The following samples were collected from Martin Hall 1st and 2nd Floor

EMLab P&K
A TestAmerica Company

Report for:

Mr. Chad Johnson
Eastern Washington University
EH&S, 002 Martin Hall
Cheney, WA 99004

Regarding: Project: Mar
EML ID: 2138202

Approved by:

Operations Manager
Joshua Cox

Dates of Analysis:
Spore trap analysis: 04-16-2019

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

EMLab P&K
1501 West Knudsen Drive, Phoenix, AZ 85027
(800) 651-4802 Fax (623) 780-7695 www.emlab.com

Client: Eastern Washington University
C/O: Mr. Chad Johnson
Re: Mar

Date of Sampling: 04-10-2019
Date of Receipt: 04-12-2019
Date of Report: 04-16-2019

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	27335704: Outside AH		28133667: Rm 238/338		28133660: Rm 228	
Comments (see below)	None		None		None	
Lab ID-Version‡:	10138443-1		10138445-1		10138447-1	
Analysis Date:	04/16/2019		04/16/2019		04/16/2019	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria					2	27
Ascospores	2	110	1	53		
Basidiospores	12	640				
Chaetomium						
Cladosporium	10	530	1	53	4	210
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†	1	53				
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes			2	27		
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+		2+		3+	
Hyphal fragments/m3	13		< 13		< 13	
Pollen/m3	< 13		13		< 13	
Skin cells (1-4+)	< 1+		1+		1+	
Sample volume (liters)	75		75		75	
§ TOTAL SPORES/m3		1,300		130		240

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† 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 than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3. The limit of detection is the analytical sensitivity (in spores/m^3) multiplied by the sample volume (in liters) divided by 1000 liters.

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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C/O: Mr. Chad Johnson
Re: Mar

Date of Sampling: 04-10-2019
Date of Receipt: 04-12-2019
Date of Report: 04-16-2019

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	28133674: MAR/WAL 2nd Fl Door		28133656: Rm 114		28133663: Rm 151 G	
Comments (see below)	None		None		None	
Lab ID-Version‡:	10138449-1		10138451-1		10138453-1	
Analysis Date:	04/16/2019		04/16/2019		04/16/2019	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria						
Ascospores	1	13	1	53		
Basidiospores			1	53		
Chaetomium						
Cladosporium			1	53	1	53
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+		1+		1+	
Hyphal fragments/m3	< 13		< 13		< 13	
Pollen/m3	< 13		13		< 13	
Skin cells (1-4+)	< 1+		< 1+		1+	
Sample volume (liters)	75		75		75	
§ TOTAL SPORES/m3		13		160		53

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† 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 than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3. The limit of detection is the analytical sensitivity (in spores/m^3) multiplied by the sample volume (in liters) divided by 1000 liters.

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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Report for:

Mr. Chad Johnson
Eastern Washington University
EH&S, 002 Martin Hall
Cheney, WA 99004

Regarding: Project: Mar
EML ID: 2138202

Approved by:

Operations Manager
Joshua Cox

Dates of Analysis:
Spore trap analysis: 04-16-2019

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

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Client: Eastern Washington University
C/O: Mr. Chad Johnson
Re: Mar

Date of Sampling: 04-10-2019
Date of Receipt: 04-12-2019
Date of Report: 04-16-2019

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	27335704: Outside AH				28133667: Rm 238/338				28133660: Rm 228			
Comments (see below)	None				None				None			
Lab ID-Version‡:	10138443-1				10138445-1				10138447-1			
Analysis Date:	04/16/2019				04/16/2019				04/16/2019			
Sample volume (liters)	75				75				75			
Background debris (1-4+)††	1+				2+				3+			
	raw ct.	Count/m3	DL/m3*	%	raw ct.	Count/m3	DL/m3*	%	raw ct.	Count/m3	DL/m3*	%
Hyphal fragments	1	13	13	n/a								
Pollen					1	13	13	n/a				
§ TOTAL FUNGAL SPORES	25	1,300	n/a	100	4	130	n/a	100	6	240	n/a	100
Alternaria									2	27	13	11
Ascospores	2	110	53	8	1	53	53	40				
Basidiospores	12	640	53	48								
Chaetomium												
Cladosporium	10	530	53	40	1	53	53	40	4	210	53	89
Penicillium/Aspergillus types	1	53	53	4								
Rusts												
Smuts, Periconia, Myxomycetes					2	27	13	20				
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Zygomycetes												

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

The analytical sensitivity/limit of detection is the Count/m^3 divided by the raw count, expressed in Count/m^3.

*The detection limit/limit of detection (DL) per cubic meter (m3) has been rounded to two significant figures to reflect analytical precision.

††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 than reported. It is important to account for samples volumes when evaluating dust levels.

‡ 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 Fungal Spores has been rounded to two significant figures to reflect analytical precision.

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Re: Mar

Date of Sampling: 04-10-2019
Date of Receipt: 04-12-2019
Date of Report: 04-16-2019

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	28133674: MAR/WAL 2nd Fl Door				28133656: Rm 114				28133663: Rm 151 G			
Comments (see below)	None				None				None			
Lab ID-Version‡:	10138449-1				10138451-1				10138453-1			
Analysis Date:	04/16/2019				04/16/2019				04/16/2019			
Sample volume (liters)	75				75				75			
Background debris (1-4+)††	1+				1+				1+			
	raw ct.	Count/m3	DL/m3*	%	raw ct.	Count/m3	DL/m3*	%	raw ct.	Count/m3	DL/m3*	%
Hyphal fragments												
Pollen					1	13	13	n/a				
§ TOTAL FUNGAL SPORES	1	13	n/a	100	3	160	n/a	100	1	53	n/a	100
Alternaria												
Ascospores	1	13	13	100	1	53	53	33				
Basidiospores					1	53	53	33				
Chaetomium												
Cladosporium					1	53	53	33	1	53	53	100
Penicillium/Aspergillus types												
Rusts												
Smuts, Periconia, Myxomycetes												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Zygomycetes												

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

The analytical sensitivity/limit of detection is the Count/m^3 divided by the raw count, expressed in Count/m^3.

*The detection limit/limit of detection (DL) per cubic meter (m3) has been rounded to two significant figures to reflect analytical precision.

††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 than reported. It is important to account for samples volumes when evaluating dust levels.

‡ 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 Fungal Spores has been rounded to two significant figures to reflect analytical precision.

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Cheney, WA 99004

Regarding: Project: Mar
EML ID: 2138202

Approved by:

Operations Manager
Joshua Cox

Dates of Analysis:
Spore trap analysis other particles-Supplement: 04-16-2019

Service SOPs: Spore trap analysis other particles-Supplement (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 samples as received. Sample air volume is supplied by the client.

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.

EMLab P&K's LabServe® reporting system includes automated fail-safes to ensure that all AIHA-LAP, LLC quality requirements are met and notifications are added to reports when any quality steps remain pending.

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Client: Eastern Washington University
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Date of Sampling: 04-10-2019
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Date of Report: 04-16-2019

OTHER BIOLOGICAL PARTICLES REPORT: NON-VIABLE METHODOLOGY

Location:	27335704: Outside AH		28133667: Rm 238/338		28133660: Rm 228	
Comments (see below)	None		None		None	
Lab ID-Version‡:	10138444-1		10138446-1		10138448-1	
	raw ct.	particles/m3	raw ct.	particles/m3	raw ct.	particles/m3
POLLEN						
Eucalyptus (Eucalyptus)						
Grass (Poaceae)						
Mulberry (Morus)						
Oak (Quercus)						
Other			1	13		
Pine (Pinaceae)						
Ragweed (Ambrosieae)						
Sycamore (Platanus)						
OTHER PLANT						
Algae						
Diatoms						
Fern, moss, etc. spores						
Other (wood, trichomes, etc.)			1	13	1	13
OTHER PARTICLES:						
ANIMAL						
Epithelial (skin) cells	18	240	94	5,000	99	5,300
Hair					2	27
Insect parts					1	13
Mites						
FUNGI						
Hyphal fragments	1	13				
NON-BIOLOGICAL						
Cellulose fibers	4	53	57	760	49	650
Glass fiber						
Starch particles			1	13	1	13
Synthetic fibers						
Background debris (1-4+)†	1+		2+		3+	
Sample volume (liters)	75		75		75	

Comments:

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.

Carbonaceous particles include soot and other combustion products. In most instances a detailed analysis of soot can be accomplished using scanning electron microscopy.

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

† 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+ indicating the largest amounts. To evaluate dust levels it is important to account for differences in sample volume.

‡ 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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OTHER BIOLOGICAL PARTICLES REPORT: NON-VIABLE METHODOLOGY

Location:	28133674: MAR/WAL 2nd Fl Door		28133656: Rm 114		28133663: Rm 151 G	
Comments (see below)	None		None		None	
Lab ID-Version‡:	10138450-1		10138452-1		10138454-1	
	raw ct.	particles/m3	raw ct.	particles/m3	raw ct.	particles/m3
POLLEN						
Eucalyptus (Eucalyptus)						
Grass (Poaceae)						
Mulberry (Morus)						
Oak (Quercus)						
Other			1	13		
Pine (Pinaceae)						
Ragweed (Ambrosieae)						
Sycamore (Platanus)						
OTHER PLANT						
Algae						
Diatoms						
Fern, moss, etc. spores						
Other (wood, trichomes, etc.)						
OTHER PARTICLES:						
ANIMAL						
Epithelial (skin) cells	62	830	70	930	133	1,800
Hair						
Insect parts						
Mites						
FUNGI						
Hyphal fragments						
NON-BIOLOGICAL						
Cellulose fibers	11	150	21	280	28	370
Glass fiber						
Starch particles					2	27
Synthetic fibers			1	13		
Background debris (1-4+)†	1+		1+		1+	
Sample volume (liters)	75		75		75	

Comments:

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.

Carbonaceous particles include soot and other combustion products. In most instances a detailed analysis of soot can be accomplished using scanning electron microscopy.

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

† 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+ indicating the largest amounts. To evaluate dust levels it is important to account for differences in sample volume.

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MoldRANGE™, Local Climate; Extended Outdoor Comparison

Outdoor Location: 27335704, Outside AH

Fungi Identified	Outdoor data	Typical Outdoor Data for: April in Washington† EMLab Local Climate code¹ A Annual Temp, A Elev., B Rain, A Temp. Range (n‡=90)						Typical Outdoor Data for: The entire year in Washington† EMLab Local Climate code¹ A Annual Temp, A Elev., B Rain, A Temp. Range (n‡=905)					
Project zip code 99004	spores/m3	very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
Generally able to grow indoors*													
Alternaria	-	-	-	-	-	-	18	13	13	27	53	93	28
Bipolaris/Drechslera group	-	-	-	-	-	-	2	7	7	13	27	50	2
Chaetomium	-	-	-	-	-	-	8	7	13	13	23	40	6
Cladosporium	530	53	76	210	440	960	79	53	110	400	1,300	2,500	83
Curvularia	-	-	-	-	-	-	1	8	13	13	19	39	2
Nigrospora	-	-	-	-	-	-	< 1	-	-	-	-	-	2
Penicillium/Aspergillus types	53	52	53	110	320	510	82	53	53	160	480	840	84
Stachybotrys	-	-	-	-	-	-	1	-	-	-	-	-	2
Torula	-	-	-	-	-	-	1	13	13	13	53	66	4
Seldom found growing indoors**													
Ascospores	110	53	70	160	510	910	83	53	89	270	1,000	1,700	78
Basidiospores	640	53	110	270	810	1,600	91	53	130	530	1,900	4,100	91
Rusts	-	-	-	-	-	-	2	13	13	26	53	100	18
Smuts, Periconia, Myxomycetes	-	13	13	27	43	61	36	13	27	160	1,000	2,000	67
§ TOTAL SPORES/m3	1,300												

¹EMLab Local Climate codes are a climate classification scheme for statewide geographic areas. The MoldRANGE™ Local Climate report uses the sampling location zip code to identify the EMLab Local Climate code in that area. Using information available from the NOAA weather database, the EMLab Local Climate code sharpens the precision of the MoldRANGE™reporting system, providing more reliable estimates of the range and average concentrations of the different airborne fungal spore types for each region. Additional information on the EMLab Local Climate code system can be found on the last page of this report.

†The Typical Outdoor Data represents the typical outdoor spore levels across the state for the time period and EMLab Local Climate code 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 not enough data is available to make a statistically meaningful assessment, it is indicated with a dash.

‡ n is the sample size used to calculate the MoldRANGE™ Local Climate data summarized in the table.

* 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.

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

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Understanding EMLab Local Climate Codes

Outdoor airborne spore concentrations are strongly influenced by climate and weather patterns, often resulting in pronounced seasonal and diurnal cycles (Burge 1995). The seasonal climatic changes directly affect the growth cycle of plants, thereby influencing fungal growth, spore maturation, and release cycles. By evaluating outdoor spore concentrations across similar climatic zones rather than for the state as a whole, it is possible to provide a more representative estimate of typical outdoor spore levels and frequency of occurrence for different airborne fungal spore types in a given area.

The EMLab Local Climate code system is a novel and patent pending classification system that uses data from the NOAA - National Oceanic and Atmospheric Administration database to define unique climate regions by state. The following local climate variables, for each statewide zip code, are obtained from NOAA and assigned a letter code of A (above the statewide average for that variable) or B (below the statewide average for that variable):

1. Annual High Temperature
2. Elevation
3. Rainfall/Precipitation
4. Monthly Temperature Range

The result is a 4-character code assigned to each statewide zip code, referred to as the Local Climate Code. Below are some examples of decoded Local Climate Codes:

AAAA = Above avg. Annual High Temperature, Above avg. Elevation, Above avg. Rainfall/Precipitation, Above avg. Monthly Temperature Range
AABB = Above avg. Annual High Temperature, Above avg. Elevation, Below avg. Rainfall/Precipitation, Below avg. Monthly Temperature Range
BBAA = Below avg. Annual High Temperature, Below avg. Elevation, Above avg. Rainfall/Precipitation, Above avg. Monthly Temperature Range

The actual outdoor air sample data from matching local climate codes in each state are then compiled in a manner relating typical spore concentrations and frequency of occurrence.

The NOAA local climate variables were selected by mapping data points from a subset of approximately 145,000 weather and geographic database entries to over 80,000 outdoor spore trap samples with known zip codes and assessing them using orthogonal array experimental design techniques. The results were then compared to the typical ranges of spore types found when grouping zip codes using the Koppen-Geiger climatic classification system; a commonly used climatic system that provides an objective numerical definition in terms of climatic elements such as temperature, rainfall, and other seasonal characteristics . The EMLab Local Climate codes showed improved granularity and refinement of the zip code groupings, implying a better representation of the expected range of spore types to be found within an individual zip code.

The values on this report were calculated by obtaining the four variables listed above from the over 585 million data points of weather and geographic information available in the NOAA database, and determining the frequencies and percentile values of spore types by utilizing over 180,000 EMLab P&K outdoor spore trap samples with known zip codes.

This report groups statewide zip codes in relation to these EMLab Local Climate codes and summarizes MoldRANGE™ data by month and year within each EMLab Local Climate code.

References:
Burge, Harriet, A. Bioaerosols: Boca Raton: Lewis Publishers, pp. 163-171, 1995.

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Re: Mar

Date of Sampling: 04-10-2019
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Date of Report: 04-16-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report

Outdoor Summary: 27335704: Outside AH

Species detected	Outdoor sample spores/m3 (<100 / 1K / 10K / >100K)	Typical outdoor ranges (North America)	Freq. %
Ascospores	110	13 - 240 - 6,600	77
Basidiospores	640	20 - 480 - 24,000	91
Cladosporium	530	27 - 520 - 9,000	89
Penicillium/Aspergillus types	53	13 - 190 - 2,700	66
Smuts, Periconia, Myxomycetes	< 13	7 - 53 - 1,100	66
Total	1,300		

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 occurence 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: 28133667: Rm 238/338

% 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: 2.8800 Critical value: 9.4877 Inside Similar: Yes	Result: 0.5714	dF: 5 Result: 0.0500 Critical value: 0.8000 Outside Similar: No	Score: 105 Result: Low

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	53
Cladosporium	53
Smuts, Periconia, Myxomycetes	27
Total	130

Location: 28133660: Rm 228

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 17%	dF: 4 Result: 2.8800 Critical value: 9.4877 Inside Similar: Yes	Result: 0.3333	dF: 5 Result: 0.0000 Critical value: 0.8000 Outside Similar: No	Score: 111 Result: Low

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Alternaria	27
Cladosporium	210
Total	240

EMLab P&K
1501 West Knudsen Drive, Phoenix, AZ 85027
(800) 651-4802 Fax (623) 780-7695 www.emlab.com

Client: Eastern Washington University
C/O: Mr. Chad Johnson
Re: Mar

Date of Sampling: 04-10-2019
Date of Receipt: 04-12-2019
Date of Report: 04-16-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report

Location: 28133674: MAR/WAL 2nd Fl Door

% 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: 2.8800 Critical value: 9.4877 Inside Similar: Yes	Result: 0.4000	dF: 4 Result: 0.0000 Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Ascospores	13
Total	13

Location: 28133656: Rm 114

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 11%	dF: 4 Result: 2.8800 Critical value: 9.4877 Inside Similar: Yes	Result: 0.8571	dF: 4 Result: 0.8000 Critical value: N/A Outside Similar: N/A	Score: 101 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Ascospores	53
Basidiospores	53
Cladosporium	53
Total	160

Location: 28133663: Rm 151 G

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 3%	dF: 4 Result: 2.8800 Critical value: 9.4877 Inside Similar: Yes	Result: 0.4000	dF: 4 Result: 0.4000 Critical value: N/A Outside Similar: N/A	Score: 102 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Cladosporium	53
Total	53

* 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.

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** 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.

**** MoldSCORE™ 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.