



# HYGIENETECH

Hygiene Technologies International, Inc.

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January 16, 2013

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

Document No. 21212001.1

Attention: David Gau

Regarding: Limited Fungal Growth Exposure Assessment Surveys  
December 2012 Random Sampling

Dear Mr. Gau:

On December 17, 21, 24, and 31, 2012, industrial hygienists with Hygiene Technologies International, Inc. (HygieneTech) conducted limited fungal growth exposure assessment surveys involving twenty two randomly selected areas located within the California State Board of Equalization (BOE) building. The findings of the surveys, along with the analytical data, conclusions, and recommendations when applicable, appear below.

On the survey dates, air samples were collected for total (viable and nonviable) fungi analyses using a Zefon brand Bio-Pump™ 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. The airborne fungi assessment analytical data with supporting and background information appear in the enclosed table.

As presented in Table 21212001-1, the airborne spore count data recorded showed fungal spore types outdoors such as *Alternaria*, ascospores, basidiospores, *Botrytis*, *Cladosporium*, colorless spores typical of *Penicillium/Aspergillus* species, *Nigrospora*, rusts, smuts and/or *Stemphylium*. 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 *Alternaria*, basidiospores, *Cladosporium*, colorless spores typical of *Penicillium/Aspergillus* species, *Epicoccum*, other brown, rusts, and/or smuts. The distribution of fungal spore types detected in the surveyed areas was consistent with those found outdoors, and the overall data within the tested areas were well below the overall outdoor data recorded. 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 in this report only represent limited fungal growth and exposure potentials that existed at the time these surveys were performed and at the precise sample locations



indicated. Note 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. Also be advised that additional fungal growth may exist at one or more locations in the structure that were not specifically assessed during the surveys.

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.**



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Kenny K. Hsi, CIH  
Technical Director

# HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

# APPENDIX A



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

**TABLE 21212001-1  
AIRBORNE TOTAL FUNGI RESULTS  
450 N STREET  
SACRAMENTO, CALIFORNIA  
DECEMBER 17, 21, 24, AND 31, 2012**

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

SAMPLE NUMBER	21212001-1 TM01OUT	21212001-1 TM02	21212001-1 TM03	21212001-1 TM04
<b>SAMPLING LOCATION/ACTIVITIES</b>	Outdoors; about 10 feet south of building; approximately five feet above ground/Normal outdoor activities	1 <sup>st</sup> Floor; Room 135; western portion; approximately five feet above floor/Normal office activities	5 <sup>th</sup> Floor; Copy Room 506; about center; approximately five feet above floor/Normal office activities	7 <sup>th</sup> Floor; Mail Room 7B; about center; approximately five feet above floor/Normal office activities
<b>DATE</b>	12/17/12	12/17/12	12/17/12	12/17/12
<b>START/STOP</b>	15:17:00/15:22:00	15:25:00/15:30:00	15:36:00/15:41:00	15:44:00/15:49:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				
Arthrinium				
Ascospores	1,500			
Basidiospores	7,900	53	110	53
Bipolaris/Drechslera group				
Botrytis	40			
Chaetomium				
Cladosporium	370	53		
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Oidium				
Other colorless				
Penicillium/Aspergillus types		53		
Pithomyces				
Rusts	13			
Smuts (Periconia, Myxomycetes)	120			
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Hyphal fragments	27	<13	<13	<13
Background debris*	<1+	1+	1+	1+
<b>TOTAL **</b>	9,900	160	110	53

\*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.

# HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

# APPENDIX A



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450 N Street  
Sacramento, California 94279

TABLE 21212001-1  
AIRBORNE TOTAL FUNGI RESULTS  
450 N STREET  
SACRAMENTO, CALIFORNIA  
DECEMBER 17, 21, 24, AND 31, 2012

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

SAMPLE NUMBER	21212001-1 TM05	21212001-1 TM06	21212001-1 TM07	21212001-1 TM08
<b>SAMPLING LOCATION/ACTIVITIES</b>	10 <sup>th</sup> Floor; Mail Room 10B; about center; approximately five feet above floor/Normal office activities	17 <sup>th</sup> Floor; western hallway; about center approximately five feet above floor/Normal office activities	21 <sup>st</sup> Floor; Elevator Lobby; about center; approximately five feet above floor/Normal office activities	24 <sup>th</sup> Floor; southern hallway adjacent to Room 2418; approximately five feet above floor/Sampling activities only
<b>DATE</b>	12/17/12	12/17/12	12/17/12	12/17/12
<b>START/STOP</b>	15:51:00/15:56:00	16:00:00/16:05:00	16:07:00/16:12:00	16:16:00/16:21:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria			13	
Ascospores				
Basidiospores	53	53	53	
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium				
Curvularia				
Epicoccum			13	
Fusarium				
Myrothecium				
Nigrospora				
Oidium				
Other brown				
Penicillium/Aspergillus types				210
Pithomyces				
Rusts		13		
Smuts (Periconia, Myxomycetes)		27	13	27
Stachybotrys				
Stemphylium				
Torula				
Trichocladium				
Ulocladium				
Hyphal fragments	<13	<13	<13	13
Background debris*	1+	2+	1+	1+
<b>TOTAL **</b>	53	93	93	240

\*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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TABLE 21212001-1  
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450 N STREET  
SACRAMENTO, CALIFORNIA  
DECEMBER 17, 21, 24, AND 31, 2012

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

SAMPLE NUMBER	21212001-1 TM09OUT	21212001-1 TM10	21212001-1 TM11	21212001-1 TM12
<b>SAMPLING LOCATION/ACTIVITIES</b>	Outdoors; about 10 feet east of building; approximately five feet above ground/Normal outdoor activities	4 <sup>th</sup> Floor; Column K17 area; Cubicle 76; about center; approximately five feet above floor/Normal office activities	22 <sup>nd</sup> Floor; Room 2206; about center; approximately five feet above floor/Normal office activities	20 <sup>th</sup> Floor; Mail Room 20B; about center; approximately five feet above floor/Normal office activities
<b>DATE</b>	12/21/12	12/21/12	12/21/12	12/21/12
<b>START/STOP</b>	15:41:00/15:46:00	15:51:00/15:56:00	16:11:00/16:16:00	16:19:00/16:24:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria	27			
Arthrinium				
Ascospores	53			
Basidiospores	590			
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	2,900			
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora	13			
Oidium				
Other brown				
Penicillium/Aspergillus types	110			
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)	130		13	
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Hyphal fragments	40	<13	<13	<13
Background debris*	2+	2+	3+	2+
<b>TOTAL **</b>	3,900	<13	13	<13

\*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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TABLE 21212001-1  
AIRBORNE TOTAL FUNGI RESULTS  
450 N STREET  
SACRAMENTO, CALIFORNIA  
DECEMBER 17, 21, 24, AND 31, 2012

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

SAMPLE NUMBER	21212001-1 TM13	21212001-1 TM14	21212001-1 TM15OUT	21212001-1 TM16
<b>SAMPLING LOCATION/ACTIVITIES</b>	19 <sup>th</sup> Floor; eastern hallway; bout center; approximately five feet above floor/Normal office activities	8 <sup>th</sup> Floor; Elevator Lobby; about center; approximately five feet above floor/Normal office activities	Outdoors; about 10 feet west of building; approximately five feet above ground/Normal outdoor activities	3 <sup>rd</sup> Floor; western hallway; about center; approximately five feet above floor/Normal office activities
<b>DATE</b>	12/21/12	12/21/12	12/24/12	12/24/12
<b>START/STOP</b>	16:26:00/16:31:00	16:34:00/16:39:00	14:50:00/14:55:00	14:58:00/15:03:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				
Arthrinium				
Ascospores			530	
Basidiospores			1000	
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium		53	210	
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Oidium				
Other brown				
Penicillium/Aspergillus types				
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)				
Stachybotrys				
Stemphylium			13	
Torula				
Ulocladium				
Zygomycetes				
Hyphal fragments	<13	<13	<13	<13
Background debris*	2+	3+	2+	2+
<b>TOTAL **</b>	<13	53	1,800	<13

\*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+.

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Sacramento, California 94279

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SACRAMENTO, CALIFORNIA  
DECEMBER 17, 21, 24, AND 31, 2012

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

SAMPLE NUMBER	21212001-1 TM17	21212001-1 TM18	21212001-1 TM19	21212001-1 TM20
<b>SAMPLING LOCATION/ACTIVITIES</b>	6 <sup>th</sup> Floor; Break Room 610; about center; approximately five feet above floor/Normal office activities	11 <sup>th</sup> Floor; southern hallway at southeastern corner; approximately five feet above floor/Normal office activities	16 <sup>th</sup> Floor; Column K20 area; Cubicle 87; about center; approximately five feet above floor/Normal office activities	23 <sup>rd</sup> Floor; Room 2304 southern portion adjacent to door; approximately five feet above floor/Normal office activities
<b>DATE</b>	12/24/12	12/24/12	12/24/12	12/24/12
<b>START/STOP</b>	15:05:00/15:10:00	15:13:00/15:18:00	15:21:00/15:26:00	15:30:00/15:35:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				
Arthrinium				
Ascospores				
Basidiospores				160
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	53			
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Oidium				
Other brown				13
Penicillium/Aspergillus types				
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)				
Stachybotrys				
Torula				
Ulocladium				
Zygomycetes				
Hyphal fragments	<13	<13	<13	<13
Background debris*	2+	2+	2+	2+
<b>TOTAL **</b>	53	<13	<13	13

\*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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450 N STREET  
SACRAMENTO, CALIFORNIA  
DECEMBER 17, 21, 24, AND 31, 2012**

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

SAMPLE NUMBER	21212001-1 TM21OUT	21212001-1 TM22	21212001-1 TM23	21212001-1 TM24
<b>SAMPLING LOCATION/ACTIVITIES</b>	Outdoors; about 10 feet east of building; approximately five feet above ground/Normal outdoor activities	2 <sup>nd</sup> Floor; southeast stairwell area; about center; approximately five feet above floor/Normal office activities	9 <sup>th</sup> Floor; Conference Room 907; entry area; approximately five feet above floor/Normal office activities	14 <sup>th</sup> Floor; Elevator Lobby; about center; approximately five feet above floor/Normal office activities
<b>DATE</b>	12/31/12	12/31/12	12/31/12	12/31/12
<b>START/STOP</b>	09:35:00/09:40:00	09:44:00/09:49:00	09:53:00/09:58:00	10:03:00/10:08:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				
Arthrinium				
Ascospores	210			
Basidiospores	1,100	160	160	53
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	850			
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Oidium				
Other brown				
Penicillium/Aspergillus types				
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)	13		13	
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Hyphal fragments	<13	13	<13	<13
Background debris*	1+	2+	1+	1+
<b>TOTAL **</b>	2,100	160	170	53

\*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

TABLE 21212001-1  
AIRBORNE TOTAL FUNGI RESULTS  
450 N STREET  
SACRAMENTO, CALIFORNIA  
DECEMBER 17, 21, 24, AND 31, 2012

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

SAMPLE NUMBER	21212001-1 TM25	21212001-1 TM26		
<b>SAMPLING LOCATION/ACTIVITIES</b>	15 <sup>th</sup> Floor; Break Room 1504; about center; approximately five feet above floor/Normal office activities	18 <sup>th</sup> Floor; Conference Room 1808; eastern portion; about center; approximately five feet above floor/Normal office activities	This column intentionally left blank.	This column intentionally left blank.
<b>DATE</b>	12/31/12	12/31/12		
<b>START/STOP</b>	10:11:00/10:16:00	10:18:00/10:23:00		
<b>SAMPLE TIME</b>	5 minutes	5 minutes		
Alternaria	13			
Arthrinium				
Ascospores				
Basidiospores	53			
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium				
Curvularia				
Epicoccum	13			
Fusarium				
Myrothecium				
Nigrospora				
Oidium				
Other brown				
Penicillium/Aspergillus types				
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)				
Stachybotrys				
Torula				
Ulocladium				
Zygomycetes				
Hyphal fragments	<13	<13		
Background debris*	1+	1+		
<b>TOTAL **</b>	80	<13		

\*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+.

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Report for:

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

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Regarding: Project: 21212001-1  
EML ID: 1006668

Approved by:

Lab Manager  
Malcolm Moody

REVISED REPORT

Dates of Analysis:  
Spore trap analysis: 01-03-2013

Service SOPs: Spore trap analysis (1038)  
AIHA accredited service

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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. Larry Sandhu  
Re: 21212001-1

Date of Sampling: 12-17-2012  
Date of Receipt: 12-18-2012  
Date of Report: 12-19-2012

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

Location:	21212001-1TM01OUT		21212001-1TM02		21212001-1TM03		21212001-1TM04	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	4498657-2		4498658-2		4498659-2		4498660-2	
Analysis Date:	01/03/2013		01/03/2013		01/03/2013		01/03/2013	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria								
Ascospores	28	1,500						
Basidiospores	148	7,900	1	53	2	110	1	53
Botrytis	3	40						
Chaetomium								
Cladosporium	7	370	1	53				
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Other colorless								
Penicillium/Aspergillus types†			1	53				
Pithomyces								
Rusts	1	13						
Smuts, Periconia, Myxomycetes	9	120						
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	< 1+		1+		1+		1+	
Hyphal fragments/m3	27		< 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>9,900</b>		<b>160</b>		<b>110</b>		<b>53</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. Larry Sandhu  
 Re: 21212001-1

Date of Sampling: 12-17-2012  
 Date of Receipt: 12-18-2012  
 Date of Report: 12-19-2012

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

Location:	21212001-1TM05		21212001-1TM06		21212001-1TM07		21212001-1TM08	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	4498661-2		4498662-2		4498663-2		4498664-2	
Analysis Date:	01/03/2013		01/03/2013		01/03/2013		01/03/2013	
	raw ct.	spores/m3						
Alternaria					1	13		
Ascospores								
Basidiospores	1	53	1	53	1	53		
Botrytis								
Chaetomium								
Cladosporium								
Curvularia								
Epicoccum					1	13		
Fusarium								
Myrothecium								
Nigrospora								
Other colorless								
Penicillium/Aspergillus types†							4	210
Pithomyces								
Rusts			1	13				
Smuts, Periconia, Myxomycetes			2	27	1	13	2	27
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	1+		2+		1+		1+	
Hyphal fragments/m3	< 13		< 13		< 13		13	
Pollen/m3	< 13		< 13		13		< 13	
Skin cells (1-4+)	< 1+		1+		< 1+		< 1+	
Sample volume (liters)	75		75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>53</b>		<b>93</b>		<b>93</b>		<b>240</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.

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

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C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
Re: 21212001-1

Date of Sampling: 12-17-2012  
Date of Receipt: 12-18-2012  
Date of Report: 12-19-2012

**MoldRANGE™: Extended Outdoor Comparison****Outdoor Location: 21212001-1TM01OUT**

Fungi Identified	Outdoor data	Typical Outdoor Data for: December in California (n‡=11870)†						Typical Outdoor Data for: The entire year in California (n‡=175031)†					
		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	80	45	13	13	27	67	110	55
Bipolaris/Drechslera group	-	7	13	13	27	40	10	7	13	13	27	40	12
Chaetomium	-	8	13	13	27	40	13	8	13	13	27	44	19
Cladosporium	370	110	210	670	2,000	3,300	96	110	210	640	1,700	2,800	97
Curvularia	-	10	13	13	27	40	4	7	13	13	27	53	6
Nigrospora	-	7	13	13	19	27	7	7	13	13	27	53	8
Penicillium/Aspergillus types	-	53	110	270	640	1,100	86	53	110	210	590	1,000	85
Stachybotrys	-	10	13	13	35	80	4	7	13	13	33	67	4
Torula	-	8	13	13	40	53	5	8	13	13	40	67	12
<b>Seldom found growing indoors**</b>													
Ascospores	1,500	27	53	150	590	1,200	68	25	53	110	350	690	72
Basidiospores	7,900	53	110	430	2,300	5,100	94	53	80	270	1,000	2,300	94
Botrytis	40	13	13	17	53	80	17	13	13	20	53	80	18
Rusts	13	11	13	13	40	59	19	13	13	13	53	80	27
Smuts, Periconia, Myxomycetes	120	13	13	33	80	150	61	13	13	40	110	200	68
<b>§ TOTAL SPORES/m3</b>	<b>9,900</b>												

†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. Larry Sandhu  
 Re: 21212001-1

Date of Sampling: 12-17-2012  
 Date of Receipt: 12-18-2012  
 Date of Report: 12-19-2012

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

**Outdoor Summary: 21212001-1TM01OUT:**

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %
	<100	1K	10K	>100K		
Ascospores					13 - 190 - 5,400	76
Basidiospores					13 - 430 - 22,000	92
Botrytis					7 - 20 - 270	6
Cladosporium					27 - 480 - 10,000	91
Penicillium/Aspergillus types					13 - 160 - 2,600	69
Rusts					7 - 20 - 340	20
Smuts, Periconia, Myxomycetes					7 - 47 - 970	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: 21212001-1TM02**

% 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: 6 Result: 2.4796 Critical value: 12.5916 Inside Similar: Yes	Result: 0.4444	dF: 7 Result: 0.2500 Critical value: 0.6786 Outside Similar: No	Score: 108 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
	Basidiospores				
	Cladosporium				
	Penicillium/Aspergillus types				
	<b>Total</b>				

**Location: 21212001-1TM03**

% 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: 6 Result: 2.4796 Critical value: 12.5916 Inside Similar: Yes	Result: 0.2857	dF: 6 Result: 0.7143 Critical value: 0.7714 Outside Similar: No	Score: 102 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
	Basidiospores				
	<b>Total</b>				

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21212001-1

Date of Sampling: 12-17-2012  
 Date of Receipt: 12-18-2012  
 Date of Report: 12-19-2012

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

**Location:** 21212001-1TM04

% 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: 6 Result: 2.4796 Critical value: 12.5916 Inside Similar: Yes	Result: 0.2857	dF: 6 Result: 0.7143 Critical value: 0.7714 Outside Similar: No	Score: 101 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Basidiospores					53
<b>Total</b>					53

**Location:** 21212001-1TM05

% 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: 6 Result: 2.4796 Critical value: 12.5916 Inside Similar: Yes	Result: 0.2857	dF: 6 Result: 0.7143 Critical value: 0.7714 Outside Similar: No	Score: 101 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Basidiospores					53
<b>Total</b>					53

**Location:** 21212001-1TM06

% 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: 6 Result: 2.4796 Critical value: 12.5916 Inside Similar: Yes	Result: 0.6667	dF: 6 Result: 0.2571 Critical value: 0.7714 Outside Similar: No	Score: 105 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Basidiospores					53
Rusts					13
Smuts, Periconia, Myxomycetes					27
<b>Total</b>					93

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21212001-1

Date of Sampling: 12-17-2012  
 Date of Receipt: 12-18-2012  
 Date of Report: 12-19-2012

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

**Location:** 21212001-1TM07

% 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: 6 Result: 2.4796 Critical value: 12.5916 Inside Similar: Yes	Result: 0.4000	dF: 8 Result: 0.0893 Critical value: 0.6190 Outside Similar: No	Score: 113 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Alternaria					13
Basidiospores					53
Epicoccum					13
Smuts, Periconia, Myxomycetes					13
<b>Total</b>					93

**Location:** 21212001-1TM08

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 2%	dF: 6 Result: 2.4796 Critical value: 12.5916 Inside Similar: Yes	Result: 0.2500	dF: 7 Result: -0.2500 Critical value: 0.6786 Outside Similar: No	Score: 133 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Penicillium/Aspergillus types					210
Smuts, Periconia, Myxomycetes					27
<b>Total</b>					240

\* 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. Larry Sandhu  
Re: 21212001-1

Date of Sampling: 12-17-2012  
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Date of Report: 12-19-2012

**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. Larry Sandhu  
 Re: 21212001-1

Date of Sampling: 12-17-2012  
 Date of Receipt: 12-18-2012  
 Date of Report: 12-19-2012

**MoldSCORE™: Spore Trap Report**

**Location:** 21212001-1TM03

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13				100
Basidiospores					2	110				103
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes					ND	< 13				100
<b>Total</b>						<b>107</b>				
							<b>Final MoldSCORE</b>	<b>103</b>		

**Location:** 21212001-1TM04

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13				100
Basidiospores					1	53				101
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes					ND	< 13				100
<b>Total</b>						<b>53</b>				
							<b>Final MoldSCORE</b>	<b>101</b>		

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21212001-1

Date of Sampling: 12-17-2012  
 Date of Receipt: 12-18-2012  
 Date of Report: 12-19-2012

**MoldSCORE™: Spore Trap Report**

**Location:** 21212001-1TM05

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13				100
Basidiospores					1	53				101
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes					ND	< 13				100
<b>Total</b>						<b>53</b>				
							<b>Final MoldSCORE</b>	<b>101</b>		

**Location:** 21212001-1TM06

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13				100
Basidiospores					1	53				100
Rusts					1	13				105
Smuts, Periconia, Myxomycetes					2	27				105
<b>Total</b>						<b>93</b>				
							<b>Final MoldSCORE</b>	<b>105</b>		

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21212001-1

Date of Sampling: 12-17-2012  
 Date of Receipt: 12-18-2012  
 Date of Report: 12-19-2012

**MoldSCORE™: Spore Trap Report**

**Location:** 21212001-1TM07

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					1	13				
Bipolaris/Drechslera group					ND	< 13				
Chaetomium					ND	< 13				
Cladosporium					ND	< 13				
Curvularia					ND	< 13				
Epicoccum					1	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					1	53				
Rusts					ND	< 13				
Smuts, Periconia, Myxomycetes					1	13				
<b>Total</b>						<b>93</b>	<b>Final MoldSCORE 113</b>			

**Location:** 21212001-1TM08

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<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†					4	210				
Stachybotrys					ND	< 13				
Torula					ND	< 13				
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13				
Basidiospores					ND	< 13				
Rusts					ND	< 13				
Smuts, Periconia, Myxomycetes					2	27				
<b>Total</b>						<b>240</b>	<b>Final MoldSCORE 133</b>			

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
Re: 21212001-1

Date of Sampling: 12-17-2012  
Date of Receipt: 12-18-2012  
Date of Report: 12-19-2012

### **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. Larry Sandhu**  
**Hygiene Technologies International, Inc.**  
3625 Del Amo Boulevard, Suite 180  
Torrance, CA 90503-8370

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Regarding: Project: 21212001-1  
EML ID: 1008987

Approved by:

Lab Manager  
Dr. Kamashwaran Ramanathan

Dates of Analysis:  
Spore trap analysis: 12-27-2012

Service SOPs: Spore trap analysis (1038)  
AIHA accredited service

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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. Larry Sandhu  
Re: 21212001-1

Date of Sampling: 12-24-2012  
Date of Receipt: 12-26-2012  
Date of Report: 12-27-2012

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

Location:	21212001-1 TM15 OUT		21212001-1 TM16		21212001-1 TM17	
Comments (see below)	None		None		None	
Lab ID-Version‡:	4508980-1		4508981-1		4508982-1	
Analysis Date:	12/27/2012		12/27/2012		12/27/2012	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores	10	530				
Basidiospores	19	1,000				
Botrytis						
Chaetomium						
Cladosporium	4	210			1	53
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other brown						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium	1	13				
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+		2+		2+	
Hyphal fragments/m3	< 13		< 13		< 13	
Pollen/m3	13		< 13		< 13	
Skin cells (1-4+)	< 1+		1+		1+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>1,800</b>		<b>&lt; 13</b>		<b>53</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. Larry Sandhu  
 Re: 21212001-1

Date of Sampling: 12-24-2012  
 Date of Receipt: 12-26-2012  
 Date of Report: 12-27-2012

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

Location:	21212001-1 TM18		21212001-1 TM19		21212001-1 TM20	
Comments (see below)	None		None		None	
Lab ID-Version‡:	4508983-1		4508984-1		4508985-1	
Analysis Date:	12/27/2012		12/27/2012		12/27/2012	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores						
Basidiospores						
Botrytis						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other brown					1	13
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+		2+		2+	
Hyphal fragments/m3	< 13		< 13		< 13	
Pollen/m3	< 13		13		< 13	
Skin cells (1-4+)	1+		1+		1+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		< 13		< 13		13

**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. Larry Sandhu  
 Re: 21212001-1

Date of Sampling: 12-24-2012  
 Date of Receipt: 12-26-2012  
 Date of Report: 12-27-2012

**MoldRANGE™: Extended Outdoor Comparison**  
**Outdoor Location: 21212001-1 TM15 OUT**

Fungi Identified	Outdoor data	Typical Outdoor Data for: December in California (n‡=11870)†						Typical Outdoor Data for: The entire year in California (n‡=175031)†					
		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	80	45	13	13	27	67	110	55
Bipolaris/Drechslera group	-	7	13	13	27	40	10	7	13	13	27	40	12
Chaetomium	-	8	13	13	27	40	13	8	13	13	27	44	19
Cladosporium	210	110	210	670	2,000	3,300	96	110	210	640	1,700	2,800	97
Curvularia	-	10	13	13	27	40	4	7	13	13	27	53	6
Nigrospora	-	7	13	13	19	27	7	7	13	13	27	53	8
Penicillium/Aspergillus types	-	53	110	270	640	1,100	86	53	110	210	590	1,000	85
Stachybotrys	-	10	13	13	35	80	4	7	13	13	33	67	4
Stemphylium	13	7	13	13	27	39	6	7	13	13	27	40	9
Torula	-	8	13	13	40	53	5	8	13	13	40	67	12
<b>Seldom found growing indoors**</b>													
Ascospores	530	27	53	150	590	1,200	68	25	53	110	350	690	72
Basidiospores	1,000	53	110	430	2,300	5,100	94	53	80	270	1,000	2,300	94
Rusts	-	11	13	13	40	59	19	13	13	13	53	80	27
Smuts, Periconia, Myxomycetes	-	13	13	33	80	150	61	13	13	40	110	200	68
<b>§ TOTAL SPORES/m3</b>	<b>1,800</b>												

†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. Larry Sandhu  
 Re: 21212001-1

Date of Sampling: 12-24-2012  
 Date of Receipt: 12-26-2012  
 Date of Report: 12-27-2012

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

**Outdoor Summary: 21212001-1 TM15 OUT:**

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %
	<100	1K	10K	>100K		
Ascospores				530	13 - 190 - 5,400	76
Basidiospores				1,000	13 - 430 - 22,000	92
Cladosporium				210	27 - 480 - 10,000	91
Penicillium/Aspergillus types				< 13	13 - 160 - 2,600	69
Smuts, Periconia, Myxomycetes				< 13	7 - 47 - 970	64
Stemphylium				13	7 - 13 - 80	3
<b>Total</b>				1,800		

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: 21212001-1 TM16**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: < 1%	dF: 4 Result: 1.5000 Critical value: 9.4877 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low	
<b>Species Detected</b>		<b>Spores/m3</b>			
		<100	1K	10K	>100K
<b>None Detected</b>					< 13

**Location: 21212001-1 TM17**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 3%	dF: 4 Result: 1.5000 Critical value: 9.4877 Inside Similar: Yes	Result: 0.4000	dF: 4 Result: 0.0000 Critical value: N/A Outside Similar: N/A	Score: 103 Result: Low	
<b>Species Detected</b>		<b>Spores/m3</b>			
		<100	1K	10K	>100K
Cladosporium					53
<b>Total</b>					53

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21212001-1

Date of Sampling: 12-24-2012  
 Date of Receipt: 12-26-2012  
 Date of Report: 12-27-2012

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

**Location: 21212001-1 TM18**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 4 Result: 1.5000 Critical value: 9.4877 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
<b>Species Detected</b>		<b>Spores/m3</b>		
		<100	1K	10K
				>100K
<b>None Detected</b>		< 13		

**Location: 21212001-1 TM19**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 4 Result: 1.5000 Critical value: 9.4877 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
<b>Species Detected</b>		<b>Spores/m3</b>		
		<100	1K	10K
				>100K
<b>None Detected</b>		< 13		

**Location: 21212001-1 TM20**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 4 Result: 1.5000 Critical value: 9.4877 Inside Similar: Yes	Result: 0.0000	dF: 5 Result: -0.2500 Critical value: 0.8000 Outside Similar: No	Score: 105 Result: Low
<b>Species Detected</b>		<b>Spores/m3</b>		
		<100	1K	10K
				>100K
Other brown		13		
<b>Total</b>		<b>13</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. Larry Sandhu  
Re: 21212001-1Date of Sampling: 12-24-2012  
Date of Receipt: 12-26-2012  
Date of Report: 12-27-2012**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 (H<sub>0</sub>) 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. Larry Sandhu  
 Re: 21212001-1

Date of Sampling: 12-24-2012  
 Date of Receipt: 12-26-2012  
 Date of Report: 12-27-2012

**MoldSCORE™: Spore Trap Report**

**Location:** 21212001-1 TM17

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13	█			100
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium					1	53	█			103
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores					ND	< 13	█			100
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>53</b>				
							<b>Final MoldSCORE</b>			<b>103</b>

**Location:** 21212001-1 TM18

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13	█			100
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium					ND	< 13	█			100
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores					ND	< 13	█			100
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>N/A</b>				
							<b>Final MoldSCORE</b>			<b>100</b>

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21212001-1

Date of Sampling: 12-24-2012  
 Date of Receipt: 12-26-2012  
 Date of Report: 12-27-2012

**MoldSCORE™: Spore Trap Report**

**Location:** 21212001-1 TM19

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13				100
Basidiospores					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes					ND	< 13				100
<b>Total</b>						<b>N/A</b>				<b>Final MoldSCORE 100</b>

**Location:** 21212001-1 TM20

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13				100
Bipolaris/Drechslera group					ND	< 13				100
Chaetomium					ND	< 13				100
Cladosporium					ND	< 13				100
Curvularia					ND	< 13				100
Nigrospora					ND	< 13				100
Other brown					1	13				105
Penicillium/Aspergillus types†					ND	< 13				100
Stachybotrys					ND	< 13				100
Torula					ND	< 13				100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13				100
Basidiospores					ND	< 13				100
Rusts					ND	< 13				100
Smuts, Periconia, Myxomycetes					ND	< 13				100
<b>Total</b>						<b>13</b>				<b>Final MoldSCORE 105</b>

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
Re: 21212001-1

Date of Sampling: 12-24-2012  
Date of Receipt: 12-26-2012  
Date of Report: 12-27-2012

### **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. Larry Sandhu**  
**Hygiene Technologies International, Inc.**  
3625 Del Amo Boulevard, Suite 180  
Torrance, CA 90503-8370

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Regarding: Project: 21212001-1  
EML ID: 1008991

Approved by:

Lab Manager  
Dr. Kamashwaran Ramanathan

Dates of Analysis:  
Spore trap analysis: 12-27-2012

Service SOPs: Spore trap analysis (1038)  
AIHA accredited service

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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. Larry Sandhu  
Re: 21212001-1Date of Sampling: 12-21-2012  
Date of Receipt: 12-26-2012  
Date of Report: 12-27-2012**SPORE TRAP REPORT: NON-VIABLE METHODOLOGY**

Location:	21212001-1 TM09		21212001-1 TM10		21212001-1 TM11	
Comments (see below)	None		None		None	
Lab ID-Version‡:	4508949-1		4508950-1		4508951-1	
Analysis Date:	12/27/2012		12/27/2012		12/27/2012	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria	2	27				
Ascospores	1	53				
Basidiospores	11	590				
Botrytis						
Chaetomium						
Cladosporium	55	2,900				
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora	1	13				
Other colorless						
Penicillium/Aspergillus types†	2	110				
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes	10	130			1	13
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+		2+		3+	
Hyphal fragments/m3	40		< 13		< 13	
Pollen/m3	27		< 13		40	
Skin cells (1-4+)	< 1+		1+		2+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>3,900</b>		<b>&lt; 13</b>		<b>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. Larry Sandhu  
Re: 21212001-1

Date of Sampling: 12-21-2012  
Date of Receipt: 12-26-2012  
Date of Report: 12-27-2012

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

Location:	21212001-1 TM12		21212001-1 TM13		21212001-1 TM14	
Comments (see below)	None		None		None	
Lab ID-Version‡:	4508952-1		4508953-1		4508954-1	
Analysis Date:	12/27/2012		12/27/2012		12/27/2012	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria						
Ascospores						
Basidiospores						
Botrytis						
Chaetomium						
Cladosporium					1	53
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+		2+		3+	
Hyphal fragments/m3	< 13		< 13		< 13	
Pollen/m3	13		< 13		< 13	
Skin cells (1-4+)	1+		1+		2+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		< 13		< 13		53

**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. Larry Sandhu**  
**Hygiene Technologies International, Inc.**  
3625 Del Amo Boulevard, Suite 180  
Torrance, CA 90503-8370

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Regarding: Project: 21212001-1; Random sampling (R-4)  
EML ID: 1010381

Approved by:

Lab Manager  
Malcolm Moody

Dates of Analysis:  
Spore trap analysis: 01-02-2013

Service SOPs: Spore trap analysis (1038)  
AIHA accredited service

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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. Larry Sandhu  
Re: 21212001-1; Random sampling (R-4)

Date of Sampling: 12-31-2012  
Date of Receipt: 12-31-2012  
Date of Report: 01-02-2013

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

Location:	21212001-1TM21OUT		21212001-1TM22		21212001-1TM23	
Comments (see below)	None		None		None	
Lab ID-Version‡:	4514876-1		4514877-1		4514878-1	
Analysis Date:	01/02/2013		01/02/2013		01/02/2013	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria						
Ascospores	4	210				
Basidiospores	20	1,100	3	160	3	160
Botrytis						
Chaetomium						
Cladosporium	16	850				
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes	1	13			1	13
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+		2+		1+	
Hyphal fragments/m3	< 13		13		13	
Pollen/m3	< 13		< 13		< 13	
Skin cells (1-4+)	< 1+		1+		1+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>2,100</b>		<b>160</b>		<b>170</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. Larry Sandhu  
 Re: 21212001-1; Random sampling (R-4)

Date of Sampling: 12-31-2012  
 Date of Receipt: 12-31-2012  
 Date of Report: 01-02-2013

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

Location:	21212001-1TM24		21212001-1TM25		21212001-1TM26	
Comments (see below)	None		None		None	
Lab ID-Version‡:	4514879-1		4514880-1		4514881-1	
Analysis Date:	01/02/2013		01/02/2013		01/02/2013	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria			1	13		
Ascospores						
Basidiospores	1	53	1	53		
Botrytis						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum			1	13		
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+		1+		1+	
Hyphal fragments/m3	< 13		< 13		< 13	
Pollen/m3	< 13		< 13		< 13	
Skin cells (1-4+)	1+		1+		< 1+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>53</b>		<b>80</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. Larry Sandhu  
Re: 21212001-1; Random sampling (R-4)

Date of Sampling: 12-31-2012  
Date of Receipt: 12-31-2012  
Date of Report: 01-02-2013

**MoldRANGE™: Extended Outdoor Comparison**  
**Outdoor Location: 21212001-1TM21OUT**

Fungi Identified	Outdoor data	Typical Outdoor Data for: December in California (n‡=11870)†						Typical Outdoor Data for: The entire year in California (n‡=175031)†					
		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	80	45	13	13	27	67	110	55
Bipolaris/Drechslera group	-	7	13	13	27	40	10	7	13	13	27	40	12
Chaetomium	-	8	13	13	27	40	13	8	13	13	27	44	19
Cladosporium	850	110	210	670	2,000	3,300	96	110	210	640	1,700	2,800	97
Curvularia	-	10	13	13	27	40	4	7	13	13	27	53	6
Nigrospora	-	7	13	13	19	27	7	7	13	13	27	53	8
Penicillium/Aspergillus types	-	53	110	270	640	1,100	86	53	110	210	590	1,000	85
Stachybotrys	-	10	13	13	35	80	4	7	13	13	33	67	4
Torula	-	8	13	13	40	53	5	8	13	13	40	67	12
<b>Seldom found growing indoors**</b>													
Ascospores	210	27	53	150	590	1,200	68	25	53	110	350	690	72
Basidiospores	1,100	53	110	430	2,300	5,100	94	53	80	270	1,000	2,300	94
Rusts	-	11	13	13	40	59	19	13	13	13	53	80	27
Smuts, Periconia, Myxomycetes	13	13	13	33	80	150	61	13	13	40	110	200	68
<b>§ TOTAL SPORES/m3</b>	<b>2,100</b>												

†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. Larry Sandhu  
 Re: 21212001-1; Random sampling (R-4)

Date of Sampling: 12-31-2012  
 Date of Receipt: 12-31-2012  
 Date of Report: 01-02-2013

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

**Outdoor Summary: 21212001-1TM21OUT:**

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %
	<100	1K	10K	>100K		
Ascospores				210	13 - 190 - 5,400	76
Basidiospores				1,100	13 - 430 - 22,000	92
Cladosporium				850	27 - 480 - 10,000	91
Penicillium/Aspergillus types				< 13	13 - 160 - 2,600	69
Smuts, Periconia, Myxomycetes				13	7 - 47 - 970	64
<b>Total</b>				2,100		

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: 21212001-1TM22**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 7%	dF: 4 Result: 3.1500 Critical value: 9.4877 Inside Similar: Yes	Result: 0.4000	dF: 4 Result: 0.8000 Critical value: N/A Outside Similar: N/A	Score: 108 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
	Basidiospores				160
	<b>Total</b>				160

**Location: 21212001-1TM23**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 7%	dF: 4 Result: 3.1500 Critical value: 9.4877 Inside Similar: Yes	Result: 0.6667	dF: 4 Result: 0.3500 Critical value: N/A Outside Similar: N/A	Score: 108 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
	Basidiospores				160
	Smuts, Periconia, Myxomycetes				13
	<b>Total</b>				170

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21212001-1; Random sampling (R-4)

Date of Sampling: 12-31-2012  
 Date of Receipt: 12-31-2012  
 Date of Report: 01-02-2013

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

**Location:** 21212001-1TM24

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 2%	dF: 4 Result: 3.1500 Critical value: 9.4877 Inside Similar: Yes	Result: 0.4000	dF: 4 Result: 0.8000 Critical value: N/A Outside Similar: N/A	Score: 103 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Basidiospores					53
<b>Total</b>					53

**Location:** 21212001-1TM25

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 3%	dF: 4 Result: 3.1500 Critical value: 9.4877 Inside Similar: Yes	Result: 0.2857	dF: 6 Result: 0.0857 Critical value: 0.7714 Outside Similar: No	Score: 110 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Alternaria					13
Basidiospores					53
Epicoccum					13
<b>Total</b>					80

**Location:** 21212001-1TM26

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: < 1%	dF: 4 Result: 3.1500 Critical value: 9.4877 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
<b>None Detected</b>					< 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.

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Larry Sandhu  
Re: 21212001-1; Random sampling (R-4)

Date of Sampling: 12-31-2012  
Date of Receipt: 12-31-2012  
Date of Report: 01-02-2013

### **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 (H<sub>0</sub>) 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. Larry Sandhu  
 Re: 21212001-1; Random sampling (R-4)

Date of Sampling: 12-31-2012  
 Date of Receipt: 12-31-2012  
 Date of Report: 01-02-2013

**MoldSCORE™: Spore Trap Report**

**Location:** 21212001-1TM23

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13	█			100
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium					ND	< 13	█			100
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores	█				3	160	█			108
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes	█				1	13	█			102
<b>Total</b>						<b>173</b>				
							<b>Final MoldSCORE</b>			<b>108</b>

**Location:** 21212001-1TM24

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13	█			100
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium					ND	< 13	█			100
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores	█				1	53	█			103
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>53</b>				
							<b>Final MoldSCORE</b>			<b>103</b>

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21212001-1; Random sampling (R-4)

Date of Sampling: 12-31-2012  
 Date of Receipt: 12-31-2012  
 Date of Report: 01-02-2013

**MoldSCORE™: Spore Trap Report**

**Location:** 21212001-1TM25

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria	█				1	13	█			105
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium					ND	< 13	█			100
Curvularia					ND	< 13	█			100
Epicoccum	█				1	13	█			105
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores	█				1	53	█			101
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>80</b>				<b>Final MoldSCORE 110</b>

**Location:** 21212001-1TM26

Fungi Identified	Indoor sample spores/m3				Raw count	Spores/m3	MoldSCORE‡			
	<100	1K	10K	>100K			100	200	300	Score
<b>Generally able to grow indoors*</b>										
Alternaria					ND	< 13	█			100
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium					ND	< 13	█			100
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†					ND	< 13	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores					ND	< 13	█			100
Basidiospores					ND	< 13	█			100
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>N/A</b>				<b>Final MoldSCORE 100</b>

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Larry Sandhu  
Re: 21212001-1; Random sampling (R-4)

Date of Sampling: 12-31-2012  
Date of Receipt: 12-31-2012  
Date of Report: 01-02-2013

### **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.







