

Report for:

Ms. Ann Skeate
Ideal Environmental Engineering, Inc.
2904 Tractor Lane
Bloomington, IL 61704

Regarding: Project: 22918 Beecher CUSD 200V; Beecher Elementary School
EML ID: 2271786

Approved by:



Facility Manager
Francina Thadigiri

Dates of Analysis:
Spore trap analysis: 10-09-2019

Service SOPs: Spore trap analysis (EM-MY-S-1038)
AIHA-LAP, LLC accredited service, Lab ID #176641

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.

Eurofins 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.

Eurofins 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.

Client: Ideal Environmental Engineering, Inc.
C/O: Ms. Ann Skeate
Re: 22918 Beecher CUSD 200V; Beecher
Elementary
School

Date of Sampling: 10-08-2019
Date of Receipt: 10-09-2019
Date of Report: 10-11-2019

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	01: Room 41		02: Tech Support		03: Room 44		04: Room 40	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	10800719-1		10800720-1		10800721-1		10800722-1	
Analysis Date:	10/09/2019		10/09/2019		10/09/2019		10/09/2019	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria	1	7	1	7	2	13		
Ascospores								
Basidiospores	8	210			1	27		
Bipolaris/Drechslera group								
Chaetomium								
Cladosporium	3	80	9	240	143	25,000	16	430
Curvularia	1	7			1	7		
Epicoccum	1	7			3	20		
Nigrospora								
Oidium								
Penicillium/Aspergillus types†	2	53	21	560	45	1,200	30	800
Pithomyces	8	53	1	7	1	7	1	7
Rusts	19	130	2	13	3	20	1	7
Smuts, Periconia, Myxomycetes	6	40	1	7	5	33	1	7
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	2+		2+		3+		3+	
Hyphal fragments/m3	33		< 7		7		< 7	
Pollen/m3	20		7		< 7		7	
Skin cells (1-4+)	1+		1+		1+		1+	
Sample volume (liters)	150		150		150		150	
§ TOTAL SPORES/m3		590		830		27,000		1,200

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/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) 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.

Client: Ideal Environmental Engineering, Inc.
C/O: Ms. Ann Skeate
Re: 22918 Beecher CUSD 200V; Beecher
Elementary
School

Date of Sampling: 10-08-2019
Date of Receipt: 10-09-2019
Date of Report: 10-11-2019

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	05: Room 46		06: Room 7		ZZ: Outside	
Comments (see below)	None		None		None	
Lab ID-Version‡:	10800723-1		10800724-1		10800725-1	
Analysis Date:	10/09/2019		10/09/2019		10/09/2019	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria			9	60	80	530
Ascospores					28	750
Basidiospores	1	27	3	80	145	3,900
Bipolaris/Drechslera group					1	7
Chaetomium						
Cladosporium	3	80	29	770	101	2,700
Curvularia			2	13		
Epicoccum			81	540	82	550
Nigrospora			1	7	40	270
Oidium					1	7
Penicillium/Aspergillus types†	11	290	36	960		
Pithomyces			3	20	22	150
Rusts			23	150	28	190
Smuts, Periconia, Myxomycetes			12	80	5	33
Stachybotrys						
Stemphylium						
Torula					1	7
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+		2+		2+	
Hyphal fragments/m3	< 7		40		< 7	
Pollen/m3	< 7		20		< 7	
Skin cells (1-4+)	1+		2+		< 1+	
Sample volume (liters)	150		150		150	
§ TOTAL SPORES/m3		400		2,700		9,000

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/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) 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.

Report for:

Ms. Ann Skeate
Ideal Environmental Engineering, Inc.
2904 Tractor Lane
Bloomington, IL 61704

Regarding: Project: 22918 Beecher CUSD 200V; Beecher Elementary School
EML ID: 2271786

Approved by:



Facility Manager
Francina Thadigiri

Dates of Analysis:

Direct microscopic exam (Qualitative): 10-09-2019

Service SOPs: Direct microscopic exam (Qualitative) (EM-MY-S-1039)
AIHA-LAP, LLC accredited service, Lab ID #176641

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.

Eurofins 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.

Eurofins 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.

Client: Ideal Environmental Engineering, Inc.
 C/O: Ms. Ann Skeate
 Re: 22918 Beecher CUSD 200V; Beecher
 Elementary
 School

Date of Sampling: 10-08-2019
 Date of Receipt: 10-09-2019
 Date of Report: 10-11-2019

DIRECT MICROSCOPIC EXAMINATION REPORT

Background Debris and/or Description	Miscellaneous Spores Present*	MOLD GROWTH: Molds seen with underlying mycelial and/or sporulating structures†	Other Comments††	General Impression
Lab ID-Version‡: 10800718-1, Analysis Date: 10/09/2019: Swab sample S1: Tech Support Wall				
Light	Very few	None	None	Normal trapping

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

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

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

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
 The limit of detection is < 1+ when mold growth is detected.

Report for:

Ms. Ann Skeate
Ideal Environmental Engineering, Inc.
2904 Tractor Lane
Bloomington, IL 61704

Regarding: Project: 22918 Beecher CUSD 200V; Beecher Elementary School
EML ID: 2271786

Approved by:



Facility Manager
Francina Thadigiri

Dates of Analysis:

Direct microscopic exam (Qualitative): 10-09-2019

Service SOPs: Direct microscopic exam (Qualitative) (EM-MY-S-1039)
AIHA-LAP, LLC accredited service, Lab ID #176641

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.

Eurofins 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.

Eurofins 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.

Client: Ideal Environmental Engineering, Inc.
C/O: Ms. Ann Skeate
Re: 22918 Beecher CUSD 200V; Beecher
Elementary
School

Date of Sampling: 10-08-2019
Date of Receipt: 10-09-2019
Date of Report: 10-11-2019

DIRECT MICROSCOPIC EXAMINATION REPORT

Location:	S1: Tech Support Wall
Sample type:	Swab sample
Lab ID-Version‡:	10800718-1
Analysis Date:	10/09/2019
MOLD/FUNGAL GROWTH*: Molds seen growing with underlying mycelial and/or sporulating structures	
Acremonium	
Alternaria	
Aureobasidium	
Basidiospores	
Chaetomium	
Cladosporium	
Colorless spores typical of Penicillium / Aspergillus	
Fusarium	
Other colorless, ID unknown	
Stachybotrys	
Torula	
Ulocladium	
Miscellaneous spores**	Very few
Other comments†	None
Background debris or Description††	Light
General impression	Normal trapping

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

** See Miscellaneous Spores table on the last page.

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

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

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

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

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
The limit of detection is < 1+ when mold growth is detected.

Client: Ideal Environmental Engineering, Inc.
 C/O: Ms. Ann Skeate
 Re: 22918 Beecher CUSD 200V; Beecher
 Elementary
 School

Date of Sampling: 10-08-2019
 Date of Receipt: 10-09-2019
 Date of Report: 10-11-2019

Mold/Fungal Growth Rating Details

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

Miscellaneous Spores

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

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

Client: Ideal Environmental Engineering, Inc.
C/O: Ms. Ann Skeate
Re: 22918 Beecher CUSD 200V; Beecher
Elementary
School

Date of Sampling: 10-08-2019
Date of Receipt: 10-09-2019
Date of Report: 10-11-2019

MoldRANGE™: Extended Outdoor Comparison

Outdoor Location: ZZ, Outside

Fungi Identified	Outdoor data	Typical Outdoor Data for: October in Illinois† (n‡=4254)						Typical Outdoor Data for: The entire year in Illinois† (n‡=37420)					
		very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
Generally able to grow indoors*													
Alternaria	530	13	27	87	250	430	78	13	13	53	180	330	56
Bipolaris/Drechslera group	7	7	7	13	27	40	14	7	7	13	27	47	9
Chaetomium	-	7	7	13	40	80	4	7	7	13	27	60	4
Cladosporium	2,700	160	350	1,200	4,000	7,100	95	53	120	690	2,800	5,200	87
Curvularia	-	7	7	13	33	67	14	7	7	13	40	80	11
Epicoccum	550	13	27	67	210	370	71	7	13	30	110	200	45
Nigrospora	270	7	13	27	67	120	44	7	13	20	53	110	21
Penicillium/Aspergillus types	-	53	53	160	440	800	48	27	53	110	370	740	45
Pithomyces	150	7	13	20	53	93	37	7	13	27	73	150	26
Stachybotrys	-	7	7	13	40	73	2	7	7	13	53	130	2
Torula	7	7	10	20	51	80	9	7	7	13	40	67	7
Seldom found growing indoors**													
Ascospores	750	53	110	320	1,000	1,900	89	53	110	430	1,600	2,900	77
Basidiospores	3,900	160	310	1,100	3,600	6,700	97	53	160	850	3,400	6,400	86
Oidium	7	7	7	13	27	56	8	7	7	13	40	67	8
Rusts	190	13	13	33	100	170	54	7	13	27	100	190	31
Smuts, Periconia, Myxomycetes	33	13	27	80	200	350	78	13	13	40	120	210	53
§ TOTAL SPORES/m3	9,000												

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

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

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

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

‡n = number of samples used to calculate data.















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

Client: Ideal Environmental Engineering, Inc.
 C/O: Ms. Ann Skeate
 Re: 22918 Beecher CUSD 200V; Beecher
 Elementary
 School

Date of Sampling: 10-08-2019
 Date of Receipt: 10-09-2019
 Date of Report: 10-11-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report

Outdoor Summary: ZZ: Outside

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %
	<100	1K	10K	>100K		
Alternaria				530	7 - 38 - 400	42
Ascospores				750	13 - 270 - 6,600	78
Basidiospores				3,900	20 - 510 - 25,000	91
Bipolaris/Drechslera group				7	7 - 13 - 210	15
Cladosporium				2,700	27 - 530 - 8,800	89
Epicoccum				550	7 - 27 - 330	22
Nigrospora				270	7 - 22 - 270	18
Oidium				7	7 - 20 - 230	11
Penicillium/Aspergillus types				< 7	13 - 200 - 2,800	65
Pithomyces				150	7 - 27 - 460	14
Rusts				190	7 - 27 - 390	19
Smuts, Periconia, Myxomycetes				33	7 - 53 - 1,100	67
Torula				7	7 - 17 - 190	10
Total				9,000		

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

Indoor Samples

Client: Ideal Environmental Engineering, Inc.
C/O: Ms. Ann Skeate
Re: 22918 Beecher CUSD 200V; Beecher
Elementary
School

Date of Sampling: 10-08-2019
Date of Receipt: 10-09-2019
Date of Report: 10-11-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report**Location: 01: Room 41**

% 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: 5 Result: 27.9143 Critical value: 11.0705 Inside Similar: No	Result: 0.6667	dF: 14 Result: 0.3330 Critical value: 0.4593 Outside Similar: No	Score: 127 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Alternaria		<div><div></div></div>			7
Basidiospores		<div><div></div></div>			210
Cladosporium		<div><div></div></div>			80
Curvularia		<div><div></div></div>			7
Epicoccum		<div><div></div></div>			7
Penicillium/Aspergillus types		<div><div></div></div>			53
Pithomyces		<div><div></div></div>			53
Rusts		<div><div></div></div>			130
Smuts, Periconia, Myxomycetes		<div><div></div></div>			40
Total		<div><div></div></div>			590

Location: 02: Tech Support

% 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: 5 Result: 27.9143 Critical value: 11.0705 Inside Similar: No	Result: 0.5556	dF: 13 Result: -0.0165 Critical value: 0.4780 Outside Similar: No	Score: 185 Result: Medium	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Alternaria		<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><</div>			

Client: Ideal Environmental Engineering, Inc.
C/O: Ms. Ann Skeate
Re: 22918 Beecher CUSD 200V; Beecher
Elementary
School

Date of Sampling: 10-08-2019
Date of Receipt: 10-09-2019
Date of Report: 10-11-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report**Location:** 03: Room 44

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 289%	dF: 5 Result: 27.9143 Critical value: 11.0705 Inside Similar: No	Result: 0.6667	dF: 14 Result: 0.2703 Critical value: 0.4593 Outside Similar: No	Score: 300 Result: High
Species Detected		Spores/m3		
		<100	1K	>100K
Alternaria				13
Basidiospores				27
Cladosporium				25,000
Curvularia				7
Epicoccum				20
Penicillium/Aspergillus types				1,200
Pithomyces				7
Rusts				20
Smuts, Periconia, Myxomycetes				33
Total				27,000

Location: 04: Room 40

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 13%	dF: 5 Result: 27.9143 Critical value: 11.0705 Inside Similar: No	Result: 0.4706	dF: 13 Result: -0.0385 Critical value: 0.4780 Outside Similar: No	Score: 215 Result: Medium
Species Detected		Spores/m3		
		<100	1K	>100K
Cladosporium				430
Penicillium/Aspergillus types				800
Pithomyces				7
Rusts				7
Smuts, Periconia, Myxomycetes				7
Total				1,200

Client: Ideal Environmental Engineering, Inc.
C/O: Ms. Ann Skeate
Re: 22918 Beecher CUSD 200V; Beecher
Elementary
School

Date of Sampling: 10-08-2019
Date of Receipt: 10-09-2019
Date of Report: 10-11-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report**Location: 05: Room 46**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 4%	dF: 5 Result: 27.9143 Critical value: 11.0705 Inside Similar: No	Result: 0.2667	dF: 13 Result: 0.3448 Critical value: 0.4780 Outside Similar: No	Score: 146 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Basidiospores		<div><div></div></div>			27
Cladosporium		<div><div></div></div>			80
Penicillium/Aspergillus types		<div><div></div></div>			290
Total		<div><div></div></div>			400

Location: 06: Room 7

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 29%	dF: 5 Result: 27.9143 Critical value: 11.0705 Inside Similar: No	Result: 0.7273	dF: 14 Result: 0.2615 Critical value: 0.4593 Outside Similar: No	Score: 238 Result: Medium	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Alternaria		<div><div></div></div>			60
Basidiospores		<div><div></div></div>			80
Cladosporium		<div><div></div></div>			770
Curvularia		<div><div></div></div>			13
Epicoccum		<div><div></div></div>			540
Nigrospora		<div><div></div></div>			7
Penicillium/Aspergillus types		<div><div></div></div>			960
Pithomyces		<div><div></div></div>			20
Rusts		<div><div></div></div>			150
Smuts, Periconia, Myxomycetes		<div><div></div></div>			80
Total		<div><div></div></div>			2,700

* 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.

Client: Ideal Environmental Engineering, Inc.
C/O: Ms. Ann Skeate
Re: 22918 Beecher CUSD 200V; Beecher
Elementary
School

Date of Sampling: 10-08-2019
Date of Receipt: 10-09-2019
Date of Report: 10-11-2019

MoldSTAT™: Supplementary Statistical Spore Trap Report

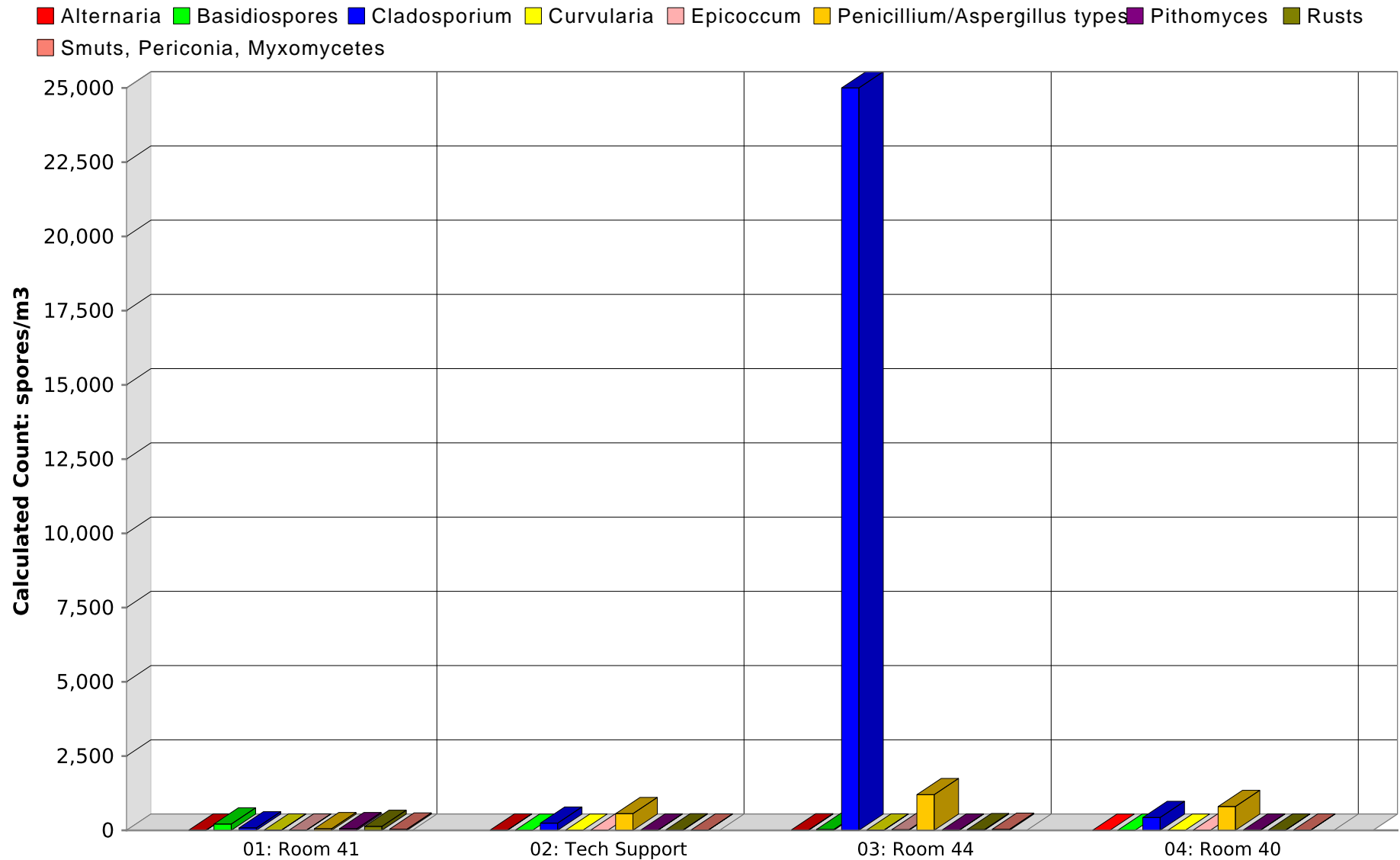
** An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates 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. Eurofins EMLab P&K reserves 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 Eurofins 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. Eurofins 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.

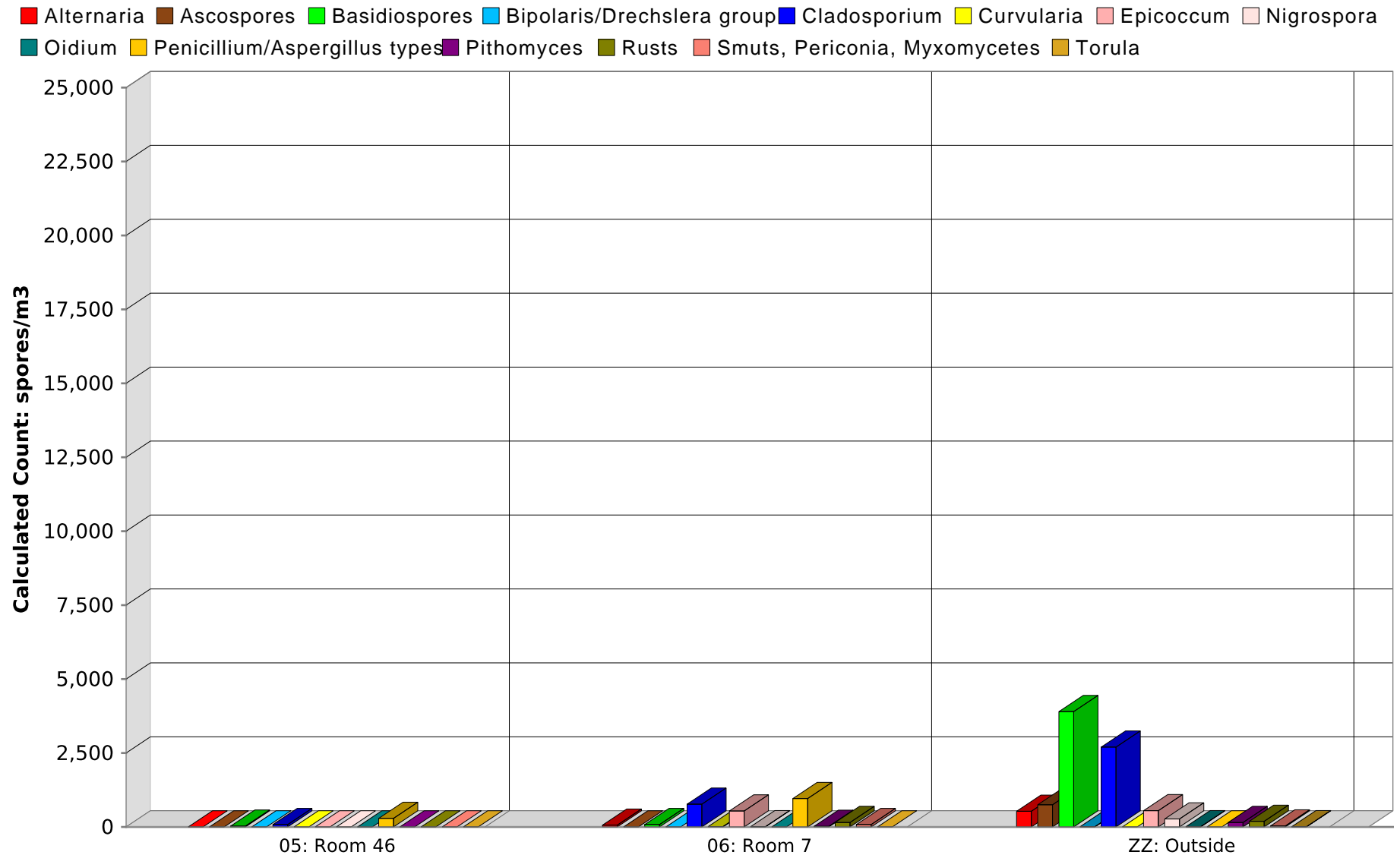
SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments:

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

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments:

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