



# HYGIENETECH

Hygiene Technologies International, Inc.

3625 Del Amo Boulevard, Suite 180  
Torrance, California 90503-1643  
(310) 370-8370  
(310) 370-7026 FAX  
www.hygienetech.com

June 4, 2013

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

Document No. 21303001.1

Attention: David Gau

Regarding: Limited Fungal Growth Exposure Assessment Surveys  
March 2013 Random Sampling

Dear Mr. Gau:

On March 4, 11, 20, and 25, 2013, 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 Plus™ equipped with Air-O-Cell™ cassettes. All such samples were subsequently analyzed for fungi (including yeasts, molds, rusts, smuts, and mushrooms) by trained and experienced microbiologists at a laboratory accredited by the American Industrial Hygiene Association (AIHA) and that successfully participates in the AIHA Environmental Microbiology Proficiency Analytical Testing (EMPAT) Program. The airborne fungi assessment analytical data with supporting and background information appear in the enclosed table.

As presented in Table 21303001-1, the airborne spore count data recorded showed fungal spore types outdoors such as *Alternaria*, ascospores, basidiospores, *Bipolaris/Drechslera* group, *Cladosporium*, colorless spores typical of *Penicillium/Aspergillus* species, *Epicoccum*, *Oidium*, rusts, and/or smuts. In the indoor areas tested, the data showed that airborne fungal spores were either not detected at or above the laboratory detection limit indicated or were detected at low airborne concentrations. The fungal spore types found indoor included *Alternaria*, ascospores, basidiospores, *Cladosporium*, colorless spores typical of *Penicillium/Aspergillus* species, *Epicoccum*, 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

Mr. David Gau  
June 4, 2013  
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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.**

A handwritten signature in black ink, appearing to read "Kenny K. Hsi", is written over a horizontal line.

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 21303001-1  
AIRBORNE TOTAL FUNGI RESULTS  
450 N STREET  
SACRAMENTO, CALIFORNIA  
MARCH 4, 11, 20, AND 25, 2013

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

SAMPLE NUMBER	21303001-1 TM01OUT	21303001-1 TM02	21303001-1 TM03	21303001-1 TM04
<b>SAMPLING LOCATION/ACTIVITIES</b>	Outdoors; about 10 feet east of building; approximately five feet above ground/Normal outdoor activities	1 <sup>st</sup> Floor; Cafeteria; Café area; about center; approximately five feet above floor/Normal office activities	5 <sup>th</sup> Floor; southern hallway; about five feet south of Freight Elevator; approximately five feet above floor/Normal office activities	10 <sup>th</sup> Floor; Column J18 area; about three feet northwest of Column J18; approximately five feet above floor/Normal office activities
<b>DATE</b>	03/04/13	03/04/13	03/04/13	03/04/13
<b>START/STOP</b>	16:08:00/16:13:00	16:15:00/16:20:00	16:23:00/16:28:00	16:30:00/16:35:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria	13			
Ascospores				
Basidiospores	110			
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	2,100			
Curvularia				
Epicoccum				
Fusarium				
Nigrospora				
Oidium	13			
Other brown				
Other colorless				
Penicillium/Aspergillus types				
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)	13		53	
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Hyphal fragments	40	<13	27	13
Background debris*	1+	1+	2+	1+
<b>TOTAL**</b>	2,300	<13	53	<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.

# HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

# APPENDIX A



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**TABLE 21303001-1  
AIRBORNE TOTAL FUNGI RESULTS  
450 N STREET  
SACRAMENTO, CALIFORNIA  
MARCH 4, 11, 20, AND 25, 2013**

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

SAMPLE NUMBER	21303001-1 TM05	21303001-1 TM06	21303001-1 TM07	21303001-1 TM08OUT
<b>SAMPLING LOCATION/ACTIVITIES</b>	14 <sup>th</sup> Floor; western hallway; about center; approximately five feet above floor/Normal office activities	18 <sup>th</sup> Floor; Elevator Lobby; about center approximately five feet above floor/Normal office activities	20 <sup>th</sup> Floor; Column K21 area; about 15 feet northeast of Column K21; approximately five feet above floor/Normal office activities	Outdoors; about 10 feet south of building; approximately five feet above ground/Normal outdoor activities
<b>DATE</b>	03/04/13	03/04/13	03/04/13	03/11/13
<b>START/STOP</b>	16:37:00/16:42:00	16:44:00/16:49:00	16:52:00/16:57:00	14:23:00/14:28:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				
Ascospores				
Basidiospores			53	270
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	53			640
Curvularia				
Epicoccum			13	13
Fusarium				
Nigrospora				
Oidium				
Other brown				
Penicillium/Aspergillus types				
Pithomyces				
Rusts			13	
Smuts (Periconia, Myxomycetes)	13		13	80
Stachybotrys				
Stemphylium				
Torula				13
Trichocladium				
Ulocladium				
Hyphal fragments	13	<13	<13	27
Background debris*	2+	1+	2+	2+
<b>TOTAL**</b>	67	<13	93	1,000

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

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

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TABLE 21303001-1  
AIRBORNE TOTAL FUNGI RESULTS  
450 N STREET  
SACRAMENTO, CALIFORNIA  
MARCH 4, 11, 20, AND 25, 2013

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

SAMPLE NUMBER	21303001-1 TM09	21303001-1 TM10	21303001-1 TM11	21303001-1 TM12
<b>SAMPLING LOCATION/ACTIVITIES</b>	3 <sup>rd</sup> Floor; Room 311; northern portion; about five feet east of entry door; approximately five feet above floor/Normal office activities	6 <sup>th</sup> Floor; Room 6B; approximately five feet above floor/Normal office activities	9 <sup>th</sup> Floor; southeastern stairwell area; about center; approximately five feet above floor/Normal office activities	15 <sup>th</sup> Floor; Column N22 area; about seven feet southeast of Column N22; approximately five feet above floor/Normal office activities
<b>DATE</b>	03/11/13	03/11/13	03/11/13	03/11/13
<b>START/STOP</b>	14:34:00/14:39:00	14:44:00/14:49:00	14:51:00/14:56:00	14:59:00/15:04:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria				
Arthrinium				
Ascospores				
Basidiospores				110
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	110			270
Curvularia				
Epicoccum				
Fusarium				
Nigrospora				
Oidium				
Other brown				
Penicillium/Aspergillus types				
Pithomyces				
Rusts			13	
Smuts (Periconia, Myxomycetes)	13		13	
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Hyphal fragments	120	<13	<13	13
Background debris*	2+	1+	1+	2+
<b>TOTAL **</b>	120	<13	27	370

\*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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450 N STREET  
SACRAMENTO, CALIFORNIA  
MARCH 4, 11, 20, AND 25, 2013

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

SAMPLE NUMBER	21303001-1 TM13	21303001-1 TM14	21303001-1 TM15OUT	21303001-1 TM16
<b>SAMPLING LOCATION/ACTIVITIES</b>	18 <sup>th</sup> Floor; Men's Restroom; about center; approximately five feet above floor/Sampling activities only	21 <sup>st</sup> Floor; Elevator Lobby; about center; approximately five feet above floor/Normal office activities	Outdoors; about 15 feet east of the building; approximately five feet above ground/Normal outdoor activities	4 <sup>th</sup> Floor; Mail Room 4B; about center; approximately five feet above floor/Normal office activities
<b>DATE</b>	03/11/13	03/11/13	03/20/13	03/20/13
<b>START/STOP</b>	15:06:00/15:11:00	15:13:00/15:18:00	11:11:00/11:16:00	11:19:00/11:24:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria			13	
Arthrinium				
Ascospores			1,300	
Basidiospores	53	53	1,100	
Bipolaris/Drechslera group		13		
Botrytis				
Chaetomium				
Cladosporium			1,100	
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Oidium				
Other brown				
Penicillium/Aspergillus types			1,200	
Pithomyces				
Rusts		13		
Smuts (Periconia, Myxomycetes)		40	150	13
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Zygomycetes				
Hyphal fragments	<13	<13	<13	<13
Background debris*	1+	2+	1+	1+
<b>TOTAL **</b>	53	120	4,900	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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## Results reported in spores per cubic meter of air (spores/M<sup>3</sup>)

SAMPLE NUMBER	21303001-1 TM17	21303001-1 TM18	21303001-1 TM19	21303001-1 TM20
<b>SAMPLING LOCATION/ACTIVITIES</b>	7 <sup>th</sup> Floor; northern quadrant; adjacent to Quiet Room 705 entry door; approximately five feet above floor/Normal office activities	8 <sup>th</sup> Floor; southeastern stairwell area; about center; approximately five feet above floor/Normal office activities	16 <sup>th</sup> Floor; Elevator Lobby; about center; approximately five feet above floor/Normal office activities	24 <sup>th</sup> Floor; Room 2427; Cubicle 10; southern portion; about center; approximately five feet above floor/Normal office activities
<b>DATE</b>	03/20/13	03/20/13	03/20/13	03/20/13
<b>START/STOP</b>	11:29:00/11:34:00	11:36:00/11:41:00	11:43:00/11:48:00	11:51:00/11:56:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria		13		
Arthrinium				
Ascospores		320		
Basidiospores	53	530		
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium		320		
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Oidium				
Other brown				
Penicillium/Aspergillus types		110	110	53
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)	13			
Stachybotrys				
Torula				
Ulocladium				
Zygomycetes				
Hyphal fragments	27	13	13	<13
Background debris*	2+	1+	3+	1+
<b>TOTAL**</b>	67	1,300	110	110

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

SAMPLE NUMBER	21303001-1 TM21OUT	21303001-1 TM22	21303001-1 TM23	21303001-1 TM24
<b>SAMPLING LOCATION/ACTIVITIES</b>	Outdoors; about 15 feet east of the building; approximately five feet above ground/Normal outdoor activities	2 <sup>nd</sup> Floor; northwestern stairwell area; about center; approximately five feet above floor/Normal office activities	11 <sup>th</sup> Floor; Column K20 area; about seven west of Column K20; approximately five feet above floor/Normal office activities	17 <sup>th</sup> Floor; Quiet Room 1709; about five feet north of entry door; approximately five feet above floor/Normal office activities
<b>DATE</b>	03/26/13	03/26/13	03/26/13	03/26/13
<b>START/STOP</b>	13:46:00/13:51:00	13:55:00/14:00:00	14:05:00/14:10:00	14:17:00/14:22:00
<b>SAMPLE TIME</b>	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria	27			
Arthrinium				
Ascospores				
Basidiospores	370			
Bipolaris/Drechslera group	13			
Botrytis				
Chaetomium				
Cladosporium	3,100		370	53
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Oidium				
Other brown				
Penicillium/Aspergillus types				
Pithomyces				
Rusts				13
Smuts (Periconia, Myxomycetes)				27
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Hyphal fragments	27	<13	13	27
Background debris*	2+	1+	2+	2+
<b>TOTAL**</b>	3,500	<13	370	93

\*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

TABLE 21303001-1  
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450 N STREET  
SACRAMENTO, CALIFORNIA  
MARCH 4, 11, 20, AND 25, 2013

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

SAMPLE NUMBER	21303001-1 TM25	21303001-1 TM26		
SAMPLING LOCATION/ACTIVITIES	22 <sup>nd</sup> Floor; Column K22 area; at Cubicle 98 entry; approximately five feet above floor/Normal office activities	23 <sup>rd</sup> Floor; southeastern stairwell area; about center; approximately five feet above floor/Normal office activities	This column intentionally left blank.	This column intentionally left blank.
DATE	03/25/13	03/25/13		
START/STOP	14:26:00/14:31:00	14:33:00/14:38:00		
SAMPLE TIME	5 minutes	5 minutes		
Alternaria				
Arthrinium				
Ascospores				
Basidiospores				
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	53	53		
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Oidium				
Other brown				
Penicillium/Aspergillus types	53			
Pithomyces				
Rusts				
Smuts (Periconia, Myxomycetes)				
Stachybotrys				
Torula				
Ulocladium				
Zygomycetes				
Hyphal fragments	1+	4+		
Background debris*	<13	<13		
<b>TOTAL **</b>	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.



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: 21303001-1  
EML ID: 1034383

Approved by:

Lab Manager  
Malcolm Moody

Dates of Analysis:  
Spore trap analysis: 03-06-2013

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

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

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

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21303001-1

Date of Sampling: 03-04-2013  
 Date of Receipt: 03-05-2013  
 Date of Report: 03-06-2013

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

Location:	21303001-1 TM01OUT		21303001-1 TM02		21303001-1 TM03		21303001-1 TM04	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	4637965-1		4637966-1		4637967-1		4637968-1	
Analysis Date:	03/06/2013		03/06/2013		03/06/2013		03/06/2013	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria	1	13						
Ascospores								
Basidiospores	2	110						
Chaetomium								
Cladosporium	40	2,100						
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Oidium	1	13						
Other colorless								
Penicillium/Aspergillus types†								
Pithomyces								
Rusts								
Smuts, Periconia, Myxomycetes	1	13			4	53		
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	1+		1+		2+		1+	
Hyphal fragments/m3	40		< 13		27		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>2,300</b>		<b>&lt; 13</b>		<b>53</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: 21303001-1

Date of Sampling: 03-04-2013  
 Date of Receipt: 03-05-2013  
 Date of Report: 03-06-2013

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

Location:	21303001-1 TM05		21303001-1 TM06		21303001-1 TM07	
Comments (see below)	None		None		None	
Lab ID-Version‡:	4637969-1		4637970-1		4637971-1	
Analysis Date:	03/06/2013		03/06/2013		03/06/2013	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria						
Ascospores						
Basidiospores					1	53
Botrytis						
Chaetomium						
Cladosporium	1	53				
Curvularia						
Epicoccum					1	13
Fusarium						
Myrothecium						
Nigrospora						
Oidium						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts					1	13
Smuts, Periconia, Myxomycetes	1	13			1	13
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+		1+		2+	
Hyphal fragments/m3	13		< 13		< 13	
Pollen/m3	27		< 13		< 13	
Skin cells (1-4+)	1+		1+		1+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>67</b>		<b>&lt; 13</b>		<b>93</b>

**Comments:**

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.  
 † The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.  
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Client: Hygiene Technologies International, Inc.  
C/O: Mr. Larry Sandhu  
Re: 21303001-1

Date of Sampling: 03-04-2013  
Date of Receipt: 03-05-2013  
Date of Report: 03-06-2013

**MoldRANGE™: Extended Outdoor Comparison**  
**Outdoor Location: 21303001-1 TM01OUT**

Fungi Identified	Outdoor data	Typical Outdoor Data for: March in California (n‡=18776)†						Typical Outdoor Data for: The entire year in California (n‡=18814)†					
		very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
<b>Generally able to grow indoors*</b>													
Alternaria	13	13	13	27	53	82	46	13	13	27	67	110	54
Bipolaris/Drechslera group	-	7	13	13	27	40	8	7	13	13	27	40	12
Chaetomium	-	7	13	13	27	40	11	8	13	13	27	47	19
Cladosporium	2,100	80	160	400	1,100	1,700	95	110	210	630	1,700	2,800	97
Curvularia	-	7	13	13	27	40	2	7	13	13	27	53	6
Epicoccum	-	7	13	13	27	40	12	8	13	13	33	53	19
Nigrospora	-	7	10	13	13	27	4	7	13	13	27	53	8
Penicillium/Aspergillus types	-	53	53	160	430	690	80	53	100	210	590	1,000	85
Stachybotrys	-	7	13	13	27	59	3	7	13	13	33	67	4
Torula	-	8	13	13	40	67	8	8	13	13	40	67	12
<b>Seldom found growing indoors**</b>													
Ascospores	-	27	53	160	480	830	79	25	53	110	360	690	71
Basidiospores	110	67	130	450	1,500	2,800	96	53	80	270	1,000	2,400	93
Oidium	13	13	13	17	53	80	22	13	13	13	40	75	19
Rusts	-	13	13	13	40	80	23	13	13	13	53	80	27
Smuts, Periconia, Myxomycetes	13	13	13	27	67	110	54	13	13	40	110	200	68
<b>§ TOTAL SPORES/m3</b>	2,300												

†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: 21303001-1

Date of Sampling: 03-04-2013  
 Date of Receipt: 03-05-2013  
 Date of Report: 03-06-2013

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

**Outdoor Summary: 21303001-1 TM01OUT:**

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %
	<100	1K	10K	>100K		
Alternaria				13	7 - 33 - 570	46
Ascospores				<13	13 - 190 - 5,400	77
Basidiospores				110	13 - 430 - 22,000	92
Cladosporium				2,100	27 - 480 - 10,000	91
Oidium				13	7 - 13 - 230	12
Penicillium/Aspergillus types				<13	13 - 160 - 2,700	69
Smuts, Periconia, Myxomycetes				13	7 - 47 - 970	64
<b>Total</b>				2,300		

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of 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: 21303001-1 TM02**

% 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: 5 Result: 6.0000 Critical value: 11.0705 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>		
<b>None Detected</b>		<100	1K	10K
				>100K
				< 13

**Location: 21303001-1 TM03**

% 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: 5 Result: 6.0000 Critical value: 11.0705 Inside Similar: Yes	Result: 0.3333	dF: 5 Result: 0.1000 Critical value: 0.8000 Outside Similar: No	Score: 111 Result: Low
<b>Species Detected</b>		<b>Spores/m3</b>		
<b>Smuts, Periconia, Myxomycetes</b>		<100	1K	10K
				>100K
				53
<b>Total</b>				53

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21303001-1

Date of Sampling: 03-04-2013  
 Date of Receipt: 03-05-2013  
 Date of Report: 03-06-2013

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

**Location:** 21303001-1 TM04

% 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: 5 Result: 6.0000 Critical value: 11.0705 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:** 21303001-1 TM05

% 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: 5 Result: 6.0000 Critical value: 11.0705 Inside Similar: Yes	Result: 0.5714	dF: 5 Result: 0.6000 Critical value: 0.8000 Outside Similar: No	Score: 103 Result: Low	
<b>Species Detected</b>		<b>Spores/m3</b>			
		<100	1K	10K	>100K
Cladosporium					53
Smuts, Periconia, Myxomycetes					13
<b>Total</b>					67

**Location:** 21303001-1 TM06

% 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: 5 Result: 6.0000 Critical value: 11.0705 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

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21303001-1

Date of Sampling: 03-04-2013  
 Date of Receipt: 03-05-2013  
 Date of Report: 03-06-2013

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

**Location:** 21303001-1 TM07

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 4%	dF: 5 Result: 6.0000 Critical value: 11.0705 Inside Similar: Yes	Result: 0.4444	dF: 7 Result: -0.0625 Critical value: 0.6786 Outside Similar: No	Score: 108 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Basidiospores					53
Epicoccum					13
Rusts					13
Smuts, Periconia, Myxomycetes					13
<b>Total</b>					93

\* 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.

\*\*\*\* 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: 21303001-1

Date of Sampling: 03-04-2013  
 Date of Receipt: 03-05-2013  
 Date of Report: 03-06-2013

**MoldSCORE™: Spore Trap Report**

**Location:** 21303001-1 TM03

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	█				4	53	█			111
<b>Total</b>						<b>53</b>				<b>Final MoldSCORE 111</b>

**Location:** 21303001-1 TM04

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: 21303001-1

Date of Sampling: 03-04-2013  
 Date of Receipt: 03-05-2013  
 Date of Report: 03-06-2013

**MoldSCORE™: Spore Trap Report**

**Location:** 21303001-1 TM05

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				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					1	13				103
<b>Total</b>						<b>67</b>				<b>Final MoldSCORE 103</b>

**Location:** 21303001-1 TM06

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: 21303001-1

Date of Sampling: 03-04-2013  
 Date of Receipt: 03-05-2013  
 Date of Report: 03-06-2013

**MoldSCORE™: Spore Trap Report**

**Location:** 21303001-1 TM07

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
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	█			105
Rusts	█				1	13	█			105
Smuts, Periconia, Myxomycetes	█				1	13	█			102
<b>Total</b>						<b>93</b>				<b>Final MoldSCORE 108</b>

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

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Regarding: Project: 21303001-1  
EML ID: 1036709

Approved by:

Lab Manager  
Malcolm Moody

Dates of Analysis:  
Spore trap analysis: 03-13-2013

Service SOPs: Spore trap analysis (1038 (previously I100000 and I100007))  
AIHA-LAP, LLC accredited service, Lab ID #179768

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

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

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21303001-1

Date of Sampling: 03-11-2013  
 Date of Receipt: 03-12-2013  
 Date of Report: 03-13-2013

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

Location:	21303001-1 TM08OUT		21303001-1 TM09		21303001-1 TM10		21303001-1 TM11	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	4649895-1		4649896-1		4649897-1		4649898-1	
Analysis Date:	03/13/2013		03/13/2013		03/13/2013		03/13/2013	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores								
Basidiospores	5	270						
Bipolaris/Drechslera group								
Botrytis								
Chaetomium								
Cladosporium	12	640	2	110				
Curvularia								
Epicoccum	1	13						
Fusarium								
Myrothecium								
Nigrospora								
Other colorless								
Penicillium/Aspergillus types†								
Pithomyces								
Rusts							1	13
Smuts, Periconia, Myxomycetes	6	80	1	13			1	13
Stachybotrys								
Stemphylium								
Torula	1	13						
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	2+		2+		1+		1+	
Hyphal fragments/m3	27		120		< 13		< 13	
Pollen/m3	310		27		< 13		< 13	
Skin cells (1-4+)	1+		1+		< 1+		1+	
Sample volume (liters)	75		75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>1,000</b>		<b>120</b>		<b>&lt; 13</b>		<b>27</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: 21303001-1

Date of Sampling: 03-11-2013  
 Date of Receipt: 03-12-2013  
 Date of Report: 03-13-2013

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

Location:	21303001-1 TM12		21303001-1 TM13		21303001-1 TM14	
Comments (see below)	None		None		None	
Lab ID-Version‡:	4649899-1		4649900-1		4649901-1	
Analysis Date:	03/13/2013		03/13/2013		03/13/2013	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores						
Aureobasidium						
Basidiospores	2	110	1	53	1	53
Bipolaris/Drechslera group					1	13
Botrytis						
Chaetomium						
Cladosporium	5	270				
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts					1	13
Smuts, Periconia, Myxomycetes					3	40
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+		1+		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>370</b>		<b>53</b>		<b>120</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: 21303001-1

Date of Sampling: 03-11-2013  
Date of Receipt: 03-12-2013  
Date of Report: 03-13-2013

**MoldRANGE™: Extended Outdoor Comparison**  
**Outdoor Location: 21303001-1 TM08OUT**

Fungi Identified	Outdoor data	Typical Outdoor Data for: March in California (n‡=18776)†						Typical Outdoor Data for: The entire year in California (n‡=188141)†					
		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	82	46	13	13	27	67	110	54
Bipolaris/Drechslera group	-	7	13	13	27	40	8	7	13	13	27	40	12
Chaetomium	-	7	13	13	27	40	11	8	13	13	27	47	19
Cladosporium	640	80	160	400	1,100	1,700	95	110	210	630	1,700	2,800	97
Curvularia	-	7	13	13	27	40	2	7	13	13	27	53	6
Epicoccum	13	7	13	13	27	40	12	8	13	13	33	53	19
Nigrospora	-	7	10	13	13	27	4	7	13	13	27	53	8
Penicillium/Aspergillus types	-	53	53	160	430	690	80	53	100	210	590	1,000	85
Stachybotrys	-	7	13	13	27	59	3	7	13	13	33	67	4
Torula	13	8	13	13	40	67	8	8	13	13	40	67	12
<b>Seldom found growing indoors**</b>													
Ascospores	-	27	53	160	480	830	79	25	53	110	360	690	71
Basidiospores	270	67	130	450	1,500	2,800	96	53	80	270	1,000	2,400	93
Rusts	-	13	13	13	40	80	23	13	13	13	53	80	27
Smuts, Periconia, Myxomycetes	80	13	13	27	67	110	54	13	13	40	110	200	68
<b>§ TOTAL SPORES/m3</b>	<b>1,000</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: 21303001-1

Date of Sampling: 03-11-2013  
 Date of Receipt: 03-12-2013  
 Date of Report: 03-13-2013

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

**Outdoor Summary: 21303001-1 TM08OUT:**

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %	
	<100	1K	10K	>100K			
Ascospores					< 13	13 - 190 - 5,400	76
Basidiospores					270	13 - 430 - 22,000	92
Cladosporium					640	27 - 480 - 10,000	91
Epicoccum					13	7 - 20 - 330	25
Penicillium/Aspergillus types					< 13	13 - 160 - 2,700	69
Smuts, Periconia, Myxomycetes					80	7 - 50 - 970	64
Torula					13	7 - 13 - 170	9
<b>Total</b>					1,000		

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

**Indoor Samples**

**Location: 21303001-1 TM09**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 12%	dF: 5 Result: 5.2857 Critical value: 11.0705 Inside Similar: Yes	Result: 0.5714	dF: 5 Result: 0.7250 Critical value: 0.8000 Outside Similar: No	Score: 105 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Cladosporium					
Smuts, Periconia, Myxomycetes					
<b>Total</b>					

**Location: 21303001-1 TM10**

% 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: 5 Result: 5.2857 Critical value: 11.0705 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>					

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21303001-1

Date of Sampling: 03-11-2013  
 Date of Receipt: 03-12-2013  
 Date of Report: 03-13-2013

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

**Location: 21303001-1 TM11**

% 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: 5 Result: 5.2857 Critical value: 11.0705 Inside Similar: Yes	Result: 0.2857	dF: 6 Result: -0.1714 Critical value: 0.7714 Outside Similar: No	Score: 102 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Rusts					13
Smuts, Periconia, Myxomycetes					13
<b>Total</b>					27

**Location: 21303001-1 TM12**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 37%	dF: 5 Result: 5.2857 Critical value: 11.0705 Inside Similar: Yes	Result: 0.5714	dF: 5 Result: 0.9250 Critical value: 0.8000 Outside Similar: Yes	Score: 109 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Basidiospores					110
Cladosporium					270
<b>Total</b>					370

**Location: 21303001-1 TM13**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 5%	dF: 5 Result: 5.2857 Critical value: 11.0705 Inside Similar: Yes	Result: 0.3333	dF: 5 Result: 0.5250 Critical value: 0.8000 Outside Similar: No	Score: 105 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Basidiospores					53
<b>Total</b>					53

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21303001-1

Date of Sampling: 03-11-2013  
 Date of Receipt: 03-12-2013  
 Date of Report: 03-13-2013

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

**Location:** 21303001-1 TM14

<b>% of outdoor total spores/m3</b>	<b>Friedman chi-square* (indoor variation)</b>	<b>Agreement ratio** (indoor/outdoor)</b>	<b>Spearman rank correlation*** (indoor/outdoor)</b>	<b>MoldSCORE**** (indoor/outdoor)</b>	
Result: 11%	dF: 5 Result: 5.2857 Critical value: 11.0705 Inside Similar: Yes	Result: 0.4444	dF: 7 Result: 0.1161 Critical value: 0.6786 Outside Similar: No	Score: 112 Result: Low	
<b>Species Detected</b>		<b>Spores/m3</b>			
		<100	1K	10K	>100K
Basidiospores					53
Bipolaris/Drechslera group					13
Rusts					13
Smuts, Periconia, Myxomycetes					40
<b>Total</b>					120

\* 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.

\*\*\*\* 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: 21303001-1

Date of Sampling: 03-11-2013  
 Date of Receipt: 03-12-2013  
 Date of Report: 03-13-2013

**MoldSCORE™: Spore Trap Report**

**Location:** 21303001-1 TM10

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>

**Location:** 21303001-1 TM11

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					1	13	█			105
Smuts, Periconia, Myxomycetes					1	13	█			102
<b>Total</b>						<b>27</b>				
							<b>Final MoldSCORE</b>			<b>102</b>

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21303001-1

Date of Sampling: 03-11-2013  
 Date of Receipt: 03-12-2013  
 Date of Report: 03-13-2013

**MoldSCORE™: Spore Trap Report**

**Location:** 21303001-1 TM12

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	█				5	270	█			110
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	█			106
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>373</b>				<b>Final MoldSCORE 110</b>

**Location:** 21303001-1 TM13

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	█			105
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>53</b>				<b>Final MoldSCORE 105</b>

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Larry Sandhu  
 Re: 21303001-1

Date of Sampling: 03-11-2013  
 Date of Receipt: 03-12-2013  
 Date of Report: 03-13-2013

**MoldSCORE™: Spore Trap Report**

**Location:** 21303001-1 TM14

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	█				1	13	█			105
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	█			104
Rusts					1	13	█			105
Smuts, Periconia, Myxomycetes	█				3	40	█			107
<b>Total</b>						<b>120</b>	<b>Final MoldSCORE 112</b>			

\*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: 21303001-1  
EML ID: 1040450

Approved by:

Lab Manager  
Malcolm Moody

Dates of Analysis:  
Spore trap analysis: 03-21-2013

Service SOPs: Spore trap analysis (1038 (previously I100000 and I100007))  
AIHA-LAP, LLC accredited service, Lab ID #179768

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

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

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21303001-1

Date of Sampling: 03-20-2013  
 Date of Receipt: 03-20-2013  
 Date of Report: 03-21-2013

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

Location:	21303001-1 TM 15OUT		21303001-1 TM 16		21303001-1 TM 17	
Comments (see below)	None		None		None	
Lab ID-Version‡:	4669186-1		4669187-1		4669188-1	
Analysis Date:	03/21/2013		03/21/2013		03/21/2013	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria	1	13				
Ascospores	24	1,300				
Basidiospores	21	1,100			1	53
Botrytis						
Chaetomium						
Cladosporium	21	1,100				
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†	23	1,200				
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes	11	150	1	13	1	13
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+		1+		2+	
Hyphal fragments/m3	< 13		< 13		27	
Pollen/m3	600		< 13		67	
Skin cells (1-4+)	< 1+		< 1+		1+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>4,900</b>		<b>13</b>		<b>67</b>

**Comments:**

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

The analytical sensitivity is the spores/m3 divided by the raw count. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

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

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21303001-1

Date of Sampling: 03-20-2013  
 Date of Receipt: 03-20-2013  
 Date of Report: 03-21-2013

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

Location:	21303001-1 TM 18		21303001-1 TM 19		21303001-1 TM 20	
Comments (see below)	None		None		None	
Lab ID-Version‡:	4669189-1		4669190-1		4669191-1	
Analysis Date:	03/21/2013		03/21/2013		03/21/2013	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria	1	13				
Ascospores	6	320				
Basidiospores	10	530			1	53
Botrytis						
Chaetomium						
Cladosporium	6	320				
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†	2	110	2	110	1	53
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+		3+		1+	
Hyphal fragments/m3	13		13		< 13	
Pollen/m3	27		< 13		< 13	
Skin cells (1-4+)	< 1+		1+		1+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>1,300</b>		<b>110</b>		<b>110</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: 21303001-1

Date of Sampling: 03-20-2013  
Date of Receipt: 03-20-2013  
Date of Report: 03-21-2013

**MoldRANGE™: Extended Outdoor Comparison**  
**Outdoor Location: 21303001-1 TM 15OUT**

Fungi Identified	Outdoor data	Typical Outdoor Data for: March in California (n‡=18776)†						Typical Outdoor Data for: The entire year in California (n‡=188141)†					
		very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
<b>Generally able to grow indoors*</b>													
Alternaria	13	13	13	27	53	82	46	13	13	27	67	110	54
Bipolaris/Drechslera group	-	7	13	13	27	40	8	7	13	13	27	40	12
Chaetomium	-	7	13	13	27	40	11	8	13	13	27	47	19
Cladosporium	1,100	80	160	400	1,100	1,700	95	110	210	630	1,700	2,800	97
Curvularia	-	7	13	13	27	40	2	7	13	13	27	53	6
Nigrospora	-	7	10	13	13	27	4	7	13	13	27	53	8
Penicillium/Aspergillus types	1,200	53	53	160	430	690	80	53	100	210	590	1,000	85
Stachybotrys	-	7	13	13	27	59	3	7	13	13	33	67	4
Torula	-	8	13	13	40	67	8	8	13	13	40	67	12
<b>Seldom found growing indoors**</b>													
Ascospores	1,300	27	53	160	480	830	79	25	53	110	360	690	71
Basidiospores	1,100	67	130	450	1,500	2,800	96	53	80	270	1,000	2,400	93
Rusts	-	13	13	13	40	80	23	13	13	13	53	80	27
Smuts, Periconia, Myxomycetes	150	13	13	27	67	110	54	13	13	40	110	200	68
<b>§ TOTAL SPORES/m3</b>	<b>4,900</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: 21303001-1

Date of Sampling: 03-20-2013  
 Date of Receipt: 03-20-2013  
 Date of Report: 03-21-2013

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

**Outdoor Summary: 21303001-1 TM 15OUT:**

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %
	<100	1K	10K	>100K		
Alternaria				13	7 - 33 - 570	46
Ascospores				1,300	13 - 190 - 5,400	76
Basidiospores				1,100	13 - 430 - 22,000	92
Cladosporium				1,100	27 - 480 - 10,000	91
Penicillium/Aspergillus types				1,200	13 - 160 - 2,700	69
Smuts, Periconia, Myxomycetes				150	7 - 50 - 970	64
<b>Total</b>				4,900		

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: 21303001-1 TM 16**

% 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: 6.1667 Critical value: 9.4877 Inside Similar: Yes	Result: 0.2857	dF: 6 Result: 0.0429 Critical value: 0.7714 Outside Similar: No	Score: 103 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
	Smuts, Periconia, Myxomycetes				13
	<b>Total</b>				13

**Location: 21303001-1 TM 17**

% 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: 6.1667 Critical value: 9.4877 Inside Similar: Yes	Result: 0.5000	dF: 6 Result: -0.0571 Critical value: 0.7714 Outside Similar: No	Score: 104 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
	Basidiospores				53
	Smuts, Periconia, Myxomycetes				13
	<b>Total</b>				67

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21303001-1

Date of Sampling: 03-20-2013  
 Date of Receipt: 03-20-2013  
 Date of Report: 03-21-2013

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

**Location: 21303001-1 TM 18**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 26%	dF: 4 Result: 6.1667 Critical value: 9.4877 Inside Similar: Yes	Result: 0.9091	dF: 6 Result: 0.5571 Critical value: 0.7714 Outside Similar: No	Score: 125 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Alternaria					13
Ascospores					320
Basidiospores					530
Cladosporium					320
Penicillium/Aspergillus types					110
<b>Total</b>					1,300

**Location: 21303001-1 TM 19**

% 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: 6.1667 Critical value: 9.4877 Inside Similar: Yes	Result: 0.2857	dF: 6 Result: 0.5571 Critical value: 0.7714 Outside Similar: No	Score: 113 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Penicillium/Aspergillus types					110
<b>Total</b>					110

**Location: 21303001-1 TM 20**

% 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: 6.1667 Critical value: 9.4877 Inside Similar: Yes	Result: 0.5000	dF: 6 Result: 0.4286 Critical value: 0.7714 Outside Similar: No	Score: 104 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Basidiospores					53
Penicillium/Aspergillus types					53
<b>Total</b>					110

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
Re: 21303001-1

Date of Sampling: 03-20-2013  
Date of Receipt: 03-20-2013  
Date of Report: 03-21-2013

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

\* 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.

\*\*\*\* 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: 21303001-1

Date of Sampling: 03-20-2013  
 Date of Receipt: 03-20-2013  
 Date of Report: 03-21-2013

**MoldSCORE™: Spore Trap Report**

**Location:** 21303001-1 TM 17

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	█			104
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes	█				1	13	█			102
<b>Total</b>						<b>67</b>				<b>Final MoldSCORE 104</b>

**Location:** 21303001-1 TM 18

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	█			104
Bipolaris/Drechslera group					ND	< 13	█			100
Chaetomium					ND	< 13	█			100
Cladosporium	█	█			6	320	█			102
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†	█				2	110	█			100
Stachybotrys					ND	< 13	█			100
Torula					ND	< 13	█			100
<b>Seldom found growing indoors**</b>										
Ascospores	█	█			6	320	█			100
Basidiospores	█	█	█		10	530	█	█		125
Rusts					ND	< 13	█			100
Smuts, Periconia, Myxomycetes					ND	< 13	█			100
<b>Total</b>						<b>1,293</b>				<b>Final MoldSCORE 125</b>

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21303001-1

Date of Sampling: 03-20-2013  
 Date of Receipt: 03-20-2013  
 Date of Report: 03-21-2013

**MoldSCORE™: Spore Trap Report**

**Location:** 21303001-1 TM 19

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†	█				2	110				113
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>107</b>				<b>Final MoldSCORE 113</b>

**Location:** 21303001-1 TM 20

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†	█				1	53				104
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>107</b>				<b>Final MoldSCORE 104</b>

Client: Hygiene Technologies International, Inc.  
C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
Re: 21303001-1

Date of Sampling: 03-20-2013  
Date of Receipt: 03-20-2013  
Date of Report: 03-21-2013

### **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.



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: 21303001-1  
EML ID: 1042448

Approved by:

Lab Manager  
Malcolm Moody

Dates of Analysis:  
Spore trap analysis: 03-26-2013

Service SOPs: Spore trap analysis (1038 (previously I100000 and I100007))  
AIHA-LAP, LLC accredited service, Lab ID #179768

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

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

Client: Hygiene Technologies International, Inc.  
 C/O: Mr. Kenny Hsi, Mr. Larry Sandhu  
 Re: 21303001-1

Date of Sampling: 03-25-2013  
 Date of Receipt: 03-26-2013  
 Date of Report: 03-27-2013

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

Location:	21303001-1 TM21OUT		21303001-1 TM22		21303001-1 TM23	
Comments (see below)	None		None		None	
Lab ID-Version‡:	4681307-1		4681308-1		4681309-1	
Analysis Date:	03/26/2013		03/26/2013		03/26/2013	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria	2	27				
Ascospores						
Basidiospores	7	370				
Bipolaris/Drechslera group	1	13				
Botrytis						
Chaetomium						
Cladosporium	58	3,100			7	370
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+		1+		2+	
Hyphal fragments/m3	27		< 13		13	
Pollen/m3	2,100		27		40	
Skin cells (1-4+)	< 1+		1+		1+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>3,500</b>		<b>&lt; 13</b>		<b>370</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: 21303001-1

Date of Sampling: 03-25-2013  
Date of Receipt: 03-26-2013  
Date of Report: 03-27-2013

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

Location:	21303001-1 TM24		21303001-1 TM25		21303001-1 TM26	
Comments (see below)	None		None		None	
Lab ID-Version‡:	4681310-1		4681311-1		4681312-1	
Analysis Date:	03/26/2013		03/26/2013		03/26/2013	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria						
Ascospores						
Basidiospores						
Bipolaris/Drechslera group						
Botrytis						
Chaetomium						
Cladosporium	1	53	1	53	1	53
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†			1	53		
Pithomyces						
Rusts	1	13				
Smuts, Periconia, Myxomycetes	2	27				
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+		1+		4+	
Hyphal fragments/m3	27		< 13		< 13	
Pollen/m3	< 13		< 13		27	
Skin cells (1-4+)	1+		< 1+		1+	
Sample volume (liters)	75		75		75	
<b>§ TOTAL SPORES/m3</b>		<b>93</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: 21303001-1

Date of Sampling: 03-25-2013  
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Date of Report: 03-27-2013

**MoldRANGE™: Extended Outdoor Comparison**  
**Outdoor Location: 21303001-1 TM21OUT**

Fungi Identified	Outdoor data	Typical Outdoor Data for: March in California (n‡=18776)†						Typical Outdoor Data for: The entire year in California (n‡=18814)†					
		very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
<b>Generally able to grow indoors*</b>													
Alternaria	27	13	13	27	53	82	46	13	13	27	67	110	54
Bipolaris/Drechslera group	13	7	13	13	27	40	8	7	13	13	27	40	12
Chaetomium	-	7	13	13	27	40	11	8	13	13	27	47	19
Cladosporium	3,100	80	160	400	1,100	1,700	95	110	210	630	1,700	2,800	97
Curvularia	-	7	13	13	27	40	2	7	13	13	27	53	6
Nigrospora	-	7	10	13	13	27	4	7	13	13	27	53	8
Penicillium/Aspergillus types	-	53	53	160	430	690	80	53	100	210	590	1,000	85
Stachybotrys	-	7	13	13	27	59	3	7	13	13	33	67	4
Torula	-	8	13	13	40	67	8	8	13	13	40	67	12
<b>Seldom found growing indoors**</b>													
Ascospores	-	27	53	160	480	830	79	25	53	110	360	690	71
Basidiospores	370	67	130	450	1,500	2,800	96	53	80	270	1,000	2,400	93
Rusts	-	13	13	13	40	80	23	13	13	13	53	80	27
Smuts, Periconia, Myxomycetes	-	13	13	27	67	110	54	13	13	40	110	200	68
<b>§ TOTAL SPORES/m3</b>	<b>3,500</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.

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

**Outdoor Summary: 21303001-1 TM21OUT:**

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %
	<100	1K	10K	>100K		
Alternaria				27	7 - 33 - 570	46
Ascospores				<13	13 - 190 - 5,400	76
Basidiospores				370	13 - 430 - 22,000	92
Bipolaris/Drechslera group				13	7 - 13 - 240	16
Cladosporium				3,100	27 - 480 - 10,000	91
Penicillium/Aspergillus types				<13	13 - 160 - 2,700	69
Smuts, Periconia, Myxomycetes				<13	7 - 50 - 970	64
<b>Total</b>				<b>3,500</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: 21303001-1 TM22**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 4 Result: 2.8000 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>		
<b>None Detected</b>		<100	1K	10K
				>100K
				< 13

**Location: 21303001-1 TM23**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 10%	dF: 4 Result: 2.8000 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
<b>Species Detected</b>		<b>Spores/m3</b>		
		<100	1K	10K
				>100K
Cladosporium				370
<b>Total</b>				<b>370</b>

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

**Location: 21303001-1 TM24**

% 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: 2.8000 Critical value: 9.4877 Inside Similar: Yes	Result: 0.2857	dF: 6 Result: 0.0714 Critical value: 0.7714 Outside Similar: No	Score: 105 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Cladosporium					53
Rusts					13
Smuts, Periconia, Myxomycetes					27
<b>Total</b>					<b>93</b>

**Location: 21303001-1 TM25**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 3%	dF: 4 Result: 2.8000 Critical value: 9.4877 Inside Similar: Yes	Result: 0.3333	dF: 5 Result: 0.1250 Critical value: 0.8000 Outside Similar: No	Score: 108 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Cladosporium					53
Penicillium/Aspergillus types					53
<b>Total</b>					<b>110</b>

**Location: 21303001-1 TM26**

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 1%	dF: 4 Result: 2.8000 Critical value: 9.4877 Inside Similar: Yes	Result: 0.4000	dF: 4 Result: 0.8000 Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low	
Species Detected		Spores/m3			
		<100	1K	10K	>100K
Cladosporium					53
<b>Total</b>					<b>53</b>

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

\* 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.

\*\*\*\* 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.



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**MoldSCORE™: Spore Trap Report**

**Location:** 21303001-1 TM23

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	■	■			7	370				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>373</b>				<b>Final MoldSCORE 103</b>

**Location:** 21303001-1 TM24

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				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	■				1	13				105
Smuts, Periconia, Myxomycetes	■				2	27				105
<b>Total</b>						<b>93</b>				<b>Final MoldSCORE 105</b>

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**MoldSCORE™: Spore Trap Report**

**Location:** 21303001-1 TM25

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	█			100
Curvularia					ND	< 13	█			100
Nigrospora					ND	< 13	█			100
Penicillium/Aspergillus types†	█				1	53	█			108
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>107</b>				
							<b>Final MoldSCORE</b>			<b>108</b>

**Location:** 21303001-1 TM26

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	█			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>53</b>				
							<b>Final MoldSCORE</b>			<b>100</b>

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### **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.







