth in the living areas sampled. Our laboratory analysis and report are based on the samples submitted to EMLab P&K. The inspection(s) and sampling should be performed only by a licensed and professional home inspector, environmental mold specialist, industrial hygienist or residential appraiser trained and qualified to conduct mold inspections in residential buildings. Client agrees to these conditions for the on-site project inspection.

This MoldREPORTTM is generated by EMLab P&K at the request of, and for the exclusive use of, the EMLab P&K client named on this report. The analysis of the test samples is performed by EMLab P&K. EMLab P&K's policy is that reports and test results will not be released to any third party without prior written consent from EMLab P&K's client. This report applies only to the samples taken at the time, place and location referenced in the report and received by EMLab P&K, and to the property and weather conditions existing at that time only. Please be aware, however, that property conditions, inspection findings and laboratory results can and do change over time relative to the original sampling due to changing conditions, the normal fluctuation of airborne mold, and many other factors. Client and reader are advised that EMLab P&K does not furnish, and has no responsibility for, the inspector or inspection service that performs the inspection or collects the test samples. It is the responsibility of the end-user of this report to select a properly trained professional to conduct the inspection and collect appropriate samples for analysis and interpretation by MoldREPORTTM. None of EMLab P&K, EMLab P&K or their affiliates, subsidiaries, suppliers, employees, agents, contractors and attorneys (each an "EMLab P&K-related party") are able to make and do not make any determinations as to the safety or health condition of a property in this report. The client and client's customer are solely responsible for the use of, and any determinations made from, this report, and no EMLab P&K-related party shall have any liability with respect to decisions or recommendations made or actions taken by either the client or the client's customer based on the report.

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Project: Sample Client Date of Sampling: 09-13-2017 Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

MoldREPORT EMLab P & K

EMLab ID: 1794960, Page 15 of 20

1501 West Knudsen Drive, Phoenix, AZ 85027 (800) 651-4802 Fax (623) 780-7695

Scope and Limitations of Report and Analysis

The scope of the MoldREPORTTM system is limited to EMLab P&K's proprietary MoldSCORETM analysis of the air and surface samples taken at the time of the inspection. EMLab P&K cannot be liable, in any form of action, for any items that are not included within the scope of the MoldREPORTTM system.

MoldREPORTTM Inspection Limitations

MoldREPORTTM results are based upon mold air and surface samples. Mold surface samples are useful for confirming and identifying mold growth while air samples measure airborne mold levels.

This report provided by EMLab P&K is based upon the assumption that the information provided by the inspector is true and correct, that a sufficient number of mold and air samples were collected at all the appropriate locations following proper inspection and sampling protocols, and that the mold samples collected represent normal conditions at the site sampled. EMLab P&K is not able to, and cannot, guarantee the skill level or experience of the inspector performing the MoldREPORTTM inspection, nor can it guarantee that the samples have been properly collected at the site or are representative of normal conditions since many factors outside of EMLab P&K's (and the inspector's) control can and do substantially affect mold levels. Consequently, EMLab P&K cannot guarantee the accuracy of the interpretation provided herein. It is the responsibility of the inspector to insure that the mold samples were collected properly. MoldREPORTTM relies on non-invasive and non-destructive tests, so it cannot guarantee that hidden mold problems will be detected and reported. MoldREPORTTM results apply only to the rooms sampled, not to the entire building or any other rooms. It is the responsibility of the property owner, potential purchaser or other end-user of this report to select a properly trained and qualified inspector.

About Air Sample Sampling and Analysis

EMLab P&K requires at least one outdoor air sample and one indoor air sample in order to make indoor/outdoor comparisons and assessments of airborne mold levels, which are an integral part of the EMLab P&K MoldREPORTTM system. The indoor air samples taken can be representative of the airborne mold present in the area sampled. The analysis and interpretation of these air samples is proprietary and is based upon: relative levels of spores present, quantities and concentration of *Penicillium/* Aspergillus type spores, quantity and concentration of Cladosporium spores, quantity and concentration of basidiospores, quantity and concentration of "marker" spore types, quantity and concentration of "other" spore types, and the distribution of mold spore types. Spore identification is performed visually by trained analysts according to industry norms. Using visual identification, most mold spores lack sufficient distinguishing characteristics to allow for species identification, so the MoldREPORTTM analysis is generally performed at the genus level. Currently there are no generally-accepted protocols or regulations regarding air sampling for molds, in large part due to the inability of any single technique to provide a complete analysis of all mold spores and mold growth in an area. Air sampling for MoldREPORTTM can be performed using any standard 'spore trap" method, which are also called "non-viable air sampling methods" because spore traps do not require the germination and growth of the spores before identification. Commonly used spore trap equipment for performing air sampling for mold includes Zefon Air-O-CellTM Cassettes, BurkardTM samplers, and AllergencoTM samplers.

About Surface Sampling and Analysis

Surface sampling can be useful for differentiating between mold growth and stains, for identifying the type of mold growth present (if present), and, in some cases, identifying signs of mold growth in the vicinity. Although not required, surface sampling can improve the accuracy of the results and interpretation of the inspected environment if sampled correctly. EMLab P&K accepts surface samples in the form of swabs, tapes, or bulks in order to perform a direct examination of a specific location. The MoldREPORTTM analysis system uses the direct examination data in addition to the MoldREPORTTM air sample analysis.

Project: Sample Client Date of Sampling: 09-13-2017 Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

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Glossary

Background Debris - Material(s) found on the air sample other than mold spore(s) or mycelia. Examples include skin cells, insect parts, and fibers.

False Positive - A test result that incorrectly indicates mold growth, when in reality there is none. For example, an air sample test result indicating indoor mold growth, when no mold growth is actually present is a "False Positive."

False Negative - A test result that shows no mold growth, when in reality mold growth is present. For example, an air sample test result indicating no indoor mold growth, when mold growth is actually present.

Fungi - A kingdom that includes yeasts, molds, smuts, and mushrooms. Fungi are not animals, plants or bacteria, but their own kingdom.

HVAC - Heating, Ventilation, and Air Conditioning (HVAC) systems are possible reservoirs for mold growth.

IAQ - Indoor Air Quality (IAQ) is the main focus of EMLab P&K and the majority of its customers.

Industrial Hygienist - A professional who monitors exposure to environmental factors that can affect human health. Examples of environmental factors include chemicals, heat, asbestos, noise, radiation, and biological hazards.

Marker Spores - Spore types, such as Chaetomium and Stachybotrys, that when found indoors, even in moderate numbers are an indication of indoor mold growth.

Note: This glossary is intended to provide general information about commonly occurring molds, and is not intended to be a complete source.

Alternaria:

Distribution: Alternaria is one of the most common molds and is abundant worldwide. This genus contains around 40 to 50 different species, only a few of which are commonly found indoors.

How it is spread: Alternaria spores are easily dispersed through the air by wind.

Where it is found outdoors: Alternaria is common outdoors in soil, dead organic debris, foodstuffs, and textiles. It is also a plant pathogen and is frequently found on dead or weakened plants.

Where it is found indoors: Alternaria can grow on a variety of substrates indoors when moisture is present.

Acremonium:

Distribution: Acremonium is a common mold, including about 80 to 90 different species.

How it is spread: Acremonium produces wet slimy spores and is normally dispersed through water flow or droplets, or by insects. Old dry Acremonium spores can sometimes be dispersed through the air by wind.

Where it is found outdoors: Acremonium is found in soil, on dead organic material and debris, hay, and foodstuffs. Where it is found indoors: Acremonium can be found anywhere indoors, but requires very wet conditions in order to proliferate. The spores probably require active disturbance for release.

Aspergillus: (see Penicillium/Aspergillus)

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Project: Sample Client

Date of Sampling: 09-13-2017 Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

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Glossary (continued)

Basidiospores:

Distribution: Basidiospores are produced by a very large and diverse group of fungi called basidiomycetes, which contains over 1000 different genera. This group includes many well-known macrofungi, such as mushrooms. Basidiospores are often abundant in outdoor air and sometimes in indoor air.

How they are spread: Many types of basidiospores are actively released into the air during periods of high humidity or rain. Once the spores are expelled into the air, they are dispersed easily by wind.

Where they are found outdoors: Basidiomycetes are very common outdoors and can be found in gardens, forests, grasslands, and anywhere there is a substantial amount of dead organic material. They are also found on or near plants and some are known to be plant pathogens.

Where they are found indoors: Basidiospores found indoors typically come from outdoor sources and are carried inside by airflow or on clothing. Certain kinds of basidiomycetes can grow indoors, such as those that cause "dry rot", which can cause structural damage to wood. Occasionally, other basidiomycetes such as mushrooms can be found indoors, but this is not common. Generally, basiodiomycetes require wet conditions for prolonged periods in order to grow indoors.

Bipolaris / Dreschlera:

Distribution: Bipolaris and Dreschlera are two separate genera of molds that are so visually similar that they are commonly discussed together as a group. Both genera include around 30 - 40 different species.

How they are spread: Bipolaris / Dreschlera spores are easily dispersed through the air by wind.

Where they are found outdoors: Bipolaris / Dreschlera type spores are most abundant in tropical or subtropical

climates. They can grow in soils, on plant debris and grasses, and are known to be plant pathogens. **Where they are found indoors:** *Bipolaris / Dreschlera* can grow on a variety of indoor substrates when moisture is present.

Ceratocystis / Ophiostoma:

Distribution: Ceratocystis / Ophiostoma are two separate genera of molds that are so visually similar that they are commonly discussed together as a group. These genera contain around 50 to 60 different species.

How they are spread: Ceratocystis / Ophiostoma produce wet slimy spores and are normally dispersed through water flow, droplets, or by insects. These spores are rarely identified in air samples.

Where they are found outdoors: Ceratocystis / Ophiostoma are very common in commercial lumberyards and

Where they are found indoors Ceratocystis / Ophiostoma are abundant on wood framing material in the home, although the spores are rarely found in air samples. This mold is sometimes called "lumber mold".

Chaetomium:

Distribution: Chaetomium is a common mold worldwide. This genus contains around 80 - 90 different species. How it is spread: Chaetomium spores are formed inside fruiting bodies. The spores are released by being forced out through a small opening in the fruiting body. The spores are then dispersed by wind, water drops, or insects. Where it is found outdoors: Chaetomium can be found in soil, on various seeds, cellulose substrates, dung, woody materials and straw.

Where it is found indoors: Chaetomium can grow in a variety of areas indoors, but is usually found on cellulosebased or woody materials in the home. It is very common on sheetrock paper that is or has been wet.

Project: Sample Client Date of Sampling: 09-13-2017 Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

MoldREPORT EMLab P & K

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Glossary (continued)

Cladosporium:

Distribution: Cladosporium is an abundant mold worldwide and is normally one of the most abundant spore types present in both indoor or outdoor air samples. This genus contains around 20 - 30 different species.

How it is spread: Cladosporium produces dry spores that are formed in branching chains. Spores are released by twisting of the spore-bearing hyphae as they dry. Thus, the spores are most abundant in dry weather.

Where it is found outdoors: Cladosporium is found in a wide variety of soils, in plant litter, and on old and decaying plants and leaves. Some species are plant pathogens

Where it is found indoors: Cladosporium can be found anywhere indoors, including textiles, bathroom tiles, wood, moist windowsills, and any wet areas in a home. Some species of *Cladosporium* grow at temperatures near or below 0(C) / 32(F) and can often be found on refrigerated foodstuffs and even frozen meat.

Curvularia:

Distribution: Curvularia is a cosmopolitan fungus and includes approximately 30 different species.

How it is spread: Curvularia produces dry spores that are formed in fragile chains and is very easily dispersed through the air by wind.

Where it is found outdoors: Curvularia is most common in tropical or subtropical regions. It is found in soil and on debris of tropical plants.

Where it is found indoors: Curvularia can be found growing on a variety of substrates indoors.

Epicoccum:

Distribution: Epicoccum is a cosmopolitan mold that includes only two species.

How it is spread: Epicoccum produces large dry spores that are easily dispersed through the air by wind.

Where it is found outdoors: *Epicoccum* can be found in soils or on plant debris.

Where it is found indoors: Epicoccum is commonly found on many different substrates indoors including paper, textiles, and insects.

Memnoniella:

Distribution: Memnoniella is a cosmopolitan mold genus that includes approximately five species. It is frequently found in conjunction with *Stachybotrys* species due to its similar ecological preferences.

How it is spread: *Memnoniella* produces dry spores that are easily dispersed through the air by wind.

Where it is found outdoors: Memnoniella can be found outdoors in soil, in plant debris or litter, and as pathogens on some types of living plants.

Where it is found indoors: Memnoniella can grow on a variety of substrates indoors, but mainly can be found on wet cellulose-based materials, such as wallboard, jute, wicker, straw baskets, paper and other wood by-products.

Paecilomyces:

Distribution: Paecilomyces is ubiquitous in nature and includes between 9 and 30 different species, depending on the taxonomic system used. Its spores are visually similar to *Penicillium / Aspergillus* types of spores.

How it is spread: Paecilomyces produce dry spores that are easily dispersed through the air by wind.

Where it is found outdoors: Paecilomyces is found outdoors in soils and decaying plant matter, composting processes, legumes and cottonseeds. Some species parasitize insects.

Where it is found indoors: Paecilomyces can be found on a number of materials indoors. It has been isolated from jute fibers, papers, PVC, timber, optical lenses, leather, photographic paper, cigar tobacco, harvested grapes, bottled fruit, and fruit juice undergoing pasteurization.

Project: Sample Client Date of Sampling: 09-13-2017 Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

MoldREPORT EMLab P & K

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Glossary (continued)

Penicillium / Aspergillus:

Distribution: Penicillium / Aspergillus are two separate genera of molds that are so visually similar that they are commonly discussed together as a group. Together, there are approximately 400 different species of *Penicillium* / Aspergillus.

How it is spread: Penicillium / Aspergillus produce dry spore types that are easily dispersed through the air by wind. These fungi serve as a food source for mites, and therefore can be dispersed by mites and various insects as well. Where it is found outdoors: Penicillium / Aspergillus are found in soils, decaying plant debris, compost piles, fruit rot and some petroleum-based fuels.

Where it is found indoors: Penicillium / Aspergillus are found throughout the home. They are common in house dust, growing on wallpaper, wallpaper glue, decaying fabrics, wallboard, moist chipboards, and behind paint. They have also been isolated from blue rot in apples, dried foodstuffs, cheeses, fresh herbs, spices, dry cereals, nuts, onions, and oranges.

Stachybotrys:

Distribution: Stachybotrys is ubiquitous in nature. This genus contains about 15 species.

How it is spread: Stachybotrys produces wet slimy spores and is commonly dispersed through water flow, droplets, or insect transport, less commonly through the air.

Where it is found outdoors: Stachybotrys is found in soils, decaying plant debris, decomposing cellulose, leaf litter and seeds.

Where it is found indoors: Stachybotrys is common indoors on wet materials containing cellulose such as wallboard, jute, wicker, straw baskets, and other paper materials.

Torula:

Distribution: Torula is a cosmopolitan microfungus and includes approximately eight different species

How it is spread: Torula produces dry spores that are easily dispersed through the air by wind.

Where it is found outdoors: Torula is most common in temperate regions and has been isolated from soils, dead herbaceous stems, sugar beet roots, groundnuts, and oats.

Where it is found indoors: Torula is common indoors on wet materials containing cellulose, such as wallboard, jute, wicker, straw baskets, and other paper materials.

Ulocladium:

Distribution: Ulocladium is ubiquitous in nature and includes approximately nine different species. **How it is spread:** *Ulocladium* produces dry spores that are easily dispersed through the air by wind.

Where it is found outdoors: *Ulocladium* is common outdoors in soils, dung, paint, grasses, wood, paper, and

Where it is found indoors: *Ulocladium* is common indoors on very wet materials containing cellulose such as wallboard, jute, wicker, straw baskets, and other paper materials. *Ulocladium* requires a significant amount of water to flourish.

Project: Sample Clients

Date of Sampling: 09-13-2017 Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

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EMLab ID: 1794960, Page 20 of 20

References and Resources

References:

Airborne Allergens, William Solomon, Guest Editor. Immunology & Allergy Clinics of North America, Volume 9, Number 2, August 1989. W.B. Saunders Company, Publishers, The Curtis Center, Independence Square West, Philadelphia, PA 19106-3399. This book may be out of print.

Bioaerosols: Assessment and Control, Janet Macher, Sc.D., M.P.H., Editor. 1999. ACGIH, 1330 Kemper Meadow Drive, Cincinnati, OH 45240-1634.

Bioaerosols, Harriet Burge, Ph.D. 1995. Lewis Publishers, 2000 Corporate Blvd., N.W., Boca Raton, FL 33431-9868.

Biological Contaminants in Indoor Environments, Morey, Feeley, Otten, Editors. 1990. ASTM, 1916 Race Street, Philadelphia, PA 19103. STP 1071.

Fungi and Bacteria in Indoor Air Environments: Health Effects, Detection and Remediation, Proceedings from the International Conference, Saratoga Springs, NY October 6-7, 1994.

Health Implications of Fungi in Indoor Environments, Edited by R.A. Samson. 1994. Elsevier Science, P.O. Box 945, Madison Square Station, New York, NY 10159-0945.

Indoor Air and Human Health, Gammage & Kaye. 1985. Lewis Publishers

Microfungi, S.G. Gravesen, J.C. Frisvad, & R.A. Samson, published by Munksgaard.

Useful Websites:

www.acgih.org

American Conference of Governmental Industrial Hygienists - information on IAQ and useful links.

American Industrial Hygiene Association - general IAQ information

www.calepa.ca.gov

California Environmental Protection Agency California IAO resources

www.emlab.com EMLab P&K

www.epa.gov

Environmental Protection Agency - information regarding prevention and remediation of mold

www.health.state.ny.us

New York State Department of Health - New York state recommendations for IAO, indoor mold inspections, remediation, and prevention

www.moldreport.com

MoldREPORTTM - online store, and other information about MoldREPORTTM

National Institutes of Health - information regarding environmental health issues, including IAQ

www.niehs.nih.gov

National Institute of Environmental Health Sciences - information on mold

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Mold Inspection Sciences Texas, Inc. Lab Report 2512 S IH 35, Suite 110 Austin, TX 78704 USA (512) 535-2493





EMLab P & K

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Approved by:

Dates of Analysis:

MoldReport Spore trap: 09-18-2017

Operations Manager Joshua Cox

Service SOPs: MoldReport Spore trap (EM-MY-S-1038) AIHA-LAP, LLC accredited service, Lab ID #102297

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

The analytical sensitivity is the spores/m3 divided by the raw count. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

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Client: Mold Inspection Sciences Texas, Inc.
Contact: Lab Report
Project: Sample Client
Date of Sampling: 09-13-2017
Date of Receipt: 09-15-2017
Date of Report: 09-18-2017

MoldREPORT

EMLab ID: 1794960, Page 2 of 2

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Laboratory Results

MoldREPORT: Spore Trap Analysis

Location:		OS: ide, NW	ST1: Family room		ST2: Master bedroom	
Comments (see below)	1	None	None		None	
Lab ID-Version‡:	839	4332-1	8394333-1		8394334-1	
Analysis Date:	09/1	18/2017	09/18/2017		09/18/2017	
Spore types detected:	raw ct.	per m3	raw ct.	per m3	raw ct.	per m3
Alternaria	-	-	_	-	-	-
Arthrinium	-	-	_	-	-	_
Ascospores	6	320	_	-	1	53
Aureobasidium	-	-	_		-	-
Basidiospores	31	4,100	2	110	2	110
Bipolaris/Drechslera group	1	53	_ ,	(<u>}</u>	-	-
Botrytis	-	-	-	-	-	-
Chaetomium	2	27	1	13	-	-
Cladosporium	71	3,800	5	270	3	160
Curvularia	-	-		-	4	210
Epicoccum	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-
Myrothecium	-	-	-	-	-	-
Nigrospora	1	53	_	-	-	-
Penicillium/Aspergillus types	2	110	53	2,800	42	2,200
Pithomyces	1	53	_	-	-	-
Rusts			_	-	-	-
Smuts, Periconia, Myxomycetes	4	210	_	-	2	110
Stachybotrys	-	-	_	-	-	-
Stemphylium		-	_	-	-	-
Torula	11-1	-	_	-	-	-
Trichoderma	-	-	_	-	-	-
Ulocladium	-	-	_	-	-	-
Zygomycetes	_	-	_	-	-	-
Others	1	53	_	-	-	-
§ Total:		8,800		3,200		2,900
Additional Information:						
Hyphal fragments		160		110		110
Skin cells	13 - 67 80 -		- 4,000 80 - 4,		4,000	
Pollen		< 13	< 13		< 13	
Background debris†		2	3		3	
Limit of detection		13	13		13	
Sample volume (liters)		75	75		75	
MoldSCORE:	-	N/A		299	294	

Comments:

[†] Background debris is an indication of the amounts of non-biological particulate matter present on the slide (dust in the air) and is graded from 1 to 4 with 4

For more information on the fungi identified in your report please visit www.emlab.com.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

[§] Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

Mold Inspection Sciences Texas, Inc. Lab Report 2512 S IH 35, Suite 110 Austin, TX 78704 USA (512) 535-2493





EMLab P & K

www.MoldREPORT.com info@MoldREPORT.com

Approved by:

Dates of Analysis:

MoldReport Direct exam: 09-18-2017

Operations Manager Joshua Cox

Service SOPs: MoldReport Direct exam (EM-MY-S-1039) AIHA-LAP, LLC accredited service, Lab ID #102297

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Project: Sample Client Date of Sampling: 09-13-2017 Date of Receipt: 09-15-2017 Date of Report: 09-18-2017

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Laboratory Results

MoldREPORT: Direct Microscopic Examination

Moralter Ottr. Birect Miloroso		T	
Location:	DE1: Family room ceiling	DE2: HVAC unit in attic	DE3: Master bedroom ceiling
Comments (see below):	None	None	None
Lab ID-Version‡:	8394329-1	8394330-1	8394331-1
Spore types present (indicative of mold growth)§:			
Aureobasidium	-	-	-
Basidiospores	-	- /	-
Chaetomium	-	- ^	-
Cladosporium	2+	3+	1+
Fusarium	-		-
Lumber mold†	-	-	-
Penicillium/Aspergillus types	1+	< 1+	-
Stachybotrys	-		-
Trichoderma	-	-	-
Ulocladium	- ~	-	-
Others	- ()	< 1+	-
Spore types present (not indicative of mold growth)§:			
All spore types	Very few	Very few	Very few
Other particles detected§:			
Skin cells	Very few	Very few	Very few
Pollen	Very few	Very few	Very few
Background Debris and/or Description**:	Light	Heavy	Heavy

Comments: None

Basidiomycetes: Commonly found outdoors. Occasionally may grow indoors, mostly as agents of wood decay.

Cladosporium: One of the most commonly found molds outdoors and frequently found growing indoors.

Penicillium/Aspergillus types: Penicllium and Aspergillus are among the most common molds found growing both indoors and out.

Stachybotrys and other marker types: Certain types of mold, such as Aureobasidium, Chaetomium, Fusarium, Trichoderma, and Ulocladium, are generally found in very low numbers outdoors. Consequently their presence indoors, even in relatively low numbers, is often an indication that these molds are originating from growth indoors. When present, these mold types are often the clearest indicator of a mold problem.

†Lumber mold: Fungi in the Ceratocystis/Ophiostoma group are commonly called "Lumber mold". Lumber mold is present on the wood framing of most homes that are built with lumber. Their presence alone is not indicative of an indoor water problem.

**Background debris is an indication of the amounts of non-biological particulate matter present. This background material is graded and described

graded for background debris, in which case a brief description of the material is reported..

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

The limit of detection is < 1+ when mold growth is detected.

\$All readers are advised to refer to the document "Understanding Direct Microscopic Examination Results" which is available at our website, www.moldreport.com, or by request from the laboratory.

Aerotech Laboratories, Inc EMLab ID: 1794960, Page 2 of 2

as Scant, Moderate, Heavy, or Very Heavy. Very heavy background debris may obscure visibility for the analyst. Some sample types are not