



# HYGIENETECH

Hygiene Technologies International, Inc.

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April 30, 2015

California State Board of Equalization  
450 N Street  
Sacramento, California 94279

Document No. 21504001.3

Attention: Vince Paul

Regarding: 17<sup>th</sup> Floor – Drain Pipe Leak

Dear Mr. Paul:

On the morning of April 22, 2015, Hygiene Technologies International, Inc. (HygieneTech) was informed of a water leak that had reportedly occurred on the 17<sup>th</sup> Floor of the California State Board of Equalization (BOE) headquarters building. Shortly following the notification, Lakhpreet Sandhu, Industrial Hygienist, visited the 17<sup>th</sup> Floor to document the general conditions and response activities. Upon arrival at the site, HygieneTech observed building personnel performing initial response activities and also visually inspected the affected areas on 17<sup>th</sup> Floor including the northwestern drinking fountain, adjacent corridor and section of accessible ceiling plenum interior area. The source of the water leak was later determined to be a failure of a section of drain pipe leading away from the 18<sup>th</sup> Floor Break Room 1814 into the building core.

HygieneTech also performed multiple follow up and documentation of general conditions in the affected northern corridor area of the 17<sup>th</sup> Floor during normal business hours on April 23 and 24, 2015. Please note that there was no evidence of fungal growth observed on any of the accessible building materials and no odors characteristic of fungal growth were detected during the initial and subsequent follow up inspections. On the evening of April 24, 2015, the removal of impacted building materials as well as pipe repair activities were initiated on the 17<sup>th</sup> Floor in the northern corridor area by Department of General Services (DGS) comprised of plumbers and remediation personnel. Prior to the removal of walls and/or ceiling in the affected areas, DGS crew constructed a plastic sheeting enclosure with negative air machine in the affected northern corridor area of the 17<sup>th</sup> Floor.

Prior to and during the removal and repair activities on April 24 and 25, HygieneTech monitored and documented the activities/procedures around the work area. HygieneTech also collected several air samples for exposure potential assessment outside of the work area on both days, prior to and during the removal and repair activities.

Upon completion of all removal and repair activities, DGS personnel performed additional cleaning and paint/encapsulation activities within the enclosure. Subsequently, the work area was inspected and clearance testing performed by the DGS industrial hygiene consultant. Satisfactory clearance results were reportedly achieved and received on April 26, 2015.



On April 27, 2015, HygieneTech collected an additional air sample in the 17<sup>th</sup> Floor northern corridor near the drinking fountain area following the completion of wall and ceiling gypsum board reinstallation activities. Please note that an air sample was also collected at an outdoor location for comparison purposes during each of the sampling events. Air samples were collected for total (viable and nonviable) fungi analyses using a Zefon brand Bio-Pump plus™ equipped with Air-O-Cell™ cassettes. All such samples were subsequently analyzed for fungi (including yeasts, molds, rusts, smuts, and mushrooms) by trained and experienced microbiologists at a laboratory accredited by the American Industrial Hygiene Association (AIHA) and that successfully participates in the AIHA Environmental Microbiology Proficiency Analytical Testing (EMPAT) Program.

As presented in Table 21504001-3, the airborne spore count data recorded on April 24, 25 and 27, 2015 showed common fungal spore types outdoors, such as *Alternaria*, ascospores, basidiospores, *Bipolaris/Drechslera* group, *Cladosporium*, *Epicoccum*, *Nigrospora*, *Oidium*, colorless spore typical of *Penicillium* and *Aspergillus* species, rust, and/or smuts. In the indoor areas tested, the data showed that airborne fungal spores were either not detected at or above the laboratory detection limit indicated or were detected at low airborne concentrations. The fungal spore types found indoor included ascospores, basidiospores, *Cladosporium*, colorless spores typical of *Penicillium/Aspergillus* species, *Epicoccum* other brown, rusts, and/or smuts. These data are considered unremarkable and are not believed to pose a health risk beyond that posed by the outdoor environment where exposures to airborne fungi are expected.

Be advised that the data provided with this correspondence only represent fungal growth exposure potentials that existed at the time of these air sampling events and at the precise locations only, the latter of which were selected based on the available background information provided, and that fungal growth and exposure potentials may change due to changes in environmental conditions, such as those caused by water intrusion, use of mechanical systems, or other factors. . If you have any comments or questions regarding the information contained in this correspondence, please feel free to contact our offices directly at (310) 370-8370.

Sincerely,

**HYGIENE TECHNOLOGIES INTERNATIONAL, INC.**

TECHNICAL DIRECTOR

# HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

# APPENDIX A



CLIENT: California State Board of Equalization  
450 N Street  
Sacramento, California 94279

**TABLE 21504001-3  
AIRBORNE TOTAL FUNGI RESULTS  
17<sup>TH</sup> FLOOR  
450 N STREET  
SACRAMENTO, CALIFORNIA  
APRIL 24, 25, AND 27, 2015**

Page 1

**Results reported in spores per cubic meter of air (spores/M<sup>3</sup>)**

SAMPLE NUMBER	21504001-3 TM01OUT	21504001-3 TM02	21504001-3 TM03	21504001-3 TM04
<b>SAMPLING LOCATION/ACTIVITIES</b>	Outdoors; about 20 feet east of building; approximately five feet above ground/Normal outdoor activities	17 <sup>th</sup> Floor; northern corridor; about three feet northeast of northwestern drinking fountain area; approximately five feet above floor/ Normal office activities	Outdoors; about 20 feet northeast of main entrance; approximately five feet above ground/Normal outdoor activities	17 <sup>th</sup> Floor; northern corridor; adjacent to the western end of the work area enclosure and Men's Restroom; approximately five feet above floor/Remediation activities in progress
<b>DATE</b>	04/24/15	04/24/15	04/24/15	04/24/15
<b>START/STOP</b>	13:22:00/13:27:00	13:33:00/13:38:00	19:00:00/19:05:00	21:09:00/21:14:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria	67		53	
Ascospores	53		640	
Basidiospores			1,400	
Bipolaris/Drechslera group			13	
Botrytis				
Chaetomium				
Cladosporium	640		5,900	
Curvularia				
Epicoccum				
Fusarium				
Nigrospora			27	
Oidium	13		110	
Other brown			13	
Other colorless				
Penicillium/Aspergillus types	53		160	53
Pithomyces				
Rusts	40		280	
Smuts (Periconia, Myxomycetes)	120		910	13
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Hyphal fragments	27	<13	160	<13
Background debris*	2+	2+	2+	2+
<b>TOTAL**</b>	1,300	<13	9,500	67

\*Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

\*\*Note that all reported counts have been rounded to no more than two significant figures based on the sampling and analytical methods used, and therefore the total count may not equal the sum of the individual counts in a column.

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Sacramento, California 94279

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17<sup>TH</sup> FLOOR  
450 N STREET  
SACRAMENTO, CALIFORNIA  
APRIL 24, 25, AND 27, 2015

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Results reported in spores per cubic meter of air (spores/M<sup>3</sup>)

SAMPLE NUMBER	21504001-3 TM05	21504001-3 TM06	21504001-3 TM07	21504001-3 TM08OUT
<b>SAMPLING LOCATION/ACTIVITIES</b>	17 <sup>th</sup> Floor; northern corridor; adjacent to the eastern end of the work area enclosure and Elevator Lobby; approximately five feet above floor/ Remediation activities in progress	17 <sup>th</sup> Floor; northern corridor; adjacent to the eastern end of the work area enclosure and Elevator Lobby; approximately five feet above floor/ Remediation activities in progress	17 <sup>th</sup> Floor; northern corridor; adjacent to the eastern end of the work area enclosure and Elevator Lobby; approximately five feet above floor/ Remediation activities in progress	Outdoors; about 15 feet south of the building; approximately five feet above ground/Normal outdoor activities
<b>DATE</b>	04/24/15	04/24/15	04/24/15	04/25/15
<b>START/STOP</b>	21:17:00/21:22:00	22:57:00/23:02:00	23:35:00/23:40:00	08:02:00/08:07:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				
Ascospores			53	13,000
Basidiospores				21,000
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	53	53	160	320
Curvularia				
Epicoccum				
Fusarium				
Nigrospora				
Oidium				
Other brown	13	13		
Penicillium/Aspergillus types			53	370
Pithomyces				
Rusts	13			
Smuts (Periconia, Myxomycetes)		13	13	
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Zygomycetes				
Hyphal fragments	53	27	13	13
Background debris*	2+	2+	3+	<1+
<b>TOTAL**</b>	80	80	280	36,000

\*Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

\*\*Note that all reported counts have been rounded to no more than two significant figures based on the sampling and analytical methods used, and therefore the total count may not equal the sum of the individual counts in a column.

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17<sup>TH</sup> FLOOR  
450 N STREET  
SACRAMENTO, CALIFORNIA  
APRIL 24, 25, AND 27, 2015**

Page 3

**Results reported in spores per cubic meter of air (spores/M<sup>3</sup>)**

SAMPLE NUMBER	21504001-3 TM09	21504001-3 TM10	21504001-3 TM11	21504001-3 TM12
<b>SAMPLING LOCATION/ACTIVITIES</b>	17 <sup>th</sup> Floor; northern corridor entry area at Elevator Lobby approximately five feet above floor/Sampling activities only	17 <sup>th</sup> Floor; northern corridor; adjacent to the western end of the work area enclosure and Men's Restroom; approximately five feet above floor/Remediation activities in progress	17 <sup>th</sup> Floor; northern corridor; adjacent to the eastern end of the work area enclosure and Elevator Lobby; approximately five feet above floor/Remediation activities in progress	Outdoors; about 20 feet northeast of main entrance; approximately five feet above floor/Normal outdoor activities
<b>DATE</b>	04/25/15	04/25/15	04/25/15	04/27/15
<b>START/STOP</b>	08:12:00/08:17:00	10:02:00/10:07:00	10:58:00/11:03:00	06:23:00/06:28:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				13
Arthrinium				
Ascospores				480
Basidiospores				2,900
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	53		53	7,100
Curvularia				
Epicoccum				13
Fusarium				
Nigrospora				
Oidium				
Other brown				13
Penicillium/Aspergillus types		53		160
Pithomyces				
Rusts			27	67
Smuts (Periconia, Myxomycetes)			13	760
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Hyphal fragments	13	<13	13	53
Background debris*	2+	2+	2+	2+
<b>TOTAL**</b>	<b>53</b>	<b>53</b>	<b>93</b>	<b>12,000</b>

\*Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

\*\*Note that all reported counts have been rounded to no more than two significant figures based on the sampling and analytical methods used, and therefore the total count may not equal the sum of the individual counts in a column.

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17<sup>TH</sup> FLOOR  
450 N STREET  
SACRAMENTO, CALIFORNIA  
APRIL 24, 25, AND 27, 2015

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## Results reported in spores per cubic meter of air (spores/M<sup>3</sup>)

SAMPLE NUMBER	21504001-3 TM13			
SAMPLING LOCATION/ACTIVITIES	17 <sup>th</sup> Floor; northern corridor between northwestern drinking fountain and Elevator Lobby; approximately five feet above floor/ Normal office activities	This column intentionally left blank	This column intentionally left blank	This column intentionally left blank
DATE	04/27/15			
START/STOP	06:31:00/06:36:00			
SAMPLE TIME	5 minutes			
Alternaria				
Ascospores				
Basidiospores				
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	53			
Curvularia				
Epicoccum	13			
Nigrospora				
Oidium				
Other brown				
Other colorless				
Penicillium/Aspergillus types				
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)				
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Zygomycetes				
Hyphal fragments	27			
Background debris*	1+			
<b>TOTAL **</b>	<b>67</b>			

\*Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

\*\*Note that all reported counts have been rounded to no more than two significant figures based on the sampling and analytical methods used, and therefore the total count may not equal the sum of the individual counts in a column.



Report for:

**Mr. Kenny Hsi, Mr. Lakhpreet Sandhu**  
**Hygiene Technologies International, Inc.**  
3625 Del Amo Boulevard, Suite 180  
Torrance, CA 90503-8370

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Regarding: Project: 21504001-3  
EML ID: 1356846

Approved by:

Technical Manager  
Melissa Tracey

Dates of Analysis:  
Spore trap analysis: 04-24-2015

Service SOPs: Spore trap analysis (EM-MY-S-1038)  
AIHA-LAP, LLC accredited service, Lab ID #179768

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

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

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Lakhpreet Sandhu  
 Re: 21504001-3

Date of Sampling: 04-24-2015  
 Date of Receipt: 04-24-2015  
 Date of Report: 04-24-2015

**SPORE TRAP REPORT: NON-VIABLE METHODOLOGY**

Location:	21504001-3TM01OUT		21504001-3TM02	
Comments (see below)	None		None	
Lab ID-Version‡:	6220749-1		6220750-1	
Analysis Date:	04/24/2015		04/24/2015	
	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria	5	67		
Ascospores	1	53		
Basidiospores				
Botrytis				
Chaetomium				
Cladosporium	12	640		
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Oidium	1	13		
Other colorless				
Penicillium/Aspergillus types†	1	53		
Pithomyces				
Rusts	3	40		
Smuts, Periconia, Myxomycetes	9	120		
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Zygomycetes				
Background debris (1-4+)††	2+		2+	
Hyphal fragments/m3	27		< 13	
Pollen/m3	110		13	
Skin cells (1-4+)	< 1+		1+	
Sample volume (liters)	75		75	
<b>§ TOTAL SPORES/m3</b>		<b>990</b>		<b>&lt; 13</b>

**Comments:**

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.  
 † The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.  
 ††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher 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. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.  
 ‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".  
 § Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Kenny Hsi, Mr. Lakhpreet Sandhu  
Re: 21504001-3

Date of Sampling: 04-24-2015  
Date of Receipt: 04-24-2015  
Date of Report: 04-24-2015

**MoldRANGE™: Extended Outdoor Comparison**  
**Outdoor Location: 21504001-3TM01OUT**

Fungi Identified	Outdoor data	Typical Outdoor Data for: April in California† (n‡=19176)						Typical Outdoor Data for: The entire year in California† (n‡=214484)					
		very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
<b>Generally able to grow indoors*</b>													
Alternaria		13	13	27	53	93	53	13	13	27	63	100	53
Bipolaris/Drechslera group		7	13	13	27	40	9	7	13	13	27	50	12
Chaetomium		8	13	13	27	40	18	8	13	13	27	50	19
Cladosporium		110	160	430	1,100	1,900	96	110	210	610	1,700	2,800	97
Curvularia		7	8	13	13	27	2	7	13	13	27	53	6
Nigrospora		7	10	13	13	27	4	7	13	13	27	53	9
Penicillium/Aspergillus types		53	53	160	430	690	78	53	100	210	610	1,000	84
Stachybotrys		8	13	13	33	75	4	7	13	13	33	67	4
Torula		10	13	13	44	73	14	8	13	13	40	67	11
<b>Seldom found growing indoors**</b>													
Ascospores		27	53	110	390	750	74	25	53	110	370	700	71
Basidiospores		53	80	270	960	2,000	93	53	80	270	1,000	2,400	93
Oidium		13	13	27	53	93	31	13	13	13	47	75	19
Rusts		13	13	24	53	93	34	13	13	13	53	80	26
Smuts, Periconia, Myxomycetes		13	13	40	110	210	67	13	13	40	110	210	68
<b>§ TOTAL SPORES/m3</b>	990												

†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 EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Lakhpreet Sandhu  
 Re: 21504001-3

Date of Sampling: 04-24-2015  
 Date of Receipt: 04-24-2015  
 Date of Report: 04-24-2015

**MoldSTAT™: Supplementary Statistical Spore Trap Report**

**Outdoor Summary: 21504001-3TM01OUT:**

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %
	<100	1K	10K	>100K		
Alternaria				67	7 - 40 - 610	45
Ascospores				53	13 - 210 - 6,000	76
Basidiospores				< 13	15 - 440 - 24,000	92
Cladosporium				640	27 - 480 - 10,000	90
Oidium				13	7 - 13 - 210	11
Penicillium/Aspergillus types				53	13 - 170 - 2,700	68
Rusts				40	7 - 22 - 360	20
Smuts, Periconia, Myxomycetes				120	7 - 53 - 920	64
<b>Total</b>				990		

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

**Indoor Samples**

**Location: 21504001-3TM02**

% 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: N/A Result: N/A Critical value: N/A Inside Similar: N/A	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		
None Detected		<100	1K	10K
				< 13

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

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

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

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Kenny Hsi, Mr. Lakhpreet Sandhu  
Re: 21504001-3

Date of Sampling: 04-24-2015  
Date of Receipt: 04-24-2015  
Date of Report: 04-24-2015

**MoldSTAT™: Supplementary Statistical Spore Trap Report**

\*\*\*\* 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&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 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.

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Lakhpreet Sandhu  
 Re: 21504001-3

Date of Sampling: 04-24-2015  
 Date of Receipt: 04-24-2015  
 Date of Report: 04-24-2015

**MoldSCORE™: Spore Trap Report**

**Outdoor Sample:** 21504001-3TM01OUT

Fungi Identified	Outdoor sample spores/m3				Raw count	Spores/m3
	<100	1K	10K	>100K		
<b>Generally able to grow indoors*</b>						
Alternaria					5	67
Bipolaris/Drechslera group					ND	< 13
Chaetomium					ND	< 13
Cladosporium					12	640
Curvularia					ND	< 13
Nigrospora					ND	< 13
Penicillium/Aspergillus types†					1	53
Stachybotrys					ND	< 13
Torula					ND	< 13
<b>Seldom found growing indoors**</b>						
Ascospores					1	53
Basidiospores					ND	< 13
Oidium					1	13
Rusts					3	40
Smuts, Periconia, Myxomycetes					9	120
<b>Total</b>						<b>987</b>

**Location:** 21504001-3TM02

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3
	<100	1K	10K	>100K		
<b>Generally able to grow indoors*</b>						
Alternaria					ND	< 13
Bipolaris/Drechslera group					ND	< 13
Chaetomium					ND	< 13
Cladosporium					ND	< 13
Curvularia					ND	< 13
Nigrospora					ND	< 13
Penicillium/Aspergillus types†					ND	< 13
Stachybotrys					ND	< 13
Torula					ND	< 13
<b>Seldom found growing indoors**</b>						
Ascospores					ND	< 13
Basidiospores					ND	< 13
Rusts					ND	< 13
Smuts, Periconia, Myxomycetes					ND	< 13
<b>Total</b>						<b>N/A</b>

MoldSCORE‡			
100	200	300	Score
			100
			100
			100
			100
			100
			100
			100
			100
			100
			100
			100
			100
			100
<b>Final MoldSCORE</b>			<b>100</b>

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Kenny Hsi, Mr. Lakhpreet Sandhu  
Re: 21504001-3

Date of Sampling: 04-24-2015  
Date of Receipt: 04-24-2015  
Date of Report: 04-24-2015

### **MoldSCORE™: Spore Trap Report**

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

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

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

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



Report for:

**Mr. Kenny Hsi, Mr. Lakhpreet Sandhu**  
**Hygiene Technologies International, Inc.**  
3625 Del Amo Boulevard, Suite 180  
Torrance, CA 90503-8370

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Regarding: Project: 21504001-3  
EML ID: 1356928

Approved by:

Technical Manager  
Melissa Tracey

REVISED REPORT

Dates of Analysis:  
Spore trap analysis: 04-27-2015

Service SOPs: Spore trap analysis (EM-MY-S-1038)  
AIHA-LAP, LLC accredited service, Lab ID #179768

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

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

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Kenny Hsi, Mr. Lakhpreet Sandhu  
Re: 21504001-3

Date of Sampling: 04-24-2015  
Date of Receipt: 04-25-2015  
Date of Report: 04-25-2015

**SPORE TRAP REPORT: NON-VIABLE METHODOLOGY**

Location:	21504001-3TM03OUT		21504001-3TM04		21504001-3TM05		21504001-3TM06		21504001-3TM07	
Comments (see below)	None		None		None		None		None	
Lab ID-Version‡:	6221319-2		6221320-2		6221321-2		6221322-2		6221323-2	
Analysis Date:	04/27/2015		04/27/2015		04/27/2015		04/27/2015		04/27/2015	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria	4	53								
Ascospores	12	640							1	53
Basidiospores	27	1,400								
Bipolaris/Drechslera group	1	13								
Chaetomium										
Cladosporium	110	5,900			1	53	1	53	3	160
Fusarium										
Myrothecium										
Nigrospora	2	27								
Oidium	8	110								
Other brown	1	13			1	13	1	13		
Other colorless										
Penicillium/Aspergillus types†	3	160	1	53					1	53
Pithomyces										
Rusts	21	280			1	13				
Smuts, Periconia, Myxomycetes	68	910	1	13			1	13	1	13
Stachybotrys										
Stemphylium										
Torula										
Ulocladium										
Zygomycetes										
Background debris (1-4+)††	2+		2+		2+		2+		3+	
Hyphal fragments/m3	160		< 13		53		27		13	
Pollen/m3	360		13		93		40		53	
Skin cells (1-4+)	< 1+		1+		1+		1+		1+	
Sample volume (liters)	75		75		75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>9,500</b>		<b>67</b>		<b>80</b>		<b>80</b>		<b>280</b>

**Comments:**

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

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

††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher 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. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

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

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

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



Report for:

**Mr. Kenny Hsi, Mr. Lakhpreet Sandhu**  
**Hygiene Technologies International, Inc.**  
3625 Del Amo Boulevard, Suite 180  
Torrance, CA 90503-8370

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Regarding: Project: 21504001-3  
EML ID: 1356929

Approved by:

Technical Manager  
Melissa Tracey

REVISED REPORT

Dates of Analysis:  
Spore trap analysis: 04-27-2015

Service SOPs: Spore trap analysis (EM-MY-S-1038)  
AIHA-LAP, LLC accredited service, Lab ID #179768

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Client: Hygiene Technologies International, Inc.  
C/O: Mr. Kenny Hsi, Mr. Lakhpreet Sandhu  
Re: 21504001-3

Date of Sampling: 04-25-2015  
Date of Receipt: 04-25-2015  
Date of Report: 04-25-2015

**SPORE TRAP REPORT: NON-VIABLE METHODOLOGY**

Location:	21504001-3TM08OUT		21504001-3TM09		21504001-3TM10		21504001-3TM11	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	6221324-2		6221325-2		6221326-2		6221327-2	
Analysis Date:	04/27/2015		04/27/2015		04/27/2015		04/27/2015	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores	253	13,000						
Basidiospores	402	21,000						
Botrytis								
Chaetomium								
Cladosporium	6	320	1	53			1	53
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Other colorless								
Penicillium/Aspergillus types†	7	370			1	53		
Pithomyces								
Rusts							2	27
Smuts, Periconia, Myxomycetes							1	13
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	< 1+		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	
<b>§ TOTAL SPORES/m3</b>		<b>36,000</b>		<b>53</b>		<b>53</b>		<b>93</b>

**Comments:**

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.  
 † The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.  
 †† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher 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. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.  
 ‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".  
 § Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.



Report for:

**Mr. Kenny Hsi, Mr. Lakhpreet Sandhu**  
**Hygiene Technologies International, Inc.**  
3625 Del Amo Boulevard, Suite 180  
Torrance, CA 90503-8370

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Regarding: Project: 21504001-3  
EML ID: 1357351

Approved by:

Technical Manager  
Melissa Tracey

Dates of Analysis:  
Spore trap analysis: 04-28-2015

Service SOPs: Spore trap analysis (EM-MY-S-1038)  
AIHA-LAP, LLC accredited service, Lab ID #179768

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

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Client: Hygiene Technologies International, Inc.  
C/O: Mr. Kenny Hsi, Mr. Lakhpreet Sandhu  
Re: 21504001-3

Date of Sampling: 04-27-2015  
Date of Receipt: 04-27-2015  
Date of Report: 04-28-2015

**SPORE TRAP REPORT: NON-VIABLE METHODOLOGY**

Location:	21504001-3TM12OUT		21504001-3TM13	
Comments (see below)	None		None	
Lab ID-Version‡:	6222891-1		6222892-1	
Analysis Date:	04/28/2015		04/28/2015	
	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria	1	13		
Ascospores	9	480		
Basidiospores	54	2,900		
Chaetomium				
Cladosporium	134	7,100	1	53
Curvularia				
Epicoccum	1	13	1	13
Fusarium				
Myrothecium				
Nigrospora				
Other brown	1	13		
Other colorless				
Penicillium/Aspergillus types†	3	160		
Pithomyces				
Rusts	5	67		
Smuts, Periconia, Myxomycetes	57	760		
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Zygomycetes				
Background debris (1-4+)††	2+		1+	
Hyphal fragments/m3	53		27	
Pollen/m3	190		< 13	
Skin cells (1-4+)	< 1+		< 1+	
Sample volume (liters)	75		75	
<b>§ TOTAL SPORES/m3</b>		<b>12,000</b>		<b>67</b>

**Comments:**

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

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

††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher 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. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

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

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

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

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Kenny Hsi, Mr. Lakhpreet Sandhu  
Re: 21504001-3

Date of Sampling: 04-27-2015  
Date of Receipt: 04-27-2015  
Date of Report: 04-28-2015

**MoldRANGE™: Extended Outdoor Comparison**  
**Outdoor Location: 21504001-3TM12OUT**

Fungi Identified	Outdoor data	Typical Outdoor Data for: April in California† (n‡=19176)						Typical Outdoor Data for: The entire year in California† (n‡=214484)					
		very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
<b>Generally able to grow indoors*</b>													
Alternaria	13	13	13	27	53	93	53	13	13	27	63	100	53
Bipolaris/Drechslera group	-	7	13	13	27	40	9	7	13	13	27	50	12
Chaetomium	-	8	13	13	27	40	18	8	13	13	27	50	19
Cladosporium	7,100	110	160	430	1,100	1,900	96	110	210	610	1,700	2,800	97
Curvularia	-	7	8	13	13	27	2	7	13	13	27	53	6
Epicoccum	13	7	13	13	27	53	16	8	13	13	38	53	19
Nigrospora	-	7	10	13	13	27	4	7	13	13	27	53	9
Other brown	13	13	13	13	40	53	33	13	13	13	40	53	34
Penicillium/Aspergillus types	160	53	53	160	430	690	78	53	100	210	610	1,000	84
Stachybotrys	-	8	13	13	33	75	4	7	13	13	33	67	4
Torula	-	10	13	13	44	73	14	8	13	13	40	67	11
<b>Seldom found growing indoors**</b>													
Ascospores	480	27	53	110	390	750	74	25	53	110	370	700	71
Basidiospores	2,900	53	80	270	960	2,000	93	53	80	270	1,000	2,400	93
Rusts	67	13	13	24	53	93	34	13	13	13	53	80	26
Smuts, Periconia, Myxomycetes	760	13	13	40	110	210	67	13	13	40	110	210	68
<b>§ TOTAL SPORES/m3</b>	12,000												

†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 EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Lakhpreet Sandhu  
 Re: 21504001-3

Date of Sampling: 04-27-2015  
 Date of Receipt: 04-27-2015  
 Date of Report: 04-28-2015

**MoldSTAT™: Supplementary Statistical Spore Trap Report**

**Outdoor Summary: 21504001-3TM12OUT:**

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %
	<100	1K	10K	>100K		
Alternaria					7 - 40 - 610	45
Ascospores					13 - 210 - 6,000	76
Basidiospores					15 - 440 - 24,000	92
Cladosporium					27 - 480 - 10,000	90
Epicoccum					7 - 22 - 330	24
Other brown					7 - 13 - 130	24
Penicillium/Aspergillus types					13 - 170 - 2,700	68
Rusts					7 - 22 - 360	20
Smuts, Periconia, Myxomycetes					7 - 53 - 920	64
<b>Total</b>						

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

**Indoor Samples**

**Location: 21504001-3TM13**

% 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: N/A Result: N/A Critical value: N/A Inside Similar: N/A	Result: 0.3636	dF: 9 Result: 0.3833 Critical value: 0.5833 Outside Similar: No	Score: 105 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
	Cladosporium				
	Epicoccum				
	<b>Total</b>				

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

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

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Kenny Hsi, Mr. Lakhpreet Sandhu  
Re: 21504001-3

Date of Sampling: 04-27-2015  
Date of Receipt: 04-27-2015  
Date of Report: 04-28-2015

**MoldSTAT™: Supplementary Statistical Spore Trap Report**

\*\*\* 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&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 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.



Client: Hygiene Technologies International, Inc.  
C/O: Mr. Kenny Hsi, Mr. Lakhpreet Sandhu  
Re: 21504001-3

Date of Sampling: 04-27-2015  
Date of Receipt: 04-27-2015  
Date of Report: 04-28-2015

### **MoldSCORE™: Spore Trap Report**

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

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

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

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







