



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

March 10, 2015

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

Document No. 21503001.3

Attention: Vince Paul

Regarding: 2nd Floor – Western Electrical Closet

Dear Mr. Paul:

On the evening of January 24, 2015, Hygiene Technologies International, Inc. (HygieneTech) was informed of a water leak that had reportedly occurred on the 2nd Floor of the California State Board of Equalization (BOE) headquarters building. Shortly following the notification, Lakhpreet Sandhu, Industrial Hygienist, visited the 2nd Floor to document the general conditions and response activities. Upon arrival at the site, HygieneTech met with building personnel and inspected the affected areas, which included the western electrical closet area. The source of the water leak was determined to be a failure of the HVAC system flex hose at the Column L23 area. Documentation of general conditions and additional response activities in the western electrical closet were performed on subsequent days following the initial incident. On March 9, 2015, HygieneTech was informed that some level of encapsulation or paint had been applied to the lower portions of walls within the 2nd Floor western electrical closet.

During the follow up inspection, prior removal of sections of the cove base was observed at the eastern partition core wall and an encapsulant or paint had been applied to the lower portion of the gypsum board wall materials in the areas where the cove base was either fully or partially removed/detached (Photos 8, 9 and 10). Please note that at the time of all the inspection in the western electrical closet, there was no signs of fungal growth observed on any of the accessible building materials and no odors characteristic of fungal growth were detected.

With the use of a GE Protimeter Mini[®] BLD2000 moisture indicator, moisture content assessments were conducted in the water intrusion affected areas of the western electrical closet. Generally, moisture level readings of up to 12 (percent scale relative to wood substrate) are considered *background* or *dry*, while moisture level readings between 15 and 20 are considered *moist*, and moisture level readings above 20 are considered *wet*. At the time of the inspection on March 9, 2015, the sections of the eastern partition core wall of the western electrical closet showing signs of prior encapsulation was found in dry condition (Photos 11 and 12).

Additionally, an air sample was collected near the entry door area of the western electrical closet and one air sample was collected at an outdoor location for comparison purposes. Air samples were collected for total (viable and nonviable) fungi analyses using a Zefon brand Bio-Pump plus[™] equipped with Air-O-



Cell™ cassettes. All such samples were subsequently analyzed for fungi (including yeasts, molds, rusts, smuts, and mushrooms) by trained and experienced microbiologists at a laboratory accredited by the American Industrial Hygiene Association (AIHA) and that successfully participates in the AIHA Environmental Microbiology Proficiency Analytical Testing (EMPAT) Program.

As presented in Table 21503001-3, the airborne spore count data recorded on the survey date showed fungal spore types outdoors, such as ascospores, basidiospores, *Chaetomium*, *Cladosporium*, *Nigrospora*, *Oidium*, colorless spore typical of *Penicillium* and *Aspergillus* species, rust, smuts, and *Stachybotrys*. In the indoor area tested, the datum showed that airborne fungal spores were not detected at or above the laboratory detection limit indicated. These data are considered unremarkable and are not believed to pose a health risk beyond that posed by the outdoor environment where exposures to airborne fungi are expected.

Be advised that the data provided with this correspondence only represent fungal growth potentials that existed at the time these inspections were performed and at the precise locations only, the latter of which were selected based on the available background information provided, and that fungal growth and exposure potentials may change due to changes in environmental conditions, such as those caused by water intrusion, use of mechanical systems, or other factors. Also be advised that, while no evidence of fungal growth was seen at the time of the surveys, fungal growth may exist at one or more locations in the structure that were not specifically assessed during the inspections.

If you have any comments or questions regarding the information contained in this correspondence, please feel free to contact our offices directly at (310) 370-8370.

Sincerely,

HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

Technical Director

HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

APPENDIX A



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

TABLE 21503001-3
AIRBORNE TOTAL FUNGI RESULTS
2ND FLOOR
450 N STREET
SACRAMENTO, CALIFORNIA
MARCH 9, 2015

Results reported in spores per cubic meter of air (spores/M³)

SAMPLE NUMBER	21503001-3 TM01	21503001-3 TM02OUT		
SAMPLING LOCATION/ACTIVITIES	2 nd Floor; area between Column L22 and M22; adjacent to central entry door of western electrical closet; approximately five feet above floor/Normal office activities	Outdoors; about 20 feet northeast of main entry door of the building; approximately five feet above ground/Normal outdoor activities	This column intentionally left blank	This column intentionally left blank
START/STOP	10:16:00/10:21:00	10:27:00/10:32:00		
SAMPLE TIME	5 minutes	5 minutes		
Alternaria		370		
Ascospores		590		
Basidiospores				
Botrytis				
Chaetomium		13		
Cladosporium		1,100		
Curvularia				
Epicoccum				
Myrothecium				
Nigrospora		13		
Oidium		40		
Other brown				
Other colorless				
Penicillium/Aspergillus types		53		
Pithomyces				
Rusts		13		
Smuts (Periconia, Myxomycetes)		67		
Stachybotrys		13		
Torula				
Ulocladium				
Zygomycetes				
Hyphal fragments	<13	67		
Background debris*	2+	3+		
TOTAL**	<13	2,300		

*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.



1



Date	Address	Photo Location – Description	Up
01/24/15	450 N Street Sacramento, California	2 nd Floor; Column L22 area; looking east; showing water accumulation on the concrete floor in the central portion of the western electrical closet	↑

2



Date	Address	Photo Location – Description	Up
01/24/15	450 N Street Sacramento, California	2 nd Floor; western electrical closet; central portion; looking down; showing water accumulation on the concrete floor	↑



3



Date	Address	Photo Location – Description	Up
01/24/15	450 N Street Sacramento, California	2 nd Floor; Column L22 area; looking northeast; general view of central portion of western electrical closet area; following initial response activities	↑

4



Date	Address	Photo Location – Description	Up
01/25/15	450 N Street Sacramento, California	2 nd Floor; area between Column L22 and M22; looking northeast; showing dehumidification activities in progress in an area adjacent to the western electrical closet	↑



5



Date	Address	Photo Location – Description	Up
01/26/15	450 N Street Sacramento, California	2 nd Floor; western electrical closet; central portion; looking east and down; general view of area; showing dehumidification activities in progress	↑

6



Date	Address	Photo Location – Description	Up
01/26/15	450 N Street Sacramento, California	2 nd Floor; western electrical closet; central portion; looking west and down; general view of area; showing prior removal of gypsum board material at western partition wall	↑

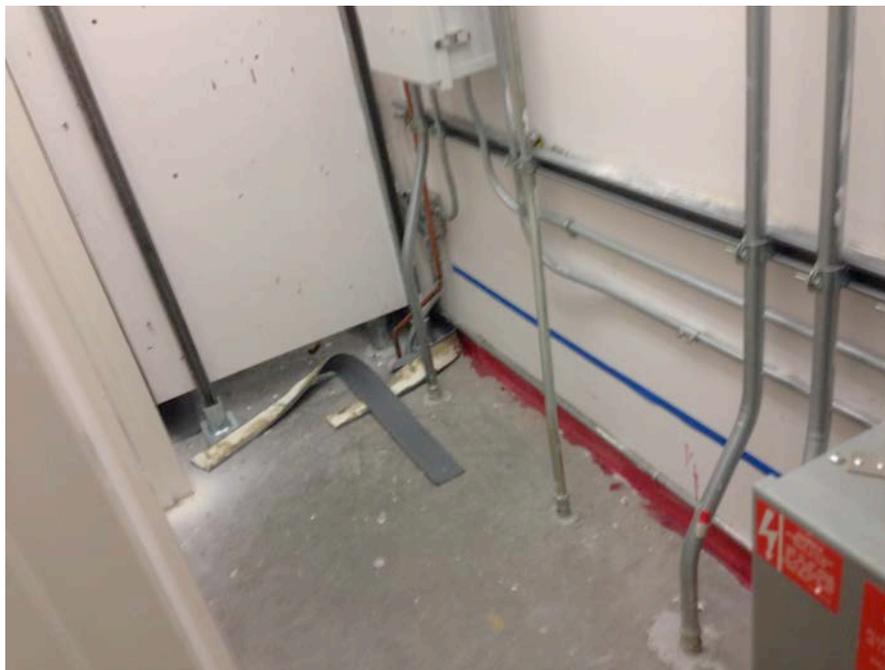


7



Date	Address	Photo Location – Description	Up
01/26/15	450 N Street Sacramento, California	2 nd Floor; western electrical closet; central portion; looking northwest and down; general view of area; showing prior removal of gypsum board material at the western partition wall	↑

8



Date	Address	Photo Location – Description	Up
03/09/15	450 N Street Sacramento, California	2 nd Floor; western electrical closet; central portion; looking northeast and down; general view of area; showing signs of encapsulation at lower portion of eastern partition core wall and section of previously removed cove base	↑



9



Date	Address	Photo Location – Description	Up
03/09/15	450 N Street Sacramento, California	2 nd Floor; western electrical closet; central portion; looking southeast and down; general view of area; showing signs of encapsulation at lower portion of the eastern partition core wall	↑

10



Date	Address	Photo Location – Description	Up
03/09/15	450 N Street Sacramento, California	2 nd Floor; western electrical closet; central portion; looking east and down; general view of area; showing signs of encapsulation at lower portion of the eastern partition core wall	↑



11



Date	Address	Photo Location – Description	Up
03/09/15	450 N Street Sacramento, California	2 nd Floor; western electrical closet; central portion; looking east and down; view of moisture meter at eastern partition core wall at northern end; showing <i>dry</i> moisture reading	↑

12



Date	Address	Photo Location – Description	Up
03/09/15	450 N Street Sacramento, California	2 nd Floor; western electrical closet; central portion; looking east and down; view of moisture meter at eastern partition core wall at southern end; showing <i>dry</i> moisture reading	↑



Report for:

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

Regarding: Project: 21503001-3
EML ID: 1334879

Approved by:

Technical Manager
Melissa Tracey

Dates of Analysis:
Spore trap analysis: 03-09-2015

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

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

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

Client: Hygiene Technologies International, Inc.
C/O: Mr. Kenny Hsi, Mr. Lakhpreet Sandhu
Re: 21503001-3

Date of Sampling: 03-09-2015
Date of Receipt: 03-09-2015
Date of Report: 03-09-2015

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	21503001-3TM01		21503001-3TM02OUT	
Comments (see below)	None		None	
Lab ID-Version‡:	6101041-1		6101042-1	
Analysis Date:	03/09/2015		03/09/2015	
	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores			7	370
Basidiospores			11	590
Botrytis				
Chaetomium			1	13
Cladosporium			21	1,100
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora			1	13
Oidium			3	40
Other colorless				
Penicillium/Aspergillus types†			1	53
Pithomyces				
Rusts			1	13
Smuts, Periconia, Myxomycetes			5	67
Stachybotrys			1	13
Stemphylium				
Torula				
Ulocladium				
Zygomycetes				
Background debris (1-4+)††	2+		3+	
Hyphal fragments/m3	< 13		67	
Pollen/m3	< 13		3,100	
Skin cells (1-4+)	1+		< 1+	
Sample volume (liters)	75		75	
§ TOTAL SPORES/m3		< 13		2,300

Comments:

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

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

††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

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

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

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

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

Client: Hygiene Technologies International, Inc.
C/O: Mr. Kenny Hsi, Mr. Lakhpreet Sandhu
Re: 21503001-3

Date of Sampling: 03-09-2015
Date of Receipt: 03-09-2015
Date of Report: 03-09-2015

MoldRANGE™: Extended Outdoor Comparison
Outdoor Location: 21503001-3TM02OUT

Fungi Identified	Outdoor data	Typical Outdoor Data for: March in California† (n‡=21179)						Typical Outdoor Data for: The entire year in California† (n‡=214483)					
		very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
Generally able to grow indoors*													
Alternaria	-	13	13	27	53	80	45	13	13	27	63	100	53
Bipolaris/Drechslera group	-	7	13	13	27	40	8	7	13	13	27	50	12
Chaetomium	13	7	13	13	27	40	11	8	13	13	27	50	19
Cladosporium	1,100	89	160	430	1,100	1,800	95	110	210	610	1,700	2,800	97
Curvularia	-	7	12	13	27	40	2	7	13	13	27	53	6
Nigrospora	13	7	10	13	13	27	4	7	13	13	27	53	9
Penicillium/Aspergillus types	53	53	53	160	480	750	80	53	100	210	610	1,000	84
Stachybotrys	13	7	13	13	27	67	3	7	13	13	33	67	4
Torula	-	8	13	13	40	67	7	8	13	13	40	67	11
Seldom found growing indoors**													
Ascospores	370	27	53	160	480	850	78	25	53	110	370	700	71
Basidiospores	590	67	130	430	1,500	2,800	96	53	80	270	1,000	2,400	93
Oidium	40	13	13	17	53	80	22	13	13	13	47	75	19
Rusts	13	13	13	13	48	80	22	13	13	13	53	80	26
Smuts, Periconia, Myxomycetes	67	13	13	27	67	110	54	13	13	40	110	210	68
§ TOTAL SPORES/m3	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. Kenny Hsi, Mr. Lakhpreet Sandhu
 Re: 21503001-3

Date of Sampling: 03-09-2015
 Date of Receipt: 03-09-2015
 Date of Report: 03-09-2015

MoldSTAT™: Supplementary Statistical Spore Trap Report

Outdoor Summary: 21503001-3TM02OUT:

Species detected	Outdoor sample spores/m3				Typical outdoor ranges (North America)	Freq. %
	<100	1K	10K	>100K		
Ascospores					13 - 210 - 6,000	77
Basidiospores					18 - 450 - 24,000	92
Chaetomium					7 - 13 - 160	9
Cladosporium					27 - 470 - 10,000	90
Nigrospora					7 - 13 - 240	16
Oidium					7 - 13 - 210	11
Penicillium/Aspergillus types					13 - 170 - 2,700	68
Rusts					7 - 22 - 360	20
Smuts, Periconia, Myxomycetes					7 - 53 - 920	64
Stachybotrys					7 - 13 - 530	2
Total						

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: 21503001-3TM01

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

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

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

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

Client: Hygiene Technologies International, Inc.
C/O: Mr. Kenny Hsi, Mr. Lakhpreet Sandhu
Re: 21503001-3Date of Sampling: 03-09-2015
Date of Receipt: 03-09-2015
Date of Report: 03-09-2015**MoldSTAT™: Supplementary Statistical Spore Trap Report**

**** MoldSCORE™ is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. EMLab P&K reserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor ranges" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. With the statistical analysis provided, as with all statistical comparisons and analyses, false-positive and false-negative results can and do occur. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the data contained in, or any actions taken or omitted in reliance upon, this report.

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Re: 21503001-3

Date of Sampling: 03-09-2015
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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.

