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Indoor Air Quality Assessment Prepared for:

Vonda Marlow Allergy Partners of the Piedmont 911 Worth Street Mount Airy, NC 27030

Project Location

Allergy partners of the Piedmont 911 Worth Street Mount Airy, NC 27030

www.AirCertification.com

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Vonda Marlow Allergy Partners of the Piedmont 911 Worth Street Mount Airy, NC 27030 Re: Indoor Air Quality inspection

Ms. Marlow

<u>Please take note to the following:</u> Air and direct contact (surface) samples were taken throughout the Mount Airy Allergy Partners building. The purpose was to identify the nature and extent of any potential airborne mold/fungi as related to the suspected visible mold growth behind the wallpaper around a variety of windows.

Air sampling identified each airborne mold spore by species and quantified them by concentration level in the unit of measurement "spores per cubic meter" of air (spores/m3). Also identified and quantified in each air sample: Hyphal fragments, general pollen, pine pollen, skin cells (dander), insect parts, and general background debris such as dust/dirt.

Samples were analyzed by one of the nation's premier IAQ and microbiology laboratories, *EMLab P&K*, located in San Bruno, California. **Test results indicate three noteworthy points:**

- 1. Multiple air samples showed the presence of *Stachybotrys* and *Penicillium/Aspergillus* species to exist in elevated airborne concentration levels.
- 2. The surface samples taken from behind the wallpaper around the windows confirmed the presence of the same species-- *Stachybotrys* and *Penicillium/Aspergillus* in high concentration levels.
- 3. The presence of *Stachybotrys* was detected in the air in Exam Room #4. Although it was detected in a trace amount, it is preferable to find zero of this species in air sampling, and with no evidence of mold growth in this room we can surmise that it is migrating throughout the office from the problem areas.

As previously mentioned in our email correspondence, because of the nature of the *Stachybotrys* species, and the fact that it is a water-based fungal, it is preferable to find zero in air samples whereas several other species are expected to be present at (commonly) low levels in the general atmosphere. For example, when taking into context the statistical averages for outdoor levels of *Penicillium/Aspergillus* in your zip code for the month of August, 280 spores per cubic meter of air (spores/m3) is considered a "moderate" amount; 820 spores/m3 is considered "high"; and 1,400 spores/m3 is considered "very high". The air sample taken in the back vacant office (next to the Dr.'s office) showed this species to exist at 2,100 spores/m3.

With *Stachybotrys:* in the same zip code for the month of August, above zero is a red flag; for the entire year's statistical outdoor averages, 67 spores/m3 is considered "high", and 81 spores/m3 is considered "very high". In the Dr.'s office, it was detected at 440 spores/m3, and in the adjacent office to the Dr. it was detected at 2,700 spores/m3.

By no coincidence, both *Penicillium/Aspergillus* and *Stachybotrys* were physically growing in these rooms behind the wallpaper where high airborne concentration levels were identified.

Sources:

There is an issue with the age and the viability of the windows, both front and back, in the facility. Consideration for the replacement of windows should be a priority. Along with replacement, there needs to be a thermal break, vapor barrier, and better insulation installed around the windows. The building is somewhat dated and currently, there is nothing to legitimately prevent moisture pathways into the wall cavities (i.e. vapor pressure, humid air, etc.). And to exacerbate things once moisture enters the wall cavity, the vinyl wallpaper in the interior side acts as a vapor barrier and holds the moisture in place. As a result, mold/microbial growth takes hold and feeds on the cellulose based materials and the wallpaper's glue.

In the thermal imaging photos, you will also see how the lack of insulation and thermal break is creating a condition that makes the windows very energy inefficient. Too much cool air is coming through in the winter, and too much warm air leeches in during the summer months, essentially making your mechanical systems work harder to heat and cool.

We also observed some air supply ducting above a dropped ceiling in Exam Room #4 that may be responsible for the leaks onto the ceiling tiles that are common there, as well as in several other areas of the building. This is an independent situation from the windows altogether, but important to note.

Positively pressurizing the building:

We recommend having the building "positively pressurized" as an inhibitory method for preventing moisture and/or vapor pressure intrusion. This can be accomplished by means of an air make-up unit. Older buildings such as this were built without "modern" water proofing or a sufficient vapor barrier system. Moisture intrusion through the exterior building envelope is a function of the laws of thermodynamics. Water vapor travels from an area of higher pressure to one of lower pressure.

Installation of an air make-up unit will keep outside air from migrating into the interior. As long as the interior space is conditioned for temperature and humidity the moisture problems will be reduced or eliminated from the outside source.

Supplemental Statistical Data from EMLab P&K (pages 9-17 of the Laboratory Results document):

- <u>MoldRANGE Report</u>: Included with the laboratory documents, this report uses a continuously updated database of 12 months historical reporting data. Each species of mold/fungal is assigned a number value indicating its "low", "medium", and "high" outdoor range based on the zip code of sampling, the State, and the month. The purpose of this report is to be used by the IAQ professional as a guide to prevent a careless error in analyzing the results when comparing interior conditions to exterior ones. Exterior conditions can change rapidly thereby distorting the outside benchmark data. Therefore, it is often best to make a judgment on indoor/outdoor comparisons based on statistical averages rather than the raw data.
- <u>MoldSTAT Report</u>: This statistical report calculates the raw data through an algorithm and assigns a score to each air sample on a sliding scale ranging between 100 and 300; this number is called the MoldSCORE. The closer the number is to 100, the lower the probability that what was detected in the sample originated from an inside source. Conversely, the closer the number is to 300, the higher the probability that what was detected in the sample originated from an inside source.

Per Sample MoldSCORE:

- 1. Lobby......137
- 2. Dr.'s Office..... 300
- 3. Back Vacant Office...... 300
- 4. Exam Room #\$..... 143
- 5. Office Center..... 108

We can see that the back office areas that are comprised of the Dr.'s and his adjacent office areas scored a 300 on the MoldSTAT report. This means that **it is statistically improbable** that the air sample results for these 2 offices are not related to the mold growth behind the window wallpaper.

<u>IICRC S-520 2nd Edition Standard and Reference Guide for Professional Mold</u> <u>Remediation:</u>

The standard by which mold remediation should take place is based on the IICRC (Institute of Inspection, Cleaning, and Restoration Contractors) guidelines in the IICRC S-520 2nd Edition Standards. We follow these strict guidelines when writing protocol, and contractors who have been trained by (and hold certifications from) this organization are the ones that should handle microbial remediation.

The IICRC S520 lays out microbial contamination "conditions" (for indoor environments relative to microbial growth) that determine the criteria that trigger remediation activities or confirm remediation success. The conditions are defined as follows:

- <u>Condition 1</u> (normal fungal ecology): an indoor environment that may have settled spores, fungal fragments or traces of actual growth whose identity, location and quantity are reflective of a normal fungal ecology for a similar indoor environment.
- <u>Condition 2</u> (settled spores): an indoor environment which is primarily contaminated with settled spores that were dispersed directly or indirectly from a Condition 3 area, and which may have traces of actual growth.
- <u>Condition 3</u> (actual growth): an indoor environment contaminated with the presence of actual mold growth and associated spores. Actual growth includes growth that is active or dormant, visible or hidden.

Because there is actual live growth, the building is clearly in a Condition 3 situation. So, how is a Condition 3 situation to be handled according to the Standard for the materials in which microbial growth is present? Materials are broken down into 3 categories, each with their corresponding methodology required for remediation:

- **Porous:** drywall, ceiling tiles, insulation, particle board, medium density fiberboard (MDF), carpet, sand similar porous materials.
 - *Remediation*: Discard.
- <u>Semi-porous:</u> wood, brick, plaster, block, concrete, plywood, OSB board, and other similar semi-porous materials.
 - *Remediation*: Abrasive methods (wire brushing, sanding, media blasting, etc.).
- **Non-porous:** glass, metal, laminate, plastic, porcelain, ceramic, and other non-porous materials.
 - *Remediation*: surface cleaning: damp wiping, HEPA-vacuuming, or other appropriate methods.

From the Standard:

IICRC S520 Standard 12.2.6 – Remediating building materials that are Condition 3 [have active mold/microbial growth on them] depends on the material's porosity and susceptibility. Porous building materials (e.g., drywall, insulation, and ceiling tiles) that are condition 3, and soft goods (e.g., fabric based furniture) should be *removed and discarded*. Other materials that are semi-porous (e.g., wood studs) can be HEPA vacuumed and either wire brushed or sanded, then damp wiped.

The following sections outline the provisions to be performed by a certified mold remediation specialist. Please contact me if you have any questions about the report.

Respectfully,

Kevin Martin

Kevin Martin Vice President Arthur V. Martin Associates, Inc.

Conditions and Limitations:

Air sampling results are limited in that they represent airborne concentrations at the time of sampling only. Changes in operating procedures, temperature, humidity, ventilation rates, occupancy, equipment, products used in maintenance, and other conditions can cause variations in anticipated airborne concentrations.

Analysis of samples at the time they were taken is based on concentration ratios between an outdoor control sample, used as a benchmark, and the proportionality of concentration counts obtained within the structure. Indoor concentrations should mirror those found outside but with indoor counts in the 20% to 80% range of those found outdoors.

Arthur V. Martin Associates, Inc. has performed the tasks set forth in the proposed agreement in a thorough and professional manner consistent with industry standards. Arthur V. Martin Associates, Inc. cannot guarantee and does not warrant that this limited assessment has revealed all adverse environmental conditions affecting the site of the sampling. Arthur V. Martin Associates, Inc. does not warrant that the assessment requested will satisfy the dictates of, or provide legal defense in connection with environmental law(s), regulations or health issues.

Results reported by Arthur V. Martin Associates, Inc. are based on interpretation of laboratory analysis of samples submitted and are solely for the benefit of the client. The results and opinions set forth by Arthur V. Martin Associates, Inc. in its report(s) will be valid as of the date of the report(s). Arthur V. Martin Associates, Inc. assumes no obligation to advise you of any changes that may later be brought to our attention without benefit of a specified, documented consulting contractual agreement.

Mold and Health:

Much uncertainty exists regarding the health effects of various molds, mildew and fungi. Since people's sensitivity to these issues varies, as to their apparent symptoms, different people may be affected in different degrees of reaction to what is present. There is no clear cut, definitive set of symptoms associated with individual molds and the effects will vary based on the age, health, etc. of the individual(s) affected.



Site specific to Allergy Partners of the Piedmont Mount Airy, NC

These specific provisions are <u>in addition to</u> sections of the General Protocol that apply to a site with this Condition designation. This is a Condition 3 Site as designated by the IICRC S-520 2^{nd} Edition Standards.

Any questions regarding interpretation of this protocol may be addressed with Arthur V. Martin Associates, Inc. prior to commencement of the remediation process. Products specified herein are done so as a "baseline" product. Products of other manufacturers may be substituted under the following conditions:

- 1. Submit a MSDS sheet to Arthur V. Martin Associates, Inc. of any substitute products for approval prior to product use. MSDS sheet(s) will be stamped by this office if approved.
- 2. Submit proof of acceptance of the substitute product by the jurisdiction having authority, be it State, Federal or Local.
- 3. Submit any EPA registration number(s) of the substitute product.
- 4. Product of base specification is Path-AwayTM Anti-Pathogenic Solution.

Interior space of building:

- 1. Remove windows and window casings on all exterior walls.
- 2. If any insulation is found inside exposed wall cavities, it shall be discarded.
- 3. Wallpaper on all exterior walls shall be removed, and *not* replaced. Vinyl wallpaper acts as a vapor barrier in the wrong position, prolonging moisture's life inside the cavity and thus increases the likely consequence of mold growth.
- 4. Wood studs that may be present when exterior walls/windows are removed that show evidence of mold growth and/or discoloration shall be HEPA sanded and vacuumed, followed by a disinfection treatment of Path-AwayTM Anti-Pathogenic Solution.
- **5.** Because of the presence of *Stachybotrys* in the air samples at the high levels detected, all horizontal surfaces throughout the building shall be HEPA vacuumed due to a Condition II situation (settled spores). This includes floors, desks, shelves, furniture, etc.

HVAC SYSTEM:

High levels of airborne *Penicillium/Aspergillus* and *Stachybotrys* were detected, and the HVAC system's function of continually circulating the air will therefore require a precautionary cleaning. We recommend the following steps:

- 1. HVAC units and their associated air handlers and cabinets shall be properly cleaned and disinfected with an application of Path-AwayTM Anti-Pathogenic Solution.
- 2. Blower wheels shall be cleaned and disinfected.
- **3.** Supply registers shall be removed and disinfected.
- 4. Condensate drain pans shall be disinfected.
- 5. Duct work shall be fogged with an application of Path-AwayTM Anti-Pathogenic Solution.
- 6. The coils shall be cleaned with an application of Path-AwayTM Anti-Pathogenic Solution.

SPECIAL NOTATIONS:

- The appropriate number of HEPA air scrubbers are required within the work area while remediation takes place. Air scrubbers shall be vented to the exterior.
- Remediation contractor must adhere to proper guidelines regarding fine-cleaning the workspace prior to removing the containment.
- Containment of work area shall be set up as per guidelines set forth by the IICRC S-520 2nd Edition Standards for a Condition III site.
- PPE as per the level of contamination shall be in order. If questions arise about this please consult Arthur V. Martin Associates, Inc. for details.
- All material(s) removed from the site may be disposed of in the local landfill. There are no "hazardous material" provisions in effect on this project.
- Products specified herein are for reference only. Products of other manufacturers may be used upon approval by Arthur V. Martin Associates, Inc.
- If hidden contamination is discovered during the tear-out process, Arthur V. Martin Associates, Inc. shall be notified before work proceeds. This will enable Arthur V. Martin Associates, Inc. to determine the nature and extent of the contamination and the methodology needed to affect proper remediation.

Guidelines for Remediation Contractor Qualifications:

- 1. Remediation contractor and on-site supervisor shall be a Certified Mold Remediation Specialist as designated by the IAQA, IICRC, or an organization having equal standards.
- 2. A minimum of \$1,000,000 of pollution liability insurance and \$1,000,000 of excess liability must be held by the contractor.
- 3. Remediation contractor shall be familiar with and use IICRC S520 2nd Edition "Standard and Reference Guide for Professional Mold Remediation" as the "Standard of Care" when conducting remediation of any project unless otherwise instructed by the IEP (Indoor Environmental Professional).
- 4. A warning sign that reads "Do Not Enter Mold Contamination Personal Protective Equipment Required" shall be placed on any entrance to the remediation area(s).
- Remediation workers shall wear PPE (personal protective equipment) based on IICRC S520 2nd Edition criteria as per Condition Level. Full-face respirators must in accordance with regulations set by OSHA Standard 29 CFR 1910.134.

6. A respiratory protection program shall include the changing of the HEPA filter cartridges at the beginning of each work shift, or at a minimum of eight (8) hours, whichever time period is less. Workers shall also wear disposable hooded suits over their clothing.

Clearance testing criteria:

- 1. Visual inspection to verify all previously damaged materials have been removed.
- 2. Air sampling to ensure the levels of airborne spores have been reduced to "acceptable limits" in comparison to the initial sampling results and in the context of the current situation.
- 3. Direct contact (surface) sampling from materials and surfaces where previous visible mold growth was evident to verify adequate remediation has taken place.



Photo Documentation: Allergy Partners



View of lobby exterior wall.



Wallpaper around windows affected from moisture intrusion, being held in place by thumbtacks.



Upper right corner of front lobby windows, wallpaper seen coming unglued from moisture.



Above the upper left corner of lobby windows; visible mold growth seen forming under the wallpaper.



Inside window casing, upper left corner of lobby windows. Visible mold growth heavy behind the wallpaper.



Regular view of lobby wall, followed by.....



Thermal image of same area from previous photo. Heavy color contrast indicates there is no/poor insulation inside the wall cavity and no/poor protection from moisture pathways (i.e. vapor barrier).



Same issue in the upper right corner of the lobby: there appears to be little protection inside the wall cavities from moisture pathways, and the ability of vapor pressure to enter the building and become trapped (and build up) behind the vinyl wallpaper.



Mold growth behind wallpaper in vacant back office next to Dr.'s office.



Close up view of vacant back office, top of windows. Wallpaper coming unglued from moisture and mold growth behind.



Wallpaper barely hanging on. Mold growth observed right under creases.



Vacant back office area, same issue with wallpaper coming unglued because of moisture and subsequent mold growth behind it.



Seam in wallpaper coming apart in back office area exterior wall; visible mold growth evident behind it.



No/poor insulation inside wall cavity, and lack of a proper vapor barrier, creating the large inside/outside temp difference and indicates easy moisture pathway into the building.



Exterior seals coming apart around the window.



Dr.'s office window area; same design as the rest of the problematic windows.



Relative Humidity (RH) a very nice 39.3%.



Exam Room 4: Separate issue of leaky ductwork and/or drain pan above ceiling.



Close up view, Exam Room 4 ceiling-wall intersection point.



Note how cold the metal grate is compared to the room temperature. If interior relative humidity levels were to exceed 60% for an extended period of time, condensation would appear everywhere.



Same view in gray scale. Note the area where the arrow is pointing; this coincides with the chalky appearance on the wall from 2 photos back.



Ductwork directly above the area shown in the previous Exam Room 4 photos.



Dirty insulation, or mold growth from wicking up moisture? Unsure; could not reach.



Good view of where moisture leaks above ceiling tiles in Exam Room 4 has taken place.



Report for:

Mr. Arthur Martin Arthur V. Martin Associates P.O. Box 3407 Bluffton, SC 29910

Regarding: Project: Mt. Airy Allergy Clinic EML ID: 1103958

Approved by:

Lab Manager Baluswamy Krishnan

Dates of Analysis: Spore trap analysis: 08-23-2013

Service SOPs: Spore trap analysis (1038) AIHA-LAP, LLC accredited service, Lab ID #173067

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.

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6301 NW 5th Way, Suite 2850, Ft. Lauderdale, FL 33309 (877) 711-8400 Fax (954) 776-8485 www.emlab.com

Date of Sampling: 08-21-2013 Date of Receipt: 08-22-2013 Date of Report: 08-23-2013

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:		84419:		84367:		65905:
		Itdoor		obby		S Office
Comments (see below)		lone		Jone	None	
Lab ID-Version‡:		9168-1		9169-1	4979170-1	
Analysis Date:	08/2	.3/2013	08/2	23/2013	08/2	23/2013
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores	186	9,900	4	53		
Basidiospores	779	42,000	7	93		
Bipolaris/Drechslera group			1	13		
Chaetomium						
Cladosporium	31	1,000	7	93		
Curvularia			3	40		
Myrothecium						
Nigrospora						
Other brown						
Other colorless						
Penicillium/Aspergillus types†	20	350	6	80	17	230
Pithomyces	1	13	2	27		
Rusts						
Scopulariopsis						
Smuts, Periconia, Myxomycetes	14	190	3	40		
Spegazzinia			1	13		
Stachybotrys					33	440
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+) ^{††}	2+		2+		2+	
Hyphal fragments/m3	13		110		< 13	
Pollen/m3	< 13		< 13		< 13	
Skin cells (1-4+)	< 1+		1+		1+	
Sample volume (liters)	75		75		75	
§ TOTAL SPORES/m3		53,000		450		670

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.

[†] The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

†Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher then reported. It is important to account for samples volumes when evaluating dust levels.

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.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory. ‡ 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.

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Date of Sampling: 08-21-2013 Date of Receipt: 08-22-2013 Date of Report: 08-23-2013

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	19584348: Back Vacant office			84381:	19584388: Center space	
Comments (see halow)		Vone		Room 4		
Comments (see below)					None	
Lab ID-Version‡:		9171-1		9172-1	4979173-1	
Analysis Date:	08/23/2013		08/2	23/2013	08/2	23/2013
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores			1	13		
Basidiospores	1	13				
Bipolaris/Drechslera group						
Chaetomium						
Cladosporium					1	13
Curvularia	1	13				
Myrothecium						
Nigrospora						
Other brown	2	27			1	13
Other colorless						
Penicillium/Aspergillus types†	160	2,100	16	210		
Pithomyces		,				
Rusts						
Scopulariopsis	23	310				
Smuts, Periconia, Myxomycetes					1	13
Spegazzinia						
Stachybotrys	202	2,700	2	27		
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+) ^{††}	2+		2+		2+	
Hyphal fragments/m3	< 13		< 13		27	
Pollen/m3	13		< 13		13	
Skin cells (1-4+)	1+		1+		1+	
Sample volume (liters)	75		75		75	
§ TOTAL SPORES/m3		5,200		250		40

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.

[†] The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

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



Report for:

Mr. Arthur Martin Arthur V. Martin Associates P.O. Box 3407 Bluffton, SC 29910

Regarding: Project: Mt. Airy Allergy Clinic EML ID: 1103958

Approved by:

Lab Manager Baluswamy Krishnan

Dates of Analysis: Direct microscopic exam (Qualitative): 08-23-2013

Service SOPs: Direct microscopic exam (Qualitative) (1039) AIHA-LAP, LLC accredited service, Lab ID #173067

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.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

6301 NW 5th Way, Suite 2850, Ft. Lauderdale, FL 33309 (877) 711-8400 Fax (954) 776-8485 www.emlab.com

Date of Sampling: 08-21-2013 Date of Receipt: 08-22-2013 Date of Report: 08-23-2013

DIRECT MICROSCOPIC EXAMINATION REPORT

Background Debris and/or Description	Miscellaneous Spores Present*	MOLD GROWTH: Molds seen with underlying mycelial and/or sporulating structures [†]	Other Comments††	General Impression
Lab ID-Version [‡] : 4	979177-1, Analysis	Date: 08/23/2013: Swab sample SW1:	Lobby behind wall	paper
Moderate	Very few	4+ Scopulariopsis species 3+ Stachybotrys species	None	Mold growth
Lab ID-Version: 49	79178-1, Analysis I	Date: 08/23/2013: Swab sample Sw2: E	Exam Room 4 top of	wall
Light	Very few	None	None	Normal trapping
Lab ID-Version: 49	979179-1, Analysis I	Date: 08/23/2013: Swab sample SW3: 1	Back office behind v	vallpaper
Moderate	Very few	4+ Stachybotrys species 2+ Penicillium/Aspergillus group 1+ Scopulariopsis species	None	Mold growth

* 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.

† Quantities of molds seen growing are listed in the MOLD GROWTH column and are graded 1+ to 4+, with 4+ denoting the highest numbers.

^{††} Some comments may refer to the following: Most surfaces collect a mix of spores which are normally present in the outdoor environment. At times it is possible to note a skewing of the distribution of spore types, and also to note "marker" genera which may indicate indoor mold growth. Marker genera are those spore types which are present normally in very small numbers, but which multiply indoors when conditions are favorable for growth.

‡ 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".



Report for:

Mr. Arthur Martin Arthur V. Martin Associates P.O. Box 3407 Bluffton, SC 29910

Regarding: Project: Mt. Airy Allergy Clinic EML ID: 1103958

Approved by:

Lab Manager Baluswamy Krishnan

Dates of Analysis: Direct microscopic exam (Qualitative): 08-23-2013

Service SOPs: Direct microscopic exam (Qualitative) (1039) AIHA-LAP, LLC accredited service, Lab ID #173067

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6301 NW 5th Way, Suite 2850, Ft. Lauderdale, FL 33309 (877) 711-8400 Fax (954) 776-8485 www.emlab.com

Date of Sampling: 08-21-2013 Date of Receipt: 08-22-2013 Date of Report: 08-23-2013

DIRECT MICROSCOPIC EXAMINATION REPORT

Location:	SW1:	Sw2:	SW3:
	Lobby behind wallpaper	Exam Room 4 top of wall	Back office behind
			wallpaper
Sample type:	Swab sample	Swab sample	Swab sample
Lab ID-Version [‡] :	4979177-1	4979178-1	4979179-1
Analysis Date:	08/23/2013	08/23/2013	08/23/2013
MOLD/FUNGAL GROWT	H*: Molds seen growing with	underlying mycelial and/or spo	orulating structures
Acremonium			
Alternaria			
Aureobasidium			
Basidiospores			
Chaetomium			
Cladosporium			
Colorless spores typical of Penicillium / Aspergillus			
Fusarium			
Other colorless, ID unknown			
Penicillium/Aspergillus group			2+
Scopulariopsis	4+		1+
Stachybotrys	3+		4+
Torula			
Ulocladium			
Miscellaneous spores**	Very few	Very few	Very few
Other comments†	None	None	None
Background debris or Description ^{††}	Moderate	Light	Moderate
General impression	Mold growth	Normal trapping	Mold growth

* See Mold/Fungal Growth Details table on the last page.

** See Miscellaneous Spores table on the last page.

[†] Some comments may refer to the following: Most surfaces collect a mix of spores which are normally present in the outdoor environment. At times it is possible to note a skewing of the distribution of spore types, and also to note "marker" genera which may indicate indoor mold growth. Marker genera are those spore types which are present normally in very small numbers, but which multiply indoors when conditions are favorable for growth.

^{††} Background debris is an indication of the amounts of non biological particulate matter present. This background amorphous material is graded and described as scant, light, moderate, heavy, or very heavy. (Very heavy background debris may obscure visibility.)

Fungal types listed without a growth rating or data entry were not detected during the course of the analysis for the respective sample.

Interpretation is left to the company and/or persons who conducted the field work.

 \ddagger 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".

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Mold/Fungal Growth Rating Details

Growth Rating	Quantities of molds indicating growth are listed in the MOLD/FUNGAL GROWTH section. Judgement is used in determining the amount of growth present in the sample. For example, if only one portion of the sample has evidence of heavy growth, then it will receive a rating of heavy growth even though, strictly speaking, on a percentage basis of the entire sample, the amount of growth is low.							
	Swab/Tape/Dust/Wipe sample	Bulk Sample						
<1+ (Very Light Growth)	Evidence of very light growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in less than 10% of the microscopic fields examined.	Areas of very light growth detected by the presence of spores of one type seen with underlying mycelial and/ or with their sporulating structures in the bulk sample.						
1+ (Light Growth)	Evidence of light growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in 10 to 25% of the microscopic fields examined.	Areas of light growth detected by the presence of spores of one type seen with underlying mycelial and/ or with their sporulating structures in the bulk sample.						
2+ (Moderate Growth)	Evidence of moderate growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in 26 to 50% of the microscopic fields examined.	Areas of moderate growth detected by the presence of spores of one type seen with underlying mycelial and/ or with their sporulating structures in the bulk sample.						
3+ (Heavy Growth)	Evidence of heavy growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in 51 to 75% of the microscopic fields examined.	Areas of heavy growth detected by the presence of spores of one type seen with underlying mycelial and/ or with their sporulating structures in the bulk sample.						
4+ (Very Heavy Growth)	Evidence of very heavy growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found to be nearly confluent in the majority of the microscopic fields examined.	Areas of very heavy growth detected by the presence of spores of one type seen with underlying mycelial and/ or with their sporulating structures in the bulk sample.						

Miscellaneous Spores

Slides/specimens are examined for the presence of mold spores and pollen, noting the quantities and distribution of spore types found. A designation of 'normal trapping' is made when a mix of spore types is present with the same general distribution as is usually found outdoors. In other words, the biological component of the sample surface is like that found everywhere. Types of spores present would include basidiospores (mushroom spores), myxomycetes (slime molds), plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating. Many of these spore types would not be found growing indoors on building materials since many plant pathogens require living plants for growth, and mushrooms require compost, leaf duff of various types, or associations with roots of certain trees, etc. Due to these factors, when a mix of spores seen include these types as well as pollen, the rational source is the outside air, rather than indoor mold growth. The numbers of miscellaneous spores seen are graded and described as shown below as none, very few, few, variety, and wide variety.

None	Very Few	Few	Variety	Wide Variety
No spores detected	Very few spores detected	A few spores detected	Many spores containing a variety of different genera detected	Many spores containing a wide variety of different genera detected

Client: Arthur V. Martin Associates C/O: Mr. Arthur Martin Re: Mt. Airy Allergy Clinic Date of Sampling: 08-21-2013 Date of Receipt: 08-22-2013 Date of Report: 08-23-2013

MoldRANGE™: Extended Outdoor Comparison

Outdoor Location: 19584419, Outdoor

Fungi Identified	Outdoor	Typical Outdoor Data for:			Typical Outdoor Data for:								
	data	August in North Carolina† (n‡=278)			The entire year in North Carolina† (n‡=2806)								
	spores/m3	very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
Generally able to grow indoors*													
Alternaria	-	13	13	47	93	150	68	13	13	27	80	130	44
Bipolaris/Drechslera group	-	13	13	13	27	40	37	7	13	13	33	53	19
Chaetomium	-	-	-	-	-	-	4	7	13	13	40	75	5
Cladosporium	1,000	210	320	1,100	2,600	4,100	98	53	110	530	1,800	3,200	91
Curvularia	-	13	13	27	68	150	60	7	13	27	67	120	27
Nigrospora	-	7	13	13	40	54	44	7	13	13	27	53	19
Other brown	-	9	13	13	27	76	35	7	13	13	40	67	32
Penicillium/Aspergillus types	350	53	110	280	820	1,400	84	40	53	210	640	1,200	75
Pithomyces	13	13	13	27	67	130	36	7	13	13	53	130	19
Scopulariopsis	-	-	-	-	-	-	< 1	-	-	-	-	-	< 1
Stachybotrys	-	-	-	-	-	-	1	7	7	13	67	81	1
Torula	-	7	12	13	27	56	13	7	9	13	40	67	9
Seldom found growing indoors**													
Ascospores	9,900	150	210	640	1,600	2,600	98	53	110	370	1,400	2,900	84
Basidiospores	42,000	530	1,000	3,300	12,000	23,000	99	110	230	1,500	6,900	15,000	96
Rusts	-	7	13	13	39	77	23	7	13	13	40	93	18
Smuts, Periconia, Myxomycetes	190	13	27	67	130	240	86	13	13	40	130	230	70
Spegazzinia	-	7	9	13	48	110	10	7	7	13	29	67	5
§ TOTAL SPORES/m3	53,000												

[†]The 'Typical Outdoor Data' represents the typical outdoor spore levels for the location and time frame indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

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

* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

** These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

 $\ddagger n = number of samples used to calculate data.$

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

Client: Arthur V. Martin Associates C/O: Mr. Arthur Martin Re: Mt. Airy Allergy Clinic Date of Sampling: 08-21-2013 Date of Receipt: 08-22-2013 Date of Report: 08-23-2013

MoldSTATTM: Supplementary Statistical Spore Trap Report

Outdoor Summary: 19584419: Outdoor

Species detected		Outdoo	r sample sj	pores/m3	Typical outdoor ranges	Freq.
	<100	1K	10K	>100K	(North America)	%
Ascospores				9,900	13 - 200 - 5,700	76
Basidiospores				42,000	13 - 450 - 23,000	92
Cladosporium				1,000	27 - 480 - 10,000	91
Penicillium/Aspergillus types				350	13 - 170 - 2,700	68
Pithomyces				13	7 - 20 - 570	15
Smuts, Periconia, Myxomycetes				190	7 - 53 - 960	64
Total				53,000		

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurrence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

Indoor Samples

Location: 19584367: Lobby

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)		MoldSCORE**** (indoor/outdoor)	
Result: < 1%	dF: 4 Result: 9.2167 Critical value: 9.4877 Inside Similar: Yes	Result: 0.8000		dF: 9 Result: 0.8708 Critical value: 0.5833 Outside Similar: Yes		Score: 137 Result: Low		
Species 1	Detected			Spor	es/m3			
_		<100	1K	_	10K	>100)K	
	Ascospores						53	
	Basidiospores						93	
Bip	olaris/Drechslera group						13	
Ĩ	Cladosporium						93	
	Curvularia						40	
Penici	llium/Aspergillus types						80	
Pithomyces							27	
Smuts, Periconia, Myxomycetes							40	
Spegazzinia							13	
	Total						450	

Client: Arthur V. Martin Associates C/O: Mr. Arthur Martin Re: Mt. Airy Allergy Clinic Date of Sampling: 08-21-2013 Date of Receipt: 08-22-2013 Date of Report: 08-23-2013

MoldSTATTM: Supplementary Statistical Spore Trap Report

Location: 19565905: Dr.'s Office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: 1%	dF: 4 Result: 9.2167 Critical value: 9.4877 Inside Similar: Yes	Result: 0.2500		dF: 7 Result: -0.2500 Critical value: 0.6786 Outside Similar: No	Score: 300 Result: High		
Species 1	Detected			Spores/m3			
		<100	1K	10K	>100K		
Penic	illium/Aspergillus types				230		
	Stachybotrys				440		
	Total				670		

Location: 19584348: Back Vacant office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: 9%	dF: 4 Result: 9.2167 Critical value: 9.4877 Inside Similar: Yes	Result: 0.3333		dF: 10 Result: -0.4000 Critical value: 0.5515 Outside Similar: No	Score: 300 Result: High		
Species 1	Species Detected			Spores/m3			
		<100	1K	10K	>100K		
	Basidiospores				13		
	Curvularia				13		
	Other brown				27		
Penici	Penicillium/Aspergillus types				2,100		
Scopulariopsis					310		
Stachybotrys					2,700		
	Total				5,200		

Client: Arthur V. Martin Associates C/O: Mr. Arthur Martin Re: Mt. Airy Allergy Clinic Date of Sampling: 08-21-2013 Date of Receipt: 08-22-2013 Date of Report: 08-23-2013

MoldSTATTM: Supplementary Statistical Spore Trap Report

Location: 19584381: Exam Room 4

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: < 1%	dF: 4 Result: 9.2167 Critical value: 9.4877 Inside Similar: Yes	Result: 0.4444		dF: 7 Result: -0.1071 Critical value: 0.6786 Outside Similar: No	Score: 143 Result: Low	
Species 1	Detected			Spores/m3		
		<100	1K	10K	>100K	
	Ascospores				13	
Penicillium/Aspergillus types					210	
	Stachybotrys				27	
	Total				250	

Location: 19584388: Center space

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement (indoor/out		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: < 1%	dF: 4 Result: 9.2167 Critical value: 9.4877 Inside Similar: Yes	Result: 0.4	444	dF: 7 Result: -0.2500 Critical value: 0.6786 Outside Similar: No	Score: 108 Result: Low		
Species			Spores/m3				
	<100	1K	10K	>100K			
Cladosporium					13		
				13			
Smuts, Periconia, Myxomycetes					13		
Total					40		

* The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

** An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.

*** The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

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MoldSTATTM: Supplementary Statistical Spore Trap Report

**** MoldSCORETM is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. EMLab P&Kreserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

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MoldSCORETM: Spore Trap Report

Outdoor Sample: 19584419 Outdoor

Fungi Identified	Outdoor sample spores/m3								3	Raw	Spores/			
	<10	0			1K			10	K	>	-100)K	count	m3
Generally able to grow indoors*														
Alternaria													ND	< 13
Bipolaris/Drechslera group													ND	< 13
Chaetomium													ND	< 13
Cladosporium													31	1,000
Curvularia													ND	< 13
Nigrospora													ND	< 13
Penicillium/Aspergillus types†													20	350
Pithomyces													1	13
Stachybotrys													ND	< 13
Torula													ND	< 13
Seldom found growing indoors**														
Ascospores													186	9,900
Basidiospores													779	42,000
Rusts													ND	< 13
Smuts, Periconia, Myxomycetes													14	190
Total														53,027

Location: 19584367 Lobby

Fungi Identified	Indoor sample spores/m3					Raw	Spores/	MoldSCORE:			ţ
_	<100	1K	_	10K	>100K	count	m3	100	200	300	Score
Generally able to grow indoors*											
Alternaria						ND	< 13				100
Bipolaris/Drechslera group						1	13				105
Chaetomium						ND	< 13				100
Cladosporium						7	93				105
Curvularia						3	40				116
Nigrospora						ND	< 13				100
Penicillium/Aspergillus types [†]						6	80				112
Pithomyces						2	27				111
Stachybotrys						ND	< 13				100
Torula						ND	< 13				100
Seldom found growing indoors**											
Ascospores						4	53				100
Basidiospores						7	93				100
Rusts						ND	< 13				100
Smuts, Periconia, Myxomycetes						3	40				108
Spegazzinia						1	13				105
Total						453	Final MoldSCORE 13				
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Client: Arthur V. Martin Associates C/O: Mr. Arthur Martin Re: Mt. Airy Allergy Clinic

MoldSCORETM: Spore Trap Report

Location: 19565905 Dr.'s Office

Fungi Identified	Indoor sample spores/m3				Raw	Spores/		MoldS			
	<100	1K		10K	>100K	count	m3	100	200	300	Score
Generally able to grow indoors*											
Alternaria						ND	< 13				100
Bipolaris/Drechslera group						ND	< 13				100
Chaetomium						ND	< 13				100
Cladosporium						ND	< 13				100
Curvularia						ND	< 13				100
Nigrospora						ND	< 13				100
Penicillium/Aspergillus types [†]						17	230				136
Stachybotrys						33	440				300
Torula						ND	< 13				100
Seldom found growing indoors**											
Ascospores						ND	< 13				100
Basidiospores						ND	< 13				100
Rusts						ND	< 13				100
Smuts, Periconia, Myxomycetes						ND	< 13				100
Total							667	Fi	nal MoldSC	CORE	300

Location: 19584348 Back Vacant office

Fungi Identified	Indoo	r sam	ple spore	s/m3	Raw	Spores/		MoldS	CORE:	ţ
	<100	1K	10K	>100K	count	m3	100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					1	13				105
Nigrospora					ND	< 13				100
Other brown					2	27				111
Penicillium/Aspergillus types [†]					160	2,100				292
Scopulariopsis					23	310				300
Stachybotrys					202	2,700				300
Torula					ND	< 13				100
Seldom found growing indoors**										
Ascospores					ND	< 13				100
Basidiospores					1	13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes					ND	< 13				100
Total						5,187	Fi	nal MoldS	CORE	300

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MoldSCORETM: Spore Trap Report

Location: 19584381 Exam Room 4

Fungi Identified	Indoor sample spores/m3					Raw	Spores/			CORE:	
	<100	1K		10K	>100K	count	m3	100	200	300	Score
Generally able to grow indoors*											
Alternaria						ND	< 13				100
Bipolaris/Drechslera group						ND	< 13				100
Chaetomium						ND	< 13				100
Cladosporium						ND	< 13				100
Curvularia						ND	< 13				100
Nigrospora						ND	< 13				100
Penicillium/Aspergillus types [†]						16	210				133
Stachybotrys						2	27				143
Torula						ND	< 13				100
Seldom found growing indoors**											
Ascospores						1	13				100
Basidiospores						ND	< 13				100
Rusts						ND	< 13				100
Smuts, Periconia, Myxomycetes						ND	< 13				100
Total							253	Fir	nal MoldS	CORE	143

Location: 19584388 Center space

Fungi Identified	Indoc	or samp	ole spore	s/m3	Raw	Spores/		MoldS		
	<100	1K	10K	>100K	count	m3	100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					1	13				101
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Other brown					1	13				105
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
Seldom found growing indoors**										
Ascospores					ND	< 13				100
Basidiospores					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes					1	13				103
Total						40	Fin	al MoldS	CORE	108

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Client: Arthur V. Martin Associates C/O: Mr. Arthur Martin Re: Mt. Airy Allergy Clinic

MoldSCORETM: Spore Trap Report

* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers. ** These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens.

** These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

[†]The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods.

‡Rated on a scale from 100 to 300. A rating less than 150 is low and indicates a low probability of spores originating inside. A rating greater than 250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A rating between 150 and 250 indicates a moderate likelihood of indoor fungal growth. MoldSCORE is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the analysis on other samples (like wall cavity samples) will lead to misleading results.

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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments:

Note: Graphical output may understate the importance of certain "marker" genera. EMLab P&K, LLC

EMLab ID: 1103958, Page 1

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments:

Note: Graphical output may understate the importance of certain "marker" genera. EMLab P&K, LLC

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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Comments:

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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Comments:



11/30/2013

Vonda Marlow Allergy Partners of the Piedmont 911 Worth Street Mount Airy, NC 27030 Re: Post Remediation Clearance

Ms. Marlow

<u>Please take note to the following:</u> Clearance testing is an essential step to ensure compliance with the remediation process once it has been completed, and prior to reconstruction. It is necessary to protect all parties involved from potential future litigation should a new microbial issue arise that is unrelated to this particular project. Most importantly, clearance testing verifies the building's occupants are no longer being exposed to a health hazard from microbial contamination.

Samples were analyzed by the nation's premier IAQ and microbiology laboratory, EMLab P&K, located in San Bruno, CA. Results show that all the remediated portions of the structure tested exceptionally clean in terms of airborne mold/fungi, and 100% clean on surfaces where previous microbial growth had been identified following treatment with Path-AwayTM Anti-Pathogenic Solution.

All work was performed by Servpro of Pilot Mountain in a professional and thorough manner, as is evidenced by the results.

Following the remediation and consultation with Arthur V. Martin Associates, Inc., this structure is considered safe and habitable. No further testing is necessary. Reconstruction can proceed.

The following pages contain the certified laboratory results. Please contact me if you have any questions about the report. Thank you.

Respectfully,

Kevin Martin

Kevin Martin Vice President Arthur V. Martin Associates, Inc.



Report for:

Mr. Arthur Martin Arthur V. Martin Associates P.O. Box 3407 Bluffton, SC 29910

Regarding: Project: Allergy Partners Clear EML ID: 1144397

Approved by:

ho

Technical Manager Dr. Kamashwaran Ramanathan

Dates of Analysis: Spore trap analysis: 11-29-2013

Service SOPs: Spore trap analysis (1038) AIHA-LAP, LLC accredited service, Lab ID #102856

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.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

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Client: Arthur V. Martin Associates C/O: Mr. Arthur Martin Re: Allergy Partners Clear

Date of Sampling: 11-25-2013 Date of Receipt: 11-27-2013 Date of Report: 11-29-2013

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:		72385: tdoor		19872367: Lobby		72383: enter	19872388: Back office		19872379: Dr.'s office	
Comments (see below)		None		one		one		lone	None	
Lab ID-Version [‡] :	5170	0461-1	5170)462-1	5170463-1		5170464-1		5170465-1	
Analysis Date:	11/2	11/29/2013 1		9/2013	11/29/2013		11/29/2013		11/29/2013	
	raw ct.			spores/m3	raw ct.			raw ct. spores/m3		spores/m3
Ascospores	1	110								
Basidiospores	3	330								
Chaetomium										
Cladosporium	30	3,300					1	27		
Curvularia										
Epicoccum										
Fusarium										
Myrothecium										
Nigrospora										
Other brown	5	67								
Other colorless										
Penicillium/Aspergillus types†	12	1,300								
Pithomyces										
Rusts										
Smuts, Periconia, Myxomycetes	3	40								
Stachybotrys										
Stemphylium										
Torula										
Ulocladium										
Zygomycetes										
Background debris (1-4+) ^{††}	4+		1+		1+		1+		1+	
Hyphal fragments/m3	40		< 7		< 7		< 7		< 7	
Pollen/m3	< 13		< 7		< 7		< 7		< 7	
Skin cells (1-4+)	< 1+		1+		1+		1+		1+	
Sample volume (liters)	75		150		150		150		150	
§ TOTAL SPORES/m3		5,200		< 7		< 7		27		< 7

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.

[†] The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

†Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher then reported. It is important to account for samples volumes when evaluating dust levels.

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.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory. ‡ 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.



Report for:

Mr. Arthur Martin Arthur V. Martin Associates P.O. Box 3407 Bluffton, SC 29910

Regarding: Project: Allergy Partners Clear EML ID: 1144397

Approved by:

ho

Technical Manager Dr. Kamashwaran Ramanathan

Dates of Analysis: Direct microscopic exam (Qualitative): 11-29-2013

Service SOPs: Direct microscopic exam (Qualitative) (1039) AIHA-LAP, LLC accredited service, Lab ID #102856

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.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

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Date of Sampling: 11-25-2013 Date of Receipt: 11-27-2013 Date of Report: 11-29-2013

DIRECT MICROSCOPIC EXAMINATION REPORT

Background Debris and/or Description	Miscellaneous Spores Present*	MOLD GROWTH: Molds seen with underlying mycelial and/or sporulating structures [†]	Other Comments††	General Impression
Lab ID-Version [‡] : 5	5170466-1, Analysis	Date: 11/29/2013: Swab sample SW1:	Lobby Wall	
Light	Very few	None	None	Normal trapping
Lab ID-Version: 51	70467-1, Analysis I	Date: 11/29/2013: Swab sample SW2: 1	Dr.'s office	
Light	Very few	None	None	Normal trapping
Lab ID-Version: 51	70468-1, Analysis I	Date: 11/29/2013: Swab sample SW3: `	Vacant office back	
Light	Very few	None	None	Normal trapping
Lab ID-Version: 51	70469-1, Analysis I	Date: 11/29/2013: Swab sample SW4: I	Lobby windows	
Light	Very few	None	None	Normal trapping

* 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.

† Quantities of molds seen growing are listed in the MOLD GROWTH column and are graded 1+ to 4+, with 4+ denoting the highest numbers.

^{††} Some comments may refer to the following: Most surfaces collect a mix of spores which are normally present in the outdoor environment. At times it is possible to note a skewing of the distribution of spore types, and also to note "marker" genera which may indicate indoor mold growth. Marker genera are those spore types which are present normally in very small numbers, but which multiply indoors when conditions are favorable for growth.

‡ 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".



Report for:

Mr. Arthur Martin Arthur V. Martin Associates P.O. Box 3407 Bluffton, SC 29910

Regarding: Project: Allergy Partners Clear EML ID: 1144397

Approved by:

ho

Technical Manager Dr. Kamashwaran Ramanathan

Dates of Analysis: Direct microscopic exam (Qualitative): 11-29-2013

Service SOPs: Direct microscopic exam (Qualitative) (1039) AIHA-LAP, LLC accredited service, Lab ID #102856

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Date of Sampling: 11-25-2013 Date of Receipt: 11-27-2013 Date of Report: 11-29-2013

DIRECT MICROSCOPIC EXAMINATION REPORT

Location:	SW1:	SW2:
	Lobby Wall	Dr.'s office
Sample type:	Swab sample	Swab sample
Lab ID-Version [‡] :	5170466-1	5170467-1
Analysis Date:	11/29/2013	11/29/2013
MOLD/FUNGAL GROWTI	H*: Molds seen growing with underlying myc	elial and/or sporulating structures
Acremonium		
Alternaria		
Aureobasidium		
Basidiospores		
Chaetomium		
Cladosporium		
Colorless spores typical of Penicillium / Aspergillus		
Fusarium		
Other colorless, ID unknown		
Stachybotrys		
Torula		
Ulocladium		
Miscellaneous spores**	Very few	Very few
Other comments†	None	None
Background debris or Description ^{††}	Light	Light
General impression	Normal trapping	Normal trapping

* See Mold/Fungal Growth Details table on the last page.

** See Miscellaneous Spores table on the last page.

[†] Some comments may refer to the following: Most surfaces collect a mix of spores which are normally present in the outdoor environment. At times it is possible to note a skewing of the distribution of spore types, and also to note "marker" genera which may indicate indoor mold growth. Marker genera are those spore types which are present normally in very small numbers, but which multiply indoors when conditions are favorable for growth.

^{††} Background debris is an indication of the amounts of non biological particulate matter present. This background amorphous material is graded and described as scant, light, moderate, heavy, or very heavy. (Very heavy background debris may obscure visibility.)

Fungal types listed without a growth rating or data entry were not detected during the course of the analysis for the respective sample.

Interpretation is left to the company and/or persons who conducted the field work.

 \ddagger 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".

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Date of Sampling: 11-25-2013 Date of Receipt: 11-27-2013 Date of Report: 11-29-2013

DIRECT MICROSCOPIC EXAMINATION REPORT

Location:	SW3:	SW4:
	Vacant office back	Lobby windows
Sample type:	Swab sample	Swab sample
Lab ID-Version [‡] :	5170468-1	5170469-1
Analysis Date:	11/29/2013	11/29/2013
MOLD/FUNGAL GROWT	H*: Molds seen growing with underlying myc	celial and/or sporulating structures
Acremonium		
Alternaria		
Aureobasidium		
Basidiospores		
Chaetomium		
Cladosporium		
Colorless spores typical of Penicillium / Aspergillus		
Fusarium		
Other colorless, ID unknown		
Stachybotrys		
Torula		
Ulocladium		
Miscellaneous spores**	Very few	Very few
Other comments†	None	None
Background debris or Description ^{††}	Light	Light
General impression	Normal trapping	Normal trapping

* See Mold/Fungal Growth Details table on the last page.

** See Miscellaneous Spores table on the last page.

[†] Some comments may refer to the following: Most surfaces collect a mix of spores which are normally present in the outdoor environment. At times it is possible to note a skewing of the distribution of spore types, and also to note "marker" genera which may indicate indoor mold growth. Marker genera are those spore types which are present normally in very small numbers, but which multiply indoors when conditions are favorable for growth.

^{††} Background debris is an indication of the amounts of non biological particulate matter present. This background amorphous material is graded and described as scant, light, moderate, heavy, or very heavy. (Very heavy background debris may obscure visibility.)

Fungal types listed without a growth rating or data entry were not detected during the course of the analysis for the respective sample.

Interpretation is left to the company and/or persons who conducted the field work.

 \ddagger 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".

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Date of Sampling: 11-25-2013 Date of Receipt: 11-27-2013 Date of Report: 11-29-2013

Client: Arthur V. Martin Associates C/O: Mr. Arthur Martin Re: Allergy Partners Clear

Mold/Fungal Growth Rating Details

Growth Rating	Quantities of molds indicating growth are listed in the MOLD/FUNGAL GROWTH section. Judgement is used in determining the amount of growth present in the sample. For example, if only one portion of the sample has evidence of heavy growth, then it will receive a rating of heavy growth even though, strictly speaking, on a percentage basis of the entire sample, the amount of growth is low.									
	Swab/Tape/Dust/Wipe sample	Bulk Sample								
<1+ (Very Light Growth)	Evidence of very light growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in less than 10% of the microscopic fields examined.	Areas of very light growth detected by the presence of spores of one type seen with underlying mycelial and/ or with their sporulating structures in the bulk sample.								
1+ (Light Growth)	Evidence of light growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in 10 to 25% of the microscopic fields examined.	Areas of light growth detected by the presence of spores of one type seen with underlying mycelial and/ or with their sporulating structures in the bulk sample.								
2+ (Moderate Growth)	Evidence of moderate growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in 26 to 50% of the microscopic fields examined.	Areas of moderate growth detected by the presence of spores of one type seen with underlying mycelial and/ or with their sporulating structures in the bulk sample.								
3+ (Heavy Growth)	Evidence of heavy growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in 51 to 75% of the microscopic fields examined.	Areas of heavy growth detected by the presence of spores of one type seen with underlying mycelial and/ or with their sporulating structures in the bulk sample.								
4+ (Very Heavy Growth)	Evidence of very heavy growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found to be nearly confluent in the majority of the microscopic fields examined.	Areas of very heavy growth detected by the presence of spores of one type seen with underlying mycelial and/ or with their sporulating structures in the bulk sample.								

Miscellaneous Spores

Slides/specimens are examined for the presence of mold spores and pollen, noting the quantities and distribution of spore types found. A designation of 'normal trapping' is made when a mix of spore types is present with the same general distribution as is usually found outdoors. In other words, the biological component of the sample surface is like that found everywhere. Types of spores present would include basidiospores (mushroom spores), myxomycetes (slime molds), plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating. Many of these spore types would not be found growing indoors on building materials since many plant pathogens require living plants for growth, and mushrooms require compost, leaf duff of various types, or associations with roots of certain trees, etc. Due to these factors, when a mix of spores seen include these types as well as pollen, the rational source is the outside air, rather than indoor mold growth. The numbers of miscellaneous spores seen are graded and described as shown below as none, very few, few, variety, and wide variety.

None	Very Few	Few	Variety	Wide Variety
No spores detected	Very few spores detected	A few spores detected	Many spores containing a variety of different genera detected	Many spores containing a wide variety of different genera detected

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Client: Arthur V. Martin Associates C/O: Mr. Arthur Martin Re: Allergy Partners Clear Date of Sampling: 11-25-2013 Date of Receipt: 11-27-2013 Date of Report: 11-29-2013

MoldRANGETM: Extended Outdoor Comparison

Outdoor Location: 19872385, Outdoor

Fungi Identified	Outdoor	r Typical Outdoor Data for:							Typical Outdoor Data for:					
	data	November in North Carolina† (n‡=275)						The entire year in North Carolina† (n‡=2806)						
	spores/m3	very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %	
Generally able to grow indoors*														
Alternaria	-	10	13	13	49	67	43	13	13	27	80	130	44	
Bipolaris/Drechslera group	-	7	13	13	67	220	15	7	13	13	33	53	19	
Chaetomium	-	13	13	13	330	330	8	7	13	13	40	75	5	
Cladosporium	3,300	89	160	380	990	1,900	89	53	110	530	1,800	3,200	91	
Curvularia	-	7	13	13	77	150	22	7	13	27	67	120	27	
Nigrospora	-	7	10	13	27	34	17	7	13	13	27	53	19	
Other brown	67	7	13	13	40	67	29	7	13	13	40	67	32	
Penicillium/Aspergillus types	1,300	53	80	170	590	930	73	40	53	210	640	1,200	75	
Stachybotrys	-	-	-	-	-	-	2	7	7	13	67	81	1	
Torula	-	7	13	17	40	60	9	7	9	13	40	67	9	
Seldom found growing indoors**														
Ascospores	110	40	53	160	360	580	80	53	110	370	1,400	2,900	84	
Basidiospores	330	130	310	890	3,800	6,900	97	110	230	1,500	6,900	15,000	96	
Rusts	-	7	13	13	40	110	24	7	13	13	40	93	18	
Smuts, Periconia, Myxomycetes	40	13	27	67	190	360	80	13	13	40	130	230	70	
§ TOTAL SPORES/m3	5,200													

†The 'Typical Outdoor Data' represents the typical outdoor spore levels for the location and time frame indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

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

* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

** These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

\ddagger n = number of samples used to calculate data.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

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Client: Arthur V. Martin Associates C/O: Mr. Arthur Martin Re: Allergy Partners Clear Date of Sampling: 11-25-2013 Date of Receipt: 11-27-2013 Date of Report: 11-29-2013

MoldSTATTM: Supplementary Statistical Spore Trap Report

Outdoor Summary: 19872385: Outdoor

Species detected		Outdoor	sample sp	Typical outdoor ranges	Freq.	
	<100	1K	10K	>100K	(North America)	%
Ascospores				110] 13 - 210 - 5,700	77
Basidiospores				330] 14 - 460 - 24,000	92
Cladosporium				3,300] 27 - 480 - 10,000	90
Other brown				67] 7 - 13 - 130	24
Penicillium/Aspergillus types				1,300] 13 - 170 - 2,700	68
Smuts, Periconia, Myxomycetes				40] 7 - 53 - 930	64
Total				5,200		

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurrence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

Indoor Samples

Location: 19872367: Lobby

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 3 Result: 1.8000 Critical value: 7.8147 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species 2	Detected		Spores/m3	
		<100 1K	10K	>100K
	None Detected			<

Location: 19872383: Center

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)				
Result: < 1%	dF: 3 Result: 1.8000 Critical value: 7.8147 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low				
Species 3	Detected	Spores/m3						
		<100 1K	10K	>100K				
	None Detected			< 7				

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Date of Sampling: 11-25-2013 Date of Receipt: 11-27-2013 Date of Report: 11-29-2013

MoldSTATTM: Supplementary Statistical Spore Trap Report

Location: 19872388: Back office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		ent ratio** r/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: < 1%	dF: 3 Result: 1.8000 Critical value: 7.8147 Inside Similar: Yes	Resu	lt: 0.2857	dF: 6 Result: 0.7143 Critical value: 0.7714 Outside Similar: No	Score: 101 Result: Low		
Species 1	Detected			Spores/m3			
		<100	1K	10K	>100K		
	Cladosporium				27		
	Total				27		

Location: 19872379: Dr.'s office

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)				
Result: < 1%	dF: 3 Result: 1.8000 Critical value: 7.8147 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low				
Species	Detected	Spores/m3						
		<100 1K	10K	>100K				
	None Detected			< 7				

* The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

** An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.

*** The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

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Date of Sampling: 11-25-2013 Date of Receipt: 11-27-2013 Date of Report: 11-29-2013

MoldSTATTM: Supplementary Statistical Spore Trap Report

**** MoldSCORETM is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. EMLab P&Kreserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor ranges" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. With the statistical analysis provided, as with all statistical comparisons and analyses, false-positive and false-negative results can and do occur. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the data contained in, or any actions taken or omitted in reliance upon, this report.

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Client: Arthur V. Martin Associates C/O: Mr. Arthur Martin Re: Allergy Partners Clear Date of Sampling: 11-25-2013 Date of Receipt: 11-27-2013 Date of Report: 11-29-2013

MoldSCORETM: Spore Trap Report

Outdoor Sample: 19872385 Outdoor

Fungi Identified	Ou	ito	lo	or	sar	np	le	e s	po	re	s/	m	3	Raw	Spores/
	<10	0			1K				10K		>	100	K	count	m3
Generally able to grow indoors*															
Alternaria														ND	< 13
Bipolaris/Drechslera group														ND	< 13
Chaetomium														ND	< 13
Cladosporium														30	3,300
Curvularia														ND	< 13
Nigrospora														ND	< 13
Other brown														5	67
Penicillium/Aspergillus types†														12	1,300
Stachybotrys														ND	< 13
Torula														ND	< 13
Seldom found growing indoors**															
Ascospores														1	110
Basidiospores														3	330
Rusts														ND	< 13
Smuts, Periconia, Myxomycetes														3	40
Total															5,213

Location: 19872367 Lobby

Fungi Identified	Indoc	or samp	ole spo	res/m3	Raw	Spores/	MoldSCORE			
	<100	1K	101	K >100H	count	m3	100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 7				100
Bipolaris/Drechslera group					ND	< 7				100
Chaetomium					ND	< 7				100
Cladosporium					ND	< 7				100
Curvularia					ND	< 7				100
Nigrospora					ND	< 7				100
Penicillium/Aspergillus types†					ND	< 7				100
Stachybotrys					ND	< 7				100
Torula					ND	< 7				100
Seldom found growing indoors**										
Ascospores					ND	< 7				100
Basidiospores					ND	< 7				100
Rusts					ND	< 7				100
Smuts, Periconia, Myxomycetes					ND	< 7				100
Total						N/A	Fina	al MoldSC	ORE	100

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Client: Arthur V. Martin Associates C/O: Mr. Arthur Martin Re: Allergy Partners Clear

MoldSCORETM: Spore Trap Report

Date of Sampling: 11-25-2013 Date of Receipt: 11-27-2013 Date of Report: 11-29-2013

Location: 19872383 Center MoldSCORE: 200 300 Score **Fungi Identified** Indoor sample spores/m3 Raw Spores/ 100 <100 >100K count 1K10K m3 Generally able to grow indoors* ND Alternaria < 7 100 Bipolaris/Drechslera group ND < 7 100 ND Chaetomium < 7 100 ND Cladosporium < 7 100 ND Curvularia 100 < 7 Nigrospora ND < 7 100 ND Penicillium/Aspergillus types[†] < 7 100 ND Stachybotrys < 7 100 ND Torula < 7 100 Seldom found growing indoors** ND < 7 100 Ascospores ND **Basidiospores** < 7 100 ND Rusts < 7 100 ND Smuts, Periconia, Myxomycetes < 7 100 N/A **Final MoldSCORE** 100 Total

Location: 19872388 Back office

Fungi Identified	Indoor	[.] samp	ole spore	s/m3	Raw	Spores/				
	<100	1K	10K	>100K	count	m3	100	200	300	Score
Generally able to grow indoors*										
Alternaria					ND	< 7				100
Bipolaris/Drechslera group					ND	< 7				100
Chaetomium					ND	< 7				100
Cladosporium					1	27				101
Curvularia					ND	< 7				100
Nigrospora					ND	< 7				100
Penicillium/Aspergillus types [†]					ND	< 7				100
Stachybotrys					ND	< 7				100
Torula					ND	< 7				100
Seldom found growing indoors**										
Ascospores					ND	< 7				100
Basidiospores					ND	< 7				100
Rusts					ND	< 7				100
Smuts, Periconia, Myxomycetes					ND	< 7				100
Total						27	Fina	al MoldS(CORE	101

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Client: Arthur V. Martin Associates C/O: Mr. Arthur Martin Re: Allergy Partners Clear

MoldSCORE[™]: Spore Trap Report Location: 19872379 Dr.'s office Date of Sampling: 11-25-2013 Date of Receipt: 11-27-2013 Date of Report: 11-29-2013

Fungi Identified	Indo	or san	ple :	spore	s/m3	Raw	Spores/		MoldSCORE [‡]		
_	<100	1K	_	10K	>100K	count	m3	100	200	300	Score
Generally able to grow indoors*											
Alternaria						ND	< 7				100
Bipolaris/Drechslera group						ND	< 7				100
Chaetomium						ND	< 7				100
Cladosporium						ND	< 7				100
Curvularia						ND	< 7				100
Nigrospora						ND	< 7				100
Penicillium/Aspergillus types [†]						ND	< 7				100
Stachybotrys						ND	< 7				100
Torula						ND	< 7				100
Seldom found growing indoors**											
Ascospores						ND	< 7				100
Basidiospores						ND	< 7				100
Rusts						ND	< 7				100
Smuts, Periconia, Myxomycetes						ND	< 7				100
Total							N/A	Fir	nal MoldS	CORE	100

* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers. ** These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens.

** These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

[†]The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods.

‡Rated on a scale from 100 to 300. A rating less than 150 is low and indicates a low probability of spores originating inside. A rating greater than 250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A rating between 150 and 250 indicates a moderate likelihood of indoor fungal growth. MoldSCORE is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the analysis on other samples (like wall cavity samples) will lead to misleading results.

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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments:

Note: Graphical output may understate the importance of certain "marker" genera. EMLab P&K, LLC

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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments: