The following samples were collected from Williamson Hall rooms:

- 310
- 310C
- 310D
- 312D

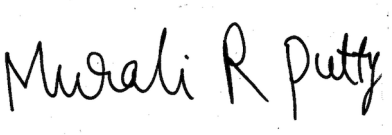
EMLab P&K
A TestAmerica Company

Report for:

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

Regarding: Project: WAL Hall
EML ID: 2123162

Approved by:



Technical Manager
Murali Putty

Dates of Analysis:
Spore trap analysis: 03-27-2019

Service SOPs: Spore trap analysis (EM-MY-S-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 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.

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	27786672: Outside		27786657: 312D		27786684: 310		27786740: 310C		27786685: 310D	
Comments (see below)	None		None		None		None		None	
Lab ID-Version‡:	10048599-1		10048601-1		10048603-1		10048605-1		10048607-1	
Analysis Date:	03/27/2019		03/27/2019		03/27/2019		03/27/2019		03/27/2019	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores										
Basidiospores										
Chaetomium										
Cladosporium	1	53	1	53			2	110		
Curvularia										
Epicoccum										
Fusarium										
Myrothecium										
Nigrospora										
Other brown										
Other colorless										
Penicillium/Aspergillus types†	4	210	3	160	1	53	2	110	2	110
Pithomyces										
Rusts										
Smuts, Periconia, Myxomycetes	1	13								
Stachybotrys										
Stemphylium										
Torula										
Ulocladium										
Zygomycetes										
Background debris (1-4+)††	2+		2+		2+		2+		2+	
Hyphal fragments/m3	< 13		< 13		< 13		< 13		< 13	
Pollen/m3	< 13		< 13		< 13		< 13		< 13	
Skin cells (1-4+)	< 1+		1+		< 1+		1+		1+	
Sample volume (liters)	75		75		75		75		75	
§ TOTAL SPORES/m3		280		210		53		210		110

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.

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	27786683: 312D		27786648: 312B		27786700: 310B		310: WAL 310	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	10048609-1		10048611-1		10048613-1		10048589-1	
Analysis Date:	03/27/2019		03/27/2019		03/27/2019		03/27/2019	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores								
Basidiospores					1	53		
Chaetomium								
Cladosporium	1	53			1	53		
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Other brown					2	27		
Other colorless								
Penicillium/Aspergillus types†	4	210	1	53	1	53	1	53
Pithomyces								
Rusts								
Smuts, Periconia, Myxomycetes					1	13	1	13
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	2+		2+		2+		2+	
Hyphal fragments/m3	< 13		< 13		13		< 13	
Pollen/m3	< 13		< 13		13		< 13	
Skin cells (1-4+)	1+		1+		< 1+		1+	
Sample volume (liters)	75		75		75		75	
§ TOTAL SPORES/m3		270		53		200		67

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.

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	310D: WAL 310D		310B: WAL 310B		312: WAL 312		Outside: Outside	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	10048591-1		10048593-1		10048595-1		10048597-1	
Analysis Date:	03/27/2019		03/27/2019		03/27/2019		03/27/2019	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores							7	370
Basidiospores								
Chaetomium								
Cladosporium								
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Other brown			1	13				
Other colorless								
Penicillium/Aspergillus types†							1	53
Pithomyces								
Rusts					1	13		
Smuts, Periconia, Myxomycetes			1	13	1	13		
Stachybotrys								
Stemphylium								
Torula								
Ulocladium			1	13				
Zygomycetes								
Background debris (1-4+)††	2+		2+		2+		1+	
Hyphal fragments/m3	< 13		< 13		< 13		< 13	
Pollen/m3	< 13		< 13		< 13		< 13	
Skin cells (1-4+)	1+		< 1+		< 1+		< 1+	
Sample volume (liters)	75		75		75		75	
§ TOTAL SPORES/m3		< 13		40		27		430

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.

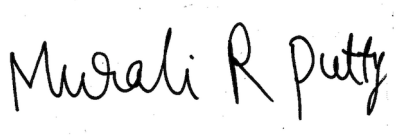
EMLab P&K
A TestAmerica Company

Report for:

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

Regarding: Project: WAL Hall
EML ID: 2123162

Approved by:



Technical Manager
Murali Putty

Dates of Analysis:
Spore trap analysis: 03-27-2019

Service SOPs: Spore trap analysis (EM-MY-S-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 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.

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	27786672: Outside				27786657: 312D				27786684: 310				27786740: 310C			
Comments (see below)	None				None				None				None			
Lab ID-Version‡:	10048599-1				10048601-1				10048603-1				10048605-1			
Analysis Date:	03/27/2019				03/27/2019				03/27/2019				03/27/2019			
Sample volume (liters)	75				75				75				75			
Background debris (1-4+)††	2+				2+				2+				2+			
	raw ct.	Count/m3	DL/m3*	%	raw ct.	Count/m3	DL/m3*	%	raw ct.	Count/m3	DL/m3*	%	raw ct.	Count/m3	DL/m3*	%
Hyphal fragments																
Pollen																
§ TOTAL FUNGAL SPORES	6	280	n/a	100	4	210	n/a	100	1	53	n/a	100	4	210	n/a	100
Ascospores																
Basidiospores																
Chaetomium																
Cladosporium	1	53	53	19	1	53	53	25					2	110	53	50
Other brown																
Penicillium/Aspergillus types	4	210	53	76	3	160	53	75	1	53	53	100	2	110	53	50
Rusts																
Smuts, Periconia, Myxomycetes	1	13	13	5												
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.

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	27786685: 310D				27786683: 312D				27786648: 312B				27786700: 310B			
Comments (see below)	None				None				None				None			
Lab ID-Version‡:	10048607-1				10048609-1				10048611-1				10048613-1			
Analysis Date:	03/27/2019				03/27/2019				03/27/2019				03/27/2019			
Sample volume (liters)	75				75				75				75			
Background debris (1-4+)††	2+				2+				2+				2+			
	raw ct.	Count/m3	DL/m3*	%	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	2	110	n/a	100	5	270	n/a	100	1	53	n/a	100	6	200	n/a	100
Ascospores																
Basidiospores													1	53	53	27
Chaetomium																
Cladosporium					1	53	53	20					1	53	53	27
Other brown													2	27	13	13
Penicillium/Aspergillus types	2	110	53	100	4	210	53	80	1	53	53	100	1	53	53	27
Rusts																
Smuts, Periconia, Myxomycetes													1	13	13	7
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.

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	310: WAL 310				310D: WAL 310D				310B: WAL 310B			
Comments (see below)	None				None				None			
Lab ID-Version‡:	10048589-1				10048591-1				10048593-1			
Analysis Date:	03/27/2019				03/27/2019				03/27/2019			
Sample volume (liters)	75				75				75			
Background debris (1-4+)††	2+				2+				2+			
	raw ct.	Count/m3	DL/m3*	%	raw ct.	Count/m3	DL/m3*	%	raw ct.	Count/m3	DL/m3*	%
Hyphal fragments												
Pollen												
§ TOTAL FUNGAL SPORES	2	67	n/a	100		< 13	n/a	100	3	40	n/a	100
Ascospores												
Basidiospores												
Chaetomium												
Cladosporium												
Other brown									1	13	13	33
Penicillium/Aspergillus types	1	53	53	80								
Rusts												
Smuts, Periconia, Myxomycetes	1	13	13	20					1	13	13	33
Stachybotrys												
Stemphylium												
Torula												
Ulocladium									1	13	13	33
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.

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	312: WAL 312				Outside: Outside			
Comments (see below)	None				None			
Lab ID-Version‡:	10048595-1				10048597-1			
Analysis Date:	03/27/2019				03/27/2019			
Sample volume (liters)	75				75			
Background debris (1-4+)††	2+				1+			
	raw ct.	Count/m3	DL/m3*	%	raw ct.	Count/m3	DL/m3*	%
Hyphal fragments								
Pollen								
§ TOTAL FUNGAL SPORES	2	27	n/a	100	8	430	n/a	100
Ascospores					7	370	53	88
Basidiospores								
Chaetomium								
Cladosporium								
Other brown								
Penicillium/Aspergillus types					1	53	53	13
Rusts	1	13	13	50				
Smuts, Periconia, Myxomycetes	1	13	13	50				
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.

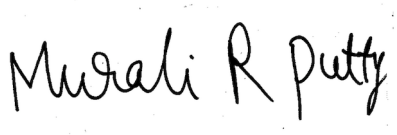
EMLab P&K
A TestAmerica Company

Report for:

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

Regarding: Project: WAL Hall
EML ID: 2123162

Approved by:



Technical Manager
Murali Putty

Dates of Analysis:
Spore trap analysis other particles-Supplement: 03-27-2019

Service SOPs: Spore trap analysis other particles-Supplement (EM-MY-S-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 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.

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

OTHER BIOLOGICAL PARTICLES REPORT: NON-VIABLE METHODOLOGY

Location:	27786672: Outside		27786657: 312D		27786684: 310		27786740: 310C		27786685: 310D	
Comments (see below)	None		None		None		None		None	
Lab ID-Version‡:	10048600-1		10048602-1		10048604-1		10048606-1		10048608-1	
	raw ct.	particles/m3	raw ct.	particles/m3	raw ct.	particles/m3	raw ct.	particles/m3	raw ct.	particles/m3
POLLEN										
Eucalyptus (Eucalyptus)										
Grass (Poaceae)										
Mulberry (Morus)										
Oak (Quercus)										
Other										
Pine (Pinaceae)										
Ragweed (Ambrosieae)										
Sycamore (Platanus)										
OTHER PLANT										
Algae										
Diatoms										
Fern, moss, etc. spores										
Other (wood, trichomes, etc.)	1	13	2	27						
OTHER PARTICLES:										
ANIMAL										
Epithelial (skin) cells	5	67	30	1,600	25	1,300	29	1,500	27	1,400
Hair										
Insect parts										
Mites										
FUNGI										
Hyphal fragments										
NON-BIOLOGICAL										
Cellulose fibers	2	27	7	93	7	93	8	110	9	120
Glass fiber										
Starch particles							2	27	1	13
Synthetic fibers			2	27	2	27	5	67	6	80
Background debris (1-4+)†	2+		2+		2+		2+		2+	
Sample volume (liters)	75		75		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".

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

OTHER BIOLOGICAL PARTICLES REPORT: NON-VIABLE METHODOLOGY

Location:	27786683: 312D		27786648: 312B		27786700: 310B		310: WAL 310	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	10048610-1		10048612-1		10048614-1		10048590-1	
	raw ct.	particles/m3	raw ct.	particles/m3	raw ct.	particles/m3	raw ct.	particles/m3
POLLEN								
Eucalyptus (Eucalyptus)								
Grass (Poaceae)								
Mulberry (Morus)								
Oak (Quercus)								
Other								
Pine (Pinaceae)					1	13		
Ragweed (Ambrosieae)								
Sycamore (Platanus)								
OTHER PLANT								
Algae								
Diatoms								
Fern, moss, etc. spores								
Other (wood, trichomes, etc.)			1	13	4	53		
OTHER PARTICLES:								
ANIMAL								
Epithelial (skin) cells	35	1,900	31	1,700	25	1,300	39	2,100
Hair								
Insect parts								
Mites								
FUNGI								
Hyphal fragments					1	13		
NON-BIOLOGICAL								
Cellulose fibers	14	190	15	200			7	93
Glass fiber								
Starch particles	6	80	2	27				
Synthetic fibers	11	150	9	120			4	53
Background debris (1-4+)†	2+		2+		2+		2+	
Sample volume (liters)	75		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".

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

OTHER BIOLOGICAL PARTICLES REPORT: NON-VIABLE METHODOLOGY

Location:	310D: WAL 310D		310B: WAL 310B		312: WAL 312		Outside: Outside	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	10048592-1		10048594-1		10048596-1		10048598-1	
	raw ct.	particles/m3	raw ct.	particles/m3	raw ct.	particles/m3	raw ct.	particles/m3
POLLEN								
Eucalyptus (Eucalyptus)								
Grass (Poaceae)								
Mulberry (Morus)								
Oak (Quercus)								
Other								
Pine (Pinaceae)								
Ragweed (Ambrosieae)								
Sycamore (Platanus)								
OTHER PLANT								
Algae								
Diatoms								
Fern, moss, etc. spores								
Other (wood, trichomes, etc.)							1	13
OTHER PARTICLES:								
ANIMAL								
Epithelial (skin) cells	26	1,400	13	690	21	1,100	3	40
Hair								
Insect parts								
Mites								
FUNGI								
Hyphal fragments								
NON-BIOLOGICAL								
Cellulose fibers	11	150	4	53	8	110		
Glass fiber								
Starch particles			2	27	1	13		
Synthetic fibers	8	110	1	13	3	40		
Background debris (1-4+)†	2+		2+		2+		1+	
Sample volume (liters)	75		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".

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

MoldRANGE™, Local Climate; Extended Outdoor Comparison

Outdoor Location: 27786672, Outside

Fungi Identified	Outdoor data	Typical Outdoor Data for: March in Washington† EMLab Local Climate code¹ A Annual Temp, A Elev., B Rain, A Temp. Range (n‡=79)						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	-	-	-	-	-	-	10	13	13	27	53	93	28
Bipolaris/Drechslera group	-	-	-	-	-	-	< 1	7	7	13	27	50	2
Chaetomium	-	-	-	-	-	-	6	7	13	13	23	40	6
Cladosporium	53	53	53	160	640	1,900	71	53	110	400	1,300	2,500	83
Curvularia	-	-	-	-	-	-	< 1	8	13	13	19	39	2
Nigrospora	-	-	-	-	-	-	< 1	-	-	-	-	-	2
Other brown	-	-	-	-	-	-	22	7	13	24	53	53	30
Penicillium/Aspergillus types	210	53	53	160	320	380	78	53	53	160	480	840	84
Stachybotrys	-	-	-	-	-	-	< 1	-	-	-	-	-	2
Torula	-	-	-	-	-	-	3	13	13	13	53	66	4
Ulocladium	-	-	-	-	-	-	1	-	-	-	-	-	2
Seldom found growing indoors**													
Ascospores	-	53	53	210	640	1,000	53	53	89	270	1,000	1,700	78
Basidiospores	-	53	53	160	600	910	78	53	130	530	1,900	4,100	91
Rusts	-	-	-	-	-	-	< 1	13	13	26	53	100	18
Smuts, Periconia, Myxomycetes	13	13	21	27	53	99	37	13	27	160	1,000	2,000	67
§ TOTAL SPORES/m3	280												

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.

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

MoldRANGE™, Local Climate; Extended Outdoor Comparison

Outdoor Location: Outside, Outside

Fungi Identified	Outdoor data	Typical Outdoor Data for: March in Washington† EMLab Local Climate code¹ A Annual Temp, A Elev., B Rain, A Temp. Range (n‡=79)						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	-	-	-	-	-	-	10	13	13	27	53	93	28
Bipolaris/Drechslera group	-	-	-	-	-	-	< 1	7	7	13	27	50	2
Chaetomium	-	-	-	-	-	-	6	7	13	13	23	40	6
Cladosporium	-	53	53	160	640	1,900	71	53	110	400	1,300	2,500	83
Curvularia	-	-	-	-	-	-	< 1	8	13	13	19	39	2
Nigrospora	-	-	-	-	-	-	< 1	-	-	-	-	-	2
Other brown	-	-	-	-	-	-	22	7	13	24	53	53	30
Penicillium/Aspergillus types	53	53	53	160	320	380	78	53	53	160	480	840	84
Stachybotrys	-	-	-	-	-	-	< 1	-	-	-	-	-	2
Torula	-	-	-	-	-	-	3	13	13	13	53	66	4
Ulocladium	-	-	-	-	-	-	1	-	-	-	-	-	2
Seldom found growing indoors**													
Ascospores	370	53	53	210	640	1,000	53	53	89	270	1,000	1,700	78
Basidiospores	-	53	53	160	600	910	78	53	130	530	1,900	4,100	91
Rusts	-	-	-	-	-	-	< 1	13	13	26	53	100	18
Smuts, Periconia, Myxomycetes	-	13	21	27	53	99	37	13	27	160	1,000	2,000	67
§ TOTAL SPORES/m3	430												

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.

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

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.

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.

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report

Outdoor Summary: 27786672: Outside

Species detected	Outdoor sample spores/m3 <100 1K 10K >100K	Typical outdoor ranges (North America)	Freq. %
Ascospores	< 13	13 - 240 - 6,600	77
Basidiospores	< 13	20 - 480 - 24,000	91
Cladosporium	53	27 - 520 - 9,000	89
Penicillium/Aspergillus types	210	13 - 190 - 2,700	66
Smuts, Periconia, Myxomycetes	13	7 - 53 - 1,100	66
Total	280		

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: 27786657: 312D

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 77%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.8000	dF: 3 Result: 1.0000 Critical value: N/A Outside Similar: N/A	Score: 122 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Cladosporium	53
Penicillium/Aspergillus types	160
Total	210

Location: 27786684: 310

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 19%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.5000	dF: 3 Result: 0.8750 Critical value: N/A Outside Similar: N/A	Score: 107 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Penicillium/Aspergillus types	53
Total	53

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report

Location: 27786740: 310C

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 79%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.8000	dF: 3 Result: 0.8750 Critical value: N/A Outside Similar: N/A	Score: 114 Result: Low

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Cladosporium	110
Penicillium/Aspergillus types	110
Total	210

Location: 27786685: 310D

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 39%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.5000	dF: 3 Result: 0.8750 Critical value: N/A Outside Similar: N/A	Score: 116 Result: Low

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Penicillium/Aspergillus types	110
Total	110

Location: 27786683: 312D

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 95%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.8000	dF: 3 Result: 1.0000 Critical value: N/A Outside Similar: N/A	Score: 129 Result: Low

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Cladosporium	53
Penicillium/Aspergillus types	210
Total	270

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report

Location: 27786648: 312B

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 19%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.5000	dF: 3 Result: 0.8750 Critical value: N/A Outside Similar: N/A	Score: 107 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Penicillium/Aspergillus types	53
Total	53

Location: 27786700: 310B

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 72%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.7500	dF: 5 Result: 0.4250 Critical value: 0.8000 Outside Similar: No	Score: 113 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Basidiospores	53
Cladosporium	53
Other brown	27
Penicillium/Aspergillus types	53
Smuts, Periconia, Myxomycetes	13
Total	200

Location: 310: WAL 310

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 23%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.8000	dF: 3 Result: 0.5000 Critical value: N/A Outside Similar: N/A	Score: 107 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Penicillium/Aspergillus types	53
Smuts, Periconia, Myxomycetes	13
Total	67

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report

Location: 310D: WAL 310D

% 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: 10 Result: 6.6169 Critical value: 18.3070 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	< 13

Location: 310B: WAL 310B

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 14%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.3333	dF: 5 Result: -0.6000 Critical value: 0.8000 Outside Similar: No	Score: 113 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Other brown	13
Smuts, Periconia, Myxomycetes	13
Ulocladium	13
Total	40

Location: 312: WAL 312

% 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: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.4000	dF: 4 Result: -0.7000 Critical value: N/A Outside Similar: N/A	Score: 103 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Rusts	13
Smuts, Periconia, Myxomycetes	13
Total	27

* 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.

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report

** 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.

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report

Outdoor Summary: Outside: Outside

Species detected	Outdoor sample spores/m3 <100 1K 10K >100K	Typical outdoor ranges (North America)	Freq. %
Ascospores	370	13 - 240 - 6,600	77
Basidiospores	< 13	20 - 480 - 24,000	91
Cladosporium	< 13	27 - 520 - 9,000	89
Penicillium/Aspergillus types	53	13 - 190 - 2,700	66
Smuts, Periconia, Myxomycetes	< 13	7 - 53 - 1,100	66
Total	430		

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: 27786657: 312D

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 50%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.5000	dF: 3 Result: -0.5000 Critical value: N/A Outside Similar: N/A	Score: 124 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Cladosporium	53
Penicillium/Aspergillus types	160
Total	210

Location: 27786684: 310

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 12%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.6667	dF: 2 Result: -1.0000 Critical value: N/A Outside Similar: N/A	Score: 108 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Penicillium/Aspergillus types	53
Total	53

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report

Location: 27786740: 310C

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 52%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.5000	dF: 3 Result: -0.6250 Critical value: N/A Outside Similar: N/A	Score: 117 Result: Low

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Cladosporium	110
Penicillium/Aspergillus types	110
Total	210

Location: 27786685: 310D

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 26%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.6667	dF: 2 Result: -1.0000 Critical value: N/A Outside Similar: N/A	Score: 117 Result: Low

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Penicillium/Aspergillus types	110
Total	110

Location: 27786683: 312D

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 62%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.5000	dF: 3 Result: -0.5000 Critical value: N/A Outside Similar: N/A	Score: 132 Result: Low

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Cladosporium	53
Penicillium/Aspergillus types	210
Total	270

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report

Location: 27786648: 312B

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 12%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.6667	dF: 2 Result: -1.0000 Critical value: N/A Outside Similar: N/A	Score: 108 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Penicillium/Aspergillus types	53
Total	53

Location: 27786700: 310B

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 47%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.2857	dF: 6 Result: -0.0857 Critical value: 0.7714 Outside Similar: No	Score: 113 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Basidiospores	53
Cladosporium	53
Other brown	27
Penicillium/Aspergillus types	53
Smuts, Periconia, Myxomycetes	13
Total	200

Location: 310: WAL 310

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 15%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.5000	dF: 3 Result: -0.5000 Critical value: N/A Outside Similar: N/A	Score: 108 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Penicillium/Aspergillus types	53
Smuts, Periconia, Myxomycetes	13
Total	67

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report

Location: 310D: WAL 310D

% 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: 10 Result: 6.6169 Critical value: 18.3070 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	< 13

Location: 310B: WAL 310B

% 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: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.0000	dF: 5 Result: -0.5250 Critical value: 0.8000 Outside Similar: No	Score: 113 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Other brown	13
Smuts, Periconia, Myxomycetes	13
Ulocladium	13
Total	40

Location: 312: WAL 312

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 6%	dF: 10 Result: 6.6169 Critical value: 18.3070 Inside Similar: Yes	Result: 0.0000	dF: 4 Result: -0.6500 Critical value: N/A Outside Similar: N/A	Score: 103 Result: Low

Species Detected	Spores/m3 <100 1K 10K >100K
Rusts	13
Smuts, Periconia, Myxomycetes	13
Total	27

* 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.

EMLab P&K
6000 Shoreline Ct, Ste 205, So. San Francisco, CA 94080
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

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

Date of Sampling: 03-14-2019
Date of Receipt: 03-22-2019
Date of Report: 03-27-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report

** 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.