BioMax Environmental

Environmental Consulting and Industrial Hygiene Services

September 26th, 2008

Mr. Doug Button
Deputy Director
Real Estate Services Division
707 Third Street - 8th Floor
West Sacramento, CA 95605

Department of General Services
Board of Equalization Building, 450 N. Street
23rd Floor Post Mitigation Assessment
Sacramento, California

Mr. Button,

BioMax Environmental, LLC (BioMax) is pleased to provide The Department of General Services (DGS) with this letter summary report detailing BioMax's findings and recommendations pertaining to our post mitigation microbial inspection and sampling assessment services provided within the 23rd floor of the Board of Equalization (BOE) building located at 450 N Street, Sacramento, California. BioMax understands that these post mitigation microbial inspection and sampling assessment services were contracted with BioMax, at your request, in an effort to review and verify the successful completion of all floor-wide microbial mitigative efforts performed by your restoration contractor, JLS Environmental, Inc., (JLS) within the previously mitigated areas of the 23rd floor located within the subject building.

Therefore, these post mitigation clearance assessment services are intended to assess the current 23rd floor site conditions wherein mitigative activities have been completed by JLS prior to subsequent Heating Ventilation and Air conditioning (HVAC) system activation. Procedural recommendations pertaining to BioMax's previous inspection and assessment activities associated with the 23rd floor interior areas have been summarized within our previously developed procedural assessment reports including those entitled:

- Mitigative and Clean Up Procedures for Interior Electrical/Data Rooms, Janitorial Rooms, Supply Rooms, Copy Rooms, Storage Rooms, and Rest Room Areas, dated May 7th, 2008.
- Mitigation Procedures for Floor 23 East, Dated January 31st, 2008
- Mitigation Procedures for Floor 23 North and West, dated February 21st, 2008
- Revised Containment Procedures for Floor 23 South Side, December 10th, 2007
- Microbial Assessment of Break Room Areas ("Building Wide"), dated July 11th, 2008

Additional historical reports and assessment data may also be obtained for further historical background and technical reference, as necessary.

Hence, these floor-wide post mitigation inspection microbial clearance assessment services, thereby, are intended to provide a professional evaluation verifying the physical conditions wherein the successful completion of all microbial removal and decontamination has occurred within each of the identified affected areas has been achieved. Following the completion of all floor-wide mitigative activities performed by your mitigation contractor, Mr. Michael A. Polkabla, CIH, REA of BioMax performed a detailed post mitigation site inspection and airborne sampling assessment throughout the 23rd floor interior areas as noted in this report. BioMax's findings and conclusions pertaining to these post mitigation sampling assessment activities are, therefore, summarized herein.

SITE OBSERVATIONS

A floor-wide site inspection and post mitigation assessment sampling activities were performed by BioMax on September 2nd, 2008. Site access onto the noted 23rd floor was facilitated by site contractor (JLS) and DGS personnel. On this date, Mr. Michael A. Polkabla, CIH, REA of BioMax performed a detailed visual site inspection throughout the interior areas of the noted 23rd floor. Following the performance of a detailed visual assessment (indicating acceptable post mitigation conditions), BioMax collected a series of airborne SporeTrap confirmation samples within and surrounding each of these interior areas as noted below.

On-site inspection and clearance sampling assessment activities were performed by Mr. Michael A. Polkabla, CIH, REA, of BioMax in accordance with currently recognized microbial assessment and sampling guideline procedures. Mr. Polkabla has been certified in the Comprehensive Practice of Industrial Hygiene by the American Board of Industrial Hygiene and holds the right to the designation "Certified Industrial Hygienist" (CIH) under certification number CP 7104. Mr. Polkabla is also certified by the California Environmental Protection Agency (Cal/EPA) as a Class I Registered Environmental Assessor (REA) under Cal/EPA certification number 05011. Previously established clearance criteria developed for these activities has been formalized in BioMax's Post Mitigation Clearance Assessment Protocols dated February 15th, 2008. Such protocols have been reviewed and approved by BOE's environmental consultant, Hygientech International, Inc. (HTI) prior to implementation. A summary of significant notations and observations gathered during BioMax's site inspection and post mitigation clearance assessment activities within the subject containment areas are compiled as follows:

1. At the time of our site inspection and post mitigation sampling assessment performed on September 2nd, 2008 ambient outdoor conditions both prior to and following our interior assessment activities consisted of clear and mild conditions with an outdoor temperatures range between 95 and 96 degrees F and relative humidity noted at 22 %. Predominant winds were noted at approximately 0-5 knots from the westerly direction at the time of our assessment. Interior environmental conditions within the sampled interior areas consisted of

a temperature range between 91 to 98 degrees F with relative humidity range of 23 to 25 percent.

2. At the time of this assessment, each of the observed interior areas whereby microbial mitigative activities had previously been performed had been completed and rendered "acceptable for reconstruction" as per BioMax's referenced clearance summary report protocols. During such prior mitigative activities, BioMax routinely performed regular and periodic inspections and review of records/conditions within and surrounding each of the noted previous containment areas during mitigative activities. A review of such information has indicated a preponderance of evidence verifying that the current barrier systems had provided appropriate protective controls for the duration and performance of the noted mitigative activities.

3. Following our floor-wide inspection BioMax collected series airborne samples within representative interior areas and offices noted below for subsequent comparative analysis. Such samples were collected within and surrounding each of the previous interior containment systems in an effort to identify and quantify the current airborne microbial conditions within each of the sampled areas following the completion of all prescribed mitigative efforts and associated final cleaning activities performed by JLS. Findings associated with these verification sampling activities are noted below.

4. BioMax also collected a series of digital images during these post mitigative inspection and sampling assessment activities to document the conditions and significant site observations gathered at this time. Such images are provided as an attachment to this summary report for further reference, as necessary.

SAMPLING PROCEDURES

On-site inspection and sampling assessment activities were conducted by Mr. Michael A. Polkabla, CIH, REA, of BioMax Environmental on September 2nd, 2008. All sampling equipment, supplies, calibration materials, and collection media were provided and maintained by BioMax as part of the performance of this scope of work. Sample collection procedures and methods were performed using standard industrial hygiene sampling methods following techniques prescribed by the contracted analytical laboratory.

Spore Trap Airborne Microbial and Particulate Sampling:

The collection of airborne Spore Trap microbial samples was achieved using Zefon Air-O-Cell sampling cassette collection devices placed in each of the areas identified in the tables below. Airborne Spore Trap samples were collected within each of the noted area locations at a height of approximately four feet above ground level using a tripod mounted Quick Take 15 air sampling pump manufactured by SKC. Samples were collected at a calibrated flow rate of 15 liters per minute for a total of five minutes per sample. Resultant total sample volumes, therefore, corresponded to 75 liters collected for each collected sample. Calibration of the SKC air sampling pump was conducted prior to sampling using a field rotometer devise calibrated with a

Bios Drycal primary standard flow meter. All spore trap air sampling and analytical procedures were performed in accordance with prescribed manufacturer guidelines as well as applicable professional certified industrial hygiene indoor air quality microbial investigation procedures and certified industrial hygiene practices.

Additional exterior ambient samples were also similarly collected and analyzed in an effort to identify and quantify representative background microbial taxa (types), rank order, and corresponding airborne spore levels present within the ambient environment at the time of this assessment for comparative purposes. Sampling collection activities performed during this study included the collection of identifiable airborne microbial contaminants within the representative area locations noted in Table 1:

Table 1. Airborne Spore Trap Sampling Locations:

Air Sample Number	Spore Trap Air Sampling Location
14226838	Ambient Pre Sample 23rd Floor West Balcony
14226606	23rd Floor Room 2309
14226806	23rd Floor Room 2305
14226781	23rd Floor Room 2339
14226742	23rd Floor Room 2335
14226804	23rd Floor Room 2332
14226798	23rd Floor Room 2322
14226783	23rd Floor Room 2316
14226655	Hallway at North Elevator Lobby
14226695	23rd Floor Room 2312 *
14226815	23rd Floor South Hallway
14226695	Ambient-post 23rd Floor North Balcony *

Sample 14226695 was erroneously duplicated during sampling activity and, therefore, eliminated from subsequent comparative analysis.

At the conclusion of sampling activities, preparation and shipping of the collected samples were accomplished in accordance with standard industrial hygiene chain of custody (COC) documentation procedures and quality assurance/quality control practices. Once collected, labeled, and recorded, all samples were double sealed within airtight plastic Ziploc shipping

containers and transported via Federal Express Priority Mail to Environmental Microbial Laboratories (EMLabs) in San Bruno, California. EMLabs holds current applicable analytical accreditation and specializes in microbial analytical procedures. Sampling and chain of custody records are provided as an attachment to this letter report for further reference.

ANALYTICAL FINDINGS AND CONCLUSIONS

Airborne Spore Trap Findings:

Laboratory analytical methods for the identification and enumeration of microbial (mold) taxa and particulate contaminants were conducted in accordance with prescribed analytical procedures and quality control/assurance measures. Original laboratory results including the enumeration of recognizable microbial spore and particulate types are also attached to this letter report for further reference and detail. A summary of airborne Spore Trap microbial (mold) and particulate findings pertaining to each of the subject areas are presented in Table 2 below:

Table 2. Airborne Microbial and Particulate Findings – Break Rooms 2202, 2223, 2224.

Location Desc.	Total Mold Spores (Cts/m3)	Background Debris (scale of 1-4)	Skin Cell Fragments (scale of 1-4)	Hyphal Fragments (units/m3)
Ambient Pre Sample 23rd Floor West Balcony	5,600	4+	<1+	227
23rd Floor Room 2309	120	3+	2+	<13
23rd Floor Room 2305	120	3+	1+	<13
23rd Floor Room 2339	370	2+	1+	<13
23rd Floor Room 2335	53	2+	1+	<13
23rd Floor Room 2332	110	2+	1+	<13
23rd Floor Room 2322	160	2+	1+	<13
23rd Floor Room 2316	<13	2+	1+	<13

Location Desc	Total Mold Spores (Cts/m3)	Background Debris (scale of 1-4)	Skin Cell Fragments (scale of 1-4)	Hyphal Fragments (units/m3)
Hallway at North Elevator Lobby	53	2+	1+	13
23rd Floor South Hallway	170	2+	1+	<13

As previously noted, the collection of sample 14226695 (noted as both Room 2312 and 23rd Floor Balcony) was erroneously repeated during recording activities of this study and, hence, considered unreliable for statistical comparison. Corresponding analytical findings have, therefore, been deleted from the table above.

The analytical findings presented in Table 2 above clearly indicate the presence of significantly lower concentrations of total microbial (mold) spores measured within each of the interior samples when compared to the levels currently measured within the samples collected from the corresponding ambient outside environment. Analytical findings also indicate similar fungal taxa distribution (mold types) and rank order (predominant taxa) of molds identified within the interior areas when compared to the current outside ambient ranges. Analysis of fungal hyphal fragments (vegetative fungal growth structures) also indicated fewer structures within the interior areas when compared to the corresponding levels found within the ambient outside environmental samples. Particularly worthy of note, was the absence of elevated levels of hydrophilic (moisture loving) mold taxa following the completion of all mitigative activities within each of the noted interior areas.

Although there are currently no regulatory standards or limits pertaining to allowable airborne fungal concentrations (for any mold taxa) present in indoor environments, there is a general consensus among indoor air quality experts that airborne microbial contamination found within "typical healthy" living and working spaces are generally similar in kind and present at levels which are below those found in the corresponding native outside environment. BioMax believes that the absence of elevated hyphal structures with relatively fewer total airborne mold levels with typical taxa and rank order distribution following all floor-wide mitigative activities are consistent with these generally acceptable interior working space conditions. BioMax, therefore, believes that these findings provide reasonable evidence indicating that current microbial removal and clean-up measures have successfully removed and contained mold contamination within the above noted interior areas and materials to normal representative levels.

Based on these findings, BioMax believes that the current physical site conditions present within the 23rd floor areas may be considered acceptable in meeting both the visual and analytical clearance criteria established for these activities. As such, BioMax's review and interpretation of the collected analytical data associated with each of the previously noted containment areas has been shown to meet the building specific clearance criteria established for these activities. Such clearance criteria has been presented in BioMax's Post Mitigation Clearance Assessment Protocols dated February 15th, 2008, and has been reviewed and approved by BOE's environmental consultant, HTI. Therefore, BioMax believes that the verified achievement of such criteria supports BioMax's determination and conclusion that the 23rd floor may be considered acceptable for reconstruction at this time.

Airborne Particulate Findings:

Analytical particulate findings also sampled and analyzed as part of this assessment identified, what BioMax believes to be, "unremarkable" levels present within the collected air samples. Such findings within the 23rd floor areas also provide reasonable evidence indicating that current particulate clean-up and mitigative control measures have successfully controlled and contained particulate debris within the identified containment areas to acceptable post mitigation clean-up levels.

RECOMMENDATIONS

Based on BioMax's post mitigation assessment findings and conclusions presented in this report, BioMax believes that the current airborne microbial levels sampled and analyzed within the 23rd Floor areas provides no significant evidence of elevated residual microbial contamination or airborne contamination/migration following the completion of the prescribed microbial mitigative measures. BioMax also understands that parallel airborne assessment sampling performed by BOE's consultant, HTI, also indicated acceptable microbial levels (as provided to BioMax verbally) following their review of collected data. BioMax anticipates that HTI will be preparing a formal summary report of their parallel findings for appropriate distribution as well.

Hence, based on current site observations, field measurements, and review of all available findings at this time, BioMax believes that the 23rd Floor may be considered acceptable for general reconstruction and Heating Ventilation and Air Conditioning (HVAC) system re-activation following prudent reconstruction and building operations and maintenance (O&M) practices. Therefore, based on our professional review and interpretation of these current findings, BioMax provides the following recommendations for consideration as discussed below:

1. The HVAC system isolated to the 23rd Floor may considered for reactivation utilizing 100 percent outside air ("Flush Mode") for a minimum of 48 hours prior to all final reconstruction, painting and carpet replacement activities. According to information provided to BioMax by DGS, this HVAC mode constitutes standard building maintenance practice for reconstruction activities such as final painting, carpet replacement, etc. As such, the HVAC systems shall be established and maintained in "Flush" mode during all forthcoming final reconstruction activities prior to reoccupancy in accordance with standard building maintenance practices.

2. During the performance of interior reconstruction activities, BioMax recommends that a qualified and experienced building inspector/contractor be utilized to verify the current compliance and functional integrity of all applicable building related structures including but not limited to plumbing, flashing, sealing, and drainage systems in accordance with current building codes and construction practices. Any identified deficiencies should be appropriately documented, corrected, and functionally verified (tested) prior to subsequent reconstruction. Certainly, the establishment and/or installation of any additional corrective measures or engineering controls (as identified through additional professional engineering

consultation) should also be performed and implemented in accordance with applicable standards, building codes, and ordinances, as appropriate.

3. BioMax recommends that reconstruction of interior structural building materials within these areas should only be undertaken utilizing high quality, visibly clean (hand selected) construction grade building materials obtained from reputable commercial sources and which are verified through visual assessment to be free from elevated microbial contamination and/or elevated moisture content. Building materials, which are notably moist and/or visibly stained, should not be used during the reconstruction undertaken within the subject building.

4. BioMax also recommends that appropriate controls and barriers (as necessary) should be established during any significant reconstruction activity so as to minimize the potential generation and transmission of associated nuisance construction dust and debris.

5. Reasonable additional assessment and investigative measures may also be required upon the identification of new or previously undiscovered materials and/or information related to moisture/microbial impacts within the noted structures and/or areas, as necessary. Any occurrence and/or re-occurrence of moisture intrusion following reconstruction within these areas should also be reviewed and addressed through additional professional consultation, as necessary. BioMax is certainly prepared to provide such professional consultation pertaining to these and any follow-up investigative measures upon request.

BioMax believes that the conclusions and recommendations provided above are consistent with standard industry microbial mitigative practices and prudent industrial hygiene hazard control and assessment methods. Please do not hesitate to contact me directly at (510) 724-3100 if you have any questions, comments, and/or require further assistance regarding this subject matter.

Sincerely,

Michael A. Polkabla, CIH, REA
Vice President, Principal

THE AMERICAN BOARD OF INDUSTRIAL HYGIENE
INCORPORATED
CERTIFICATION NUMBER
7104 CP
EXPIRES
6-1-2013
PENNSYLVANIA - 1909
MICHAEL ANDREW POLKABLA, CIH

LIMITATIONS

Please note that the professional opinions presented in this review are intended for the sole use of the California State Department of General Services (DGS) and their designated beneficiaries. No other party should rely on the information contained herein without the prior written consent of BioMax Environmental and DGS. The professional opinions provided herein are based on BioMax's review and understanding of current site information and observed site conditions present within the areas inspected at the time these services were performed. Professional recommendations provided as part of this limited scope of work are intended for client consideration only and are not intended as a professional or regulatory mandate. Implementation of any of the above measures or recommendations does not, in any way, warrant the day-to-day health and/or safety of building occupants, residents, site workers, nor regulatory or building code compliance status during normal and changing environmental conditions. As microbial contamination, by nature, may change over time due to additional moisture intrusion, favorable growth conditions, and changing environments, the findings of this report are subject to change in the event that such conditions and/or environments arise. Also, the professional opinions expressed here are subject to revision in the event that new or previously undiscovered information is obtained or uncovered.

The information contained in this and any other applicable communication is for consideration purposes only. It is not intended, nor should it be construed as providing legal advice or warranting any level of safety or regulatory compliance. The sole purpose of such information is to assist with the anticipation, identification, evaluation and control of elevated and/or unnecessary health of physical hazards. Any action taken based on this information, including but not limited to opinions, suggestions and recommendations, whether implied or expressed, is the sole responsibility of the individual taking the action. The management of acceptable health and safety is criteria dependent and situation specific in nature, therefore requiring extensive knowledge and prudent value assessments so as to be properly determined and maintained.

These services were performed by BioMax in accordance with generally accepted professional industrial hygiene principals, practices, and standards of care. Under the existing Industrial Hygiene Definition and Registration Act, all reports, opinions or official documents prepared by a Certified Industrial Hygienist (CIH) constitutes an expression of professional opinion regarding those facts or findings which are subject of a certification and does not constitute a warranty or guarantee, either expressed or implied.

EMLab P&K

Report for:

Mr. Michael Polkabla
Biomax Environmental
775 San Pablo Ave.
Pinole, CA 94564

Regarding: Project: 090208-02
EML ID: 461924

Approved by:

Lab Manager
Dr. Kamashwaran Ramanathan

Dates of Analysis:
Spore trap analysis: 09-04-2008

Project SOPs: Spore trap analysis (I100000)

This coversheet is included with your report in order to comply with AIHA and ISO accreditation requirements.

For clarity, we report the number of significant digits as calculated; but, due to the nature of this type of biological data, the number of significant digits that is used for interpretation should generally be one or two. 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 corrections of results is not a standard practice. 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 wilful 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.

EMLab P&K
1150 Bayhill Drive, Suite 100, San Bruno, CA 94066
(650) 829-5800 Fax (650) 829-5852 www.emlab.com

Client: Biomax Environmental
C/O: Mr. Michael Polkabla
Re: 090208-02

Date of Sampling: 09-02-2008
Date of Receipt: 09-03-2008
Date of Report: 09-04-2008

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	14226838-A: Ambient 23rd floor-west balcony		14226606-B: Room 2309		14226806-C: Room 2305		14226781-D: Room 2339	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	2038732-1		2038733-1		2038734-1		2038735-1	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria	6	80						
Arthrinium								
Ascospores*								
Aureobasidium								
Basidiospores*	3	333						
Bipolaris/Drechslera group	1	13						
Botrytis								
Chaetomium								
Cladosporium	38	4,230	2	107	2	107	1	53
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora	10	133	1	13	1	13		
Other colorless								
Penicillium/Aspergillus types†	6	667					6	320
Pithomyces								
Rusts*	1	13						
Smuts*, Periconia, Myxomycetes*	7	93						
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	4+		3+		3+		2+	
Hyphal fragments/m3	227		< 13		< 13		< 13	
Pollen/m3	27		< 13		< 13		< 13	
Skin cells (1-4+)	< 1+		2+		1+		1+	
Sample volume (liters)	75		75		75		75	
§ TOTAL SPORE/m3		5,600		120		120		370

Comments:

* Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.
† 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 then reported. It is important to account for samples volumes when evaluating dust levels.
The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.
‡ A "Version" greater than 1 indicates amended data.
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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Re: 090208-02

Date of Sampling: 09-02-2008
Date of Receipt: 09-03-2008
Date of Report: 09-04-2008

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	14226742-E: Room 2335		14226804-F: Room 2332		14226798-G: Room 2322		14226783-H: Room 2316	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	2038736-1		2038737-1		2038738-1		2038739-1	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria								
Arthrinium								
Ascospores*			1	53				
Aureobasidium								
Basidiospores*								
Bipolaris/Drechslera group								
Botrytis								
Chaetomium								
Cladosporium	1	53	1	53	3	160		
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Other colorless								
Penicillium/Aspergillus types†								
Pithomyces								
Rusts*								
Smuts*, Periconia, Myxomycetes*								
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	2+		2+		2+		2+	
Hyphal fragments/m3	< 13		< 13		< 13		< 13	
Pollen/m3	< 13		< 13		< 13		< 13	
Skin cells (1-4+)	1+		1+		1+		1+	
Sample volume (liters)	75		75		75		75	
§ TOTAL SPORE/m3		53		110		160		< 13

Comments:

* Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.
† 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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Re: 090208-02

Date of Sampling: 09-02-2008
Date of Receipt: 09-03-2008
Date of Report: 09-04-2008

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	14226655-I: Hallway at N elevator lobby		14226695-J: Room 2312		14226815-K: 23rd floor south hallway	
Comments (see below)	None		None		None	
Lab ID-Version‡:	2038740-1		2040544-1		2038742-1	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria						
Arthrinium						
Ascospores*						
Aureobasidium						
Basidiospores*			2	107		
Bipolaris/Drechslera group			1	13		
Botrytis						
Chaetomium			3	40		
Cladosporium	1	53	22	1,170	3	160
Curvularia			3	40		
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora			7	93		
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts*						
Smuts*, Periconia, Myxomycetes*			19	253	1	13
Stachybotrys			3	40		
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+		4+		2+	
Hyphal fragments/m3	13		107		< 13	
Pollen/m3	< 13		< 13		< 13	
Skin cells (1-4+)	1+		< 1+		1+	
Sample volume (liters)	75		75		75	
§ TOTAL SPORE/m3		53		1,800		170

Comments:

* Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.
† 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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MoldRANGE™: Extended Outdoor Comparison

Outdoor Location: 14226838-A, Ambient 23rd floor-west balcony

Fungi Identified	Outdoor data	Typical Outdoor Data by Date† Month: September				Typical Outdoor Data by Location‡ State: CA			
	spores/m3	low	med	high	freq %	low	med	high	freq %
Generally able to grow indoors*									
Alternaria	80	7	40	610	66	7	27	210	59
Bipolaris/Drechslera group	13	7	13	200	27	7	13	120	13
Chaetomium	-	7	13	120	15	7	13	110	19
Cladosporium	4,230	53	800	12,000	97	53	640	6,400	98
Curvularia	-	7	27	730	32	7	13	210	7
Nigrospora	133	7	20	280	27	7	13	170	8
Penicillium/Aspergillus types	667	27	270	3,400	89	38	210	2,500	87
Stachybotrys	-	7	13	220	4	7	13	280	5
Torula	-	7	13	130	16	7	13	150	13
Seldom found growing indoors**									
Ascospores	-	13	170	5,200	81	13	110	1,800	72
Basidiospores	333	13	410	22,000	96	13	230	6,700	94
Rusts	13	7	27	440	31	7	13	250	28
Smuts, Periconia, Myxomycetes	93	8	53	750	81	8	40	480	71
TOTAL SPORES/M3	5,562								

† The Typical Outdoor Data by Date represents the typical outdoor spore levels across North America for the month indicated. The last column represents the frequency of occurrence. The low, medium, and high values represent the 2.5, 50, and 97.5 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, 2.5% 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.

‡ The Typical Outdoor Data by Location represents the typical outdoor spore levels for the region indicated for the entire year. As with the Typical Outdoor Data by Date, the four columns represent the frequency of occurrence and the typical low, medium, and high concentration values for the spore type indicated. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

*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.

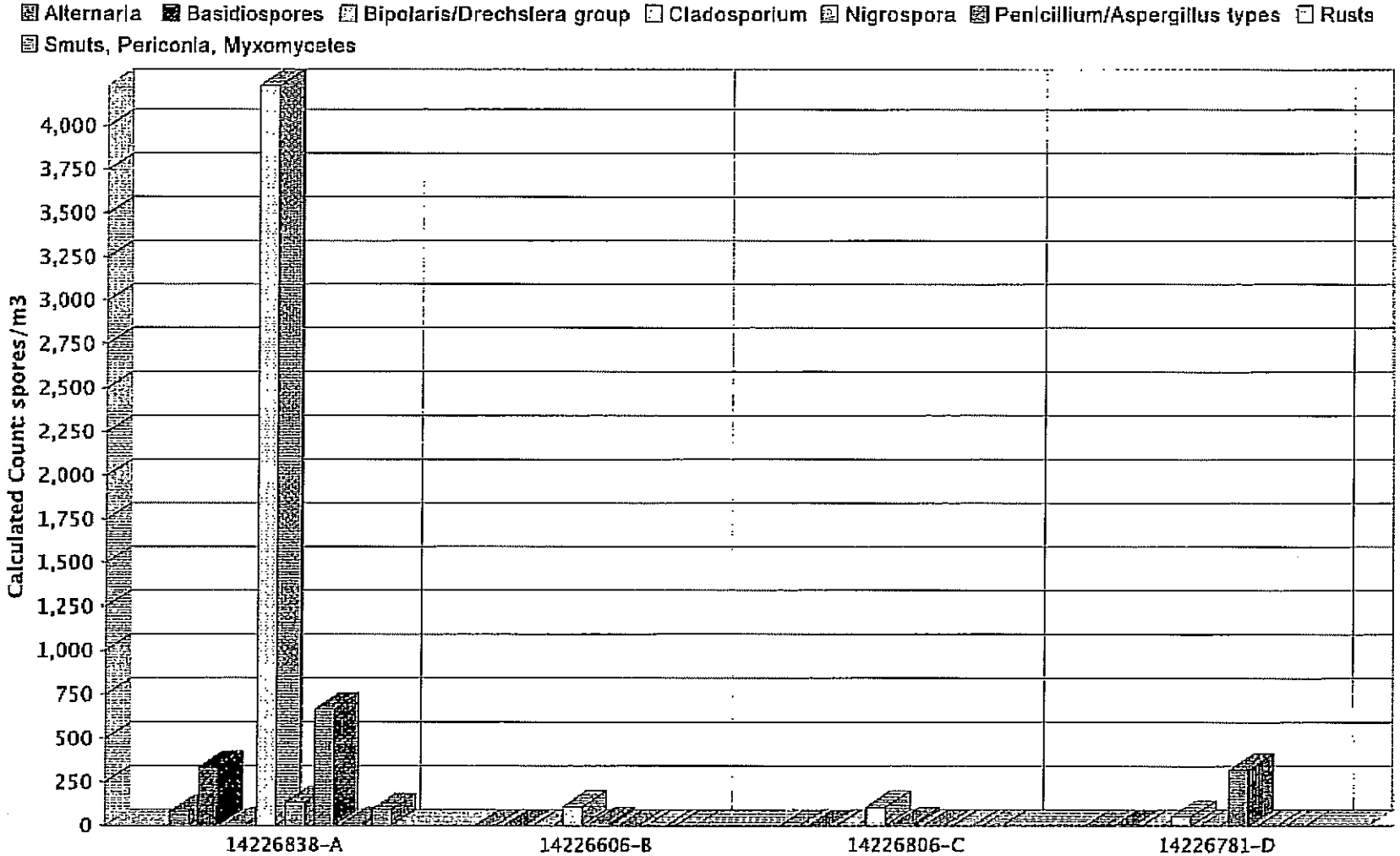
**These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type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

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.

09-04-2008: 090208-02

EMLab P&K
1150 Bayhill Drive, Suite 100, San Bruno, CA 94066
(650) 829-5800 Fax (650) 829-5852 www.emlab.com

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments:

Note: Graphical output may understate the importance of certain "marker" genera.
TestAmerica Environmental Microbiology Laboratory, Inc.

09-04-2008: 090208-02

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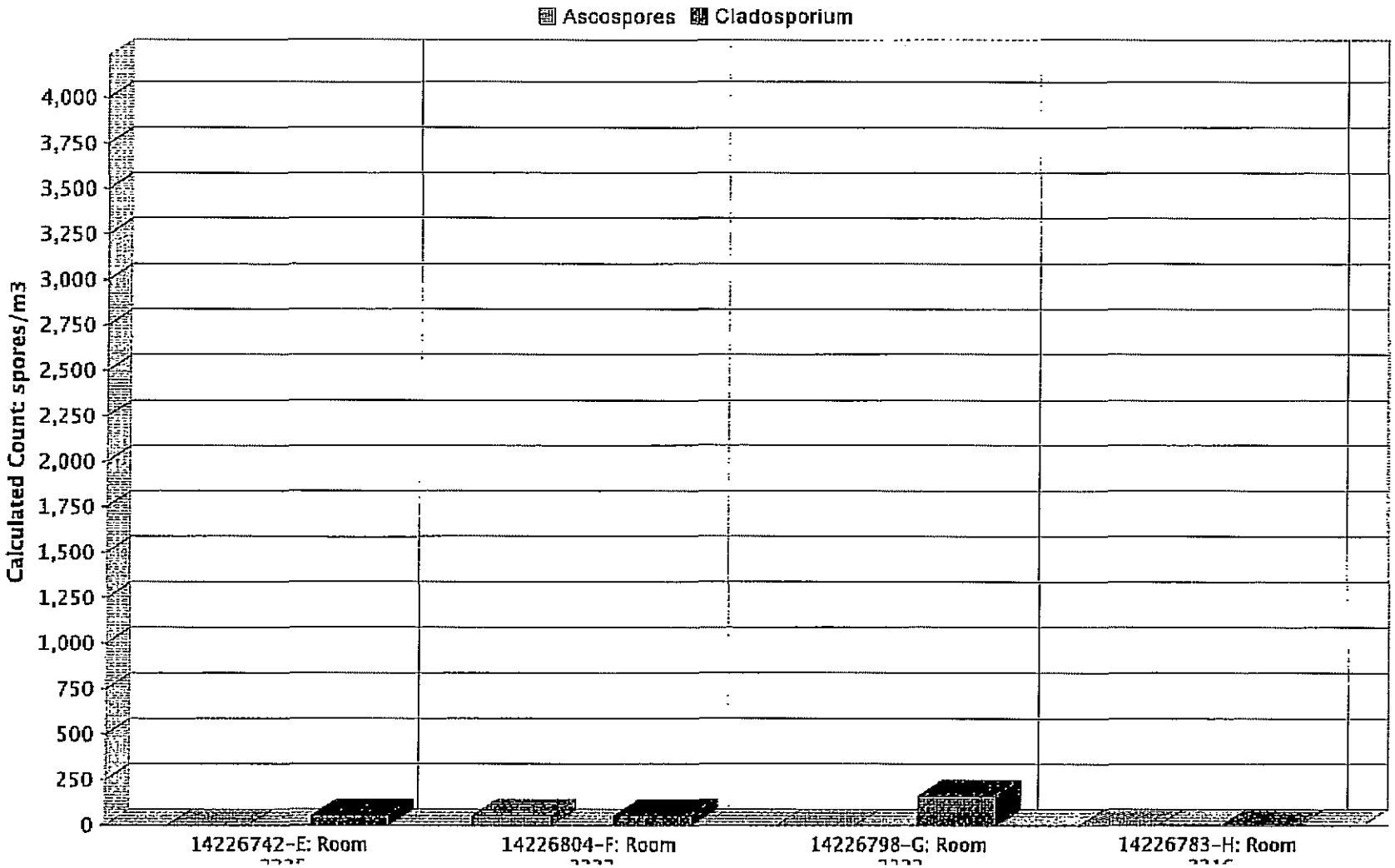

Comments:

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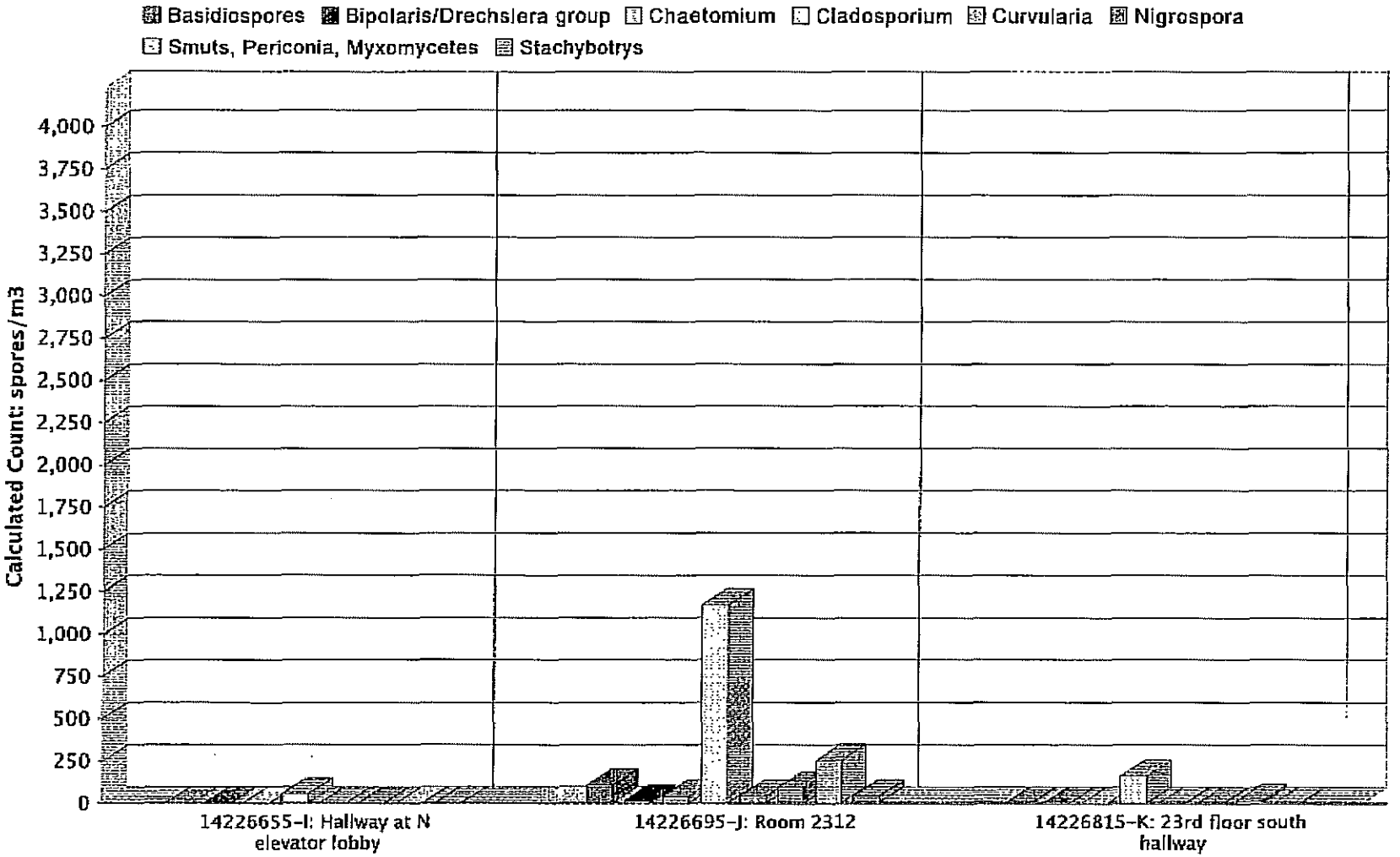


Comments:

Note: Graphical output may understate the importance of certain "marker" genera.
TestAmerica Environmental Microbiology Laboratory, Inc.

MICROBIAL SPORE TRAP AIR SAMPLING RECORD

0000461924

Page 1 of 2

BioMax Environmental
775 San Pablo Ave.
Pinole, CA 94564

www.biomaxenvironmental.com

Phone: (510) 724-3100
Fax: (510) 724-3145
biomaxenv@aol.com

Location: 23rd Floor 4150 N. Street Sacramento, CA

Client: DGS

Project #: 090208-02

Date: 9/2/08

Laboratory:

Collected by: M.A. Poltabla, CIH, REA

Req. Turn Around:

Signature:

Analysis: ***Fungal Particulate ID with Quantification.***

	Sample Number	Time	Location/Description		Temp/RH
A	14226838	1405	Ambient 23rd FL West Balcony		95°/22%
B	14226606	1415	RM 2309		91°/29%
C	14226806	1423	RM 2305		92°/23%
D	14226781	1429	RM 2339		98°/23%
E	14226742	1435	Rm 2335		98°/23%
F	14226804	1442	RM 2332		95/23%
G	14226798	1450	Rm 2322		93/24%
H	14226783	1500	Rm 2316		95/23%
I	14226655	1507	Hallway @ N elevator Lobby		93/25%
J	14226695	1515	Rm 2312		91°/25%
Total Sample Time (min): 5	Flow Rate (l/min): 15	Total Sample Volume (liters): 75	Ambient Conditions: clear / Hot 0-5 mph E		Comments:

Please sign this form below acknowledging sample receipt and return executed form with laboratory reports. Fax, send, e-mail results to BioMax Environmental at (510) 724-3145 biomaxenv@aol.com
Other Instructions: _____

Relinquished by:	*Received By:* Ann Morrissey
Method of Transportation: 4:00 FedEx	
Time/Date Sent: 4:00 9/2/08	*Time/Date Received:* 9-3-08 9am

MICROBIAL SPORE TRAP AIR SAMPLING RECORD

000461924

Page 2 of 2

BioMax Environmental
775 San Pablo Ave.
Pinole, CA 94564
www.biomaxenvironmental.com

Phone: (510) 724-3100
Fax: (510) 724-3145
biomaxenv@aol.com

Location: 23rd Floor 450 N. Street Sacramento, CA

Client: DGS

Project #: 090208-02

Date: 9/2/08

Laboratory: EMLabs

Collected by: M.A. Polkabla, CIH, REA

Req. Turn Around: 24 HR

Signature:

Analysis: Fungal Particulate ID with Quantification

	Sample Number	Time	Location/Desc		Temp/RH
K.	14226815	1522	23rd Floor South Hallway		90 / 25
L.	14226695	1530	23rd Floor N. Balcony		96 / 22
	Total Sample Time (min): 5	Flow Rate (l/min): 15	Total Sample Volume (liters): 75	Ambient Conditions: clear / Hot	Comments:

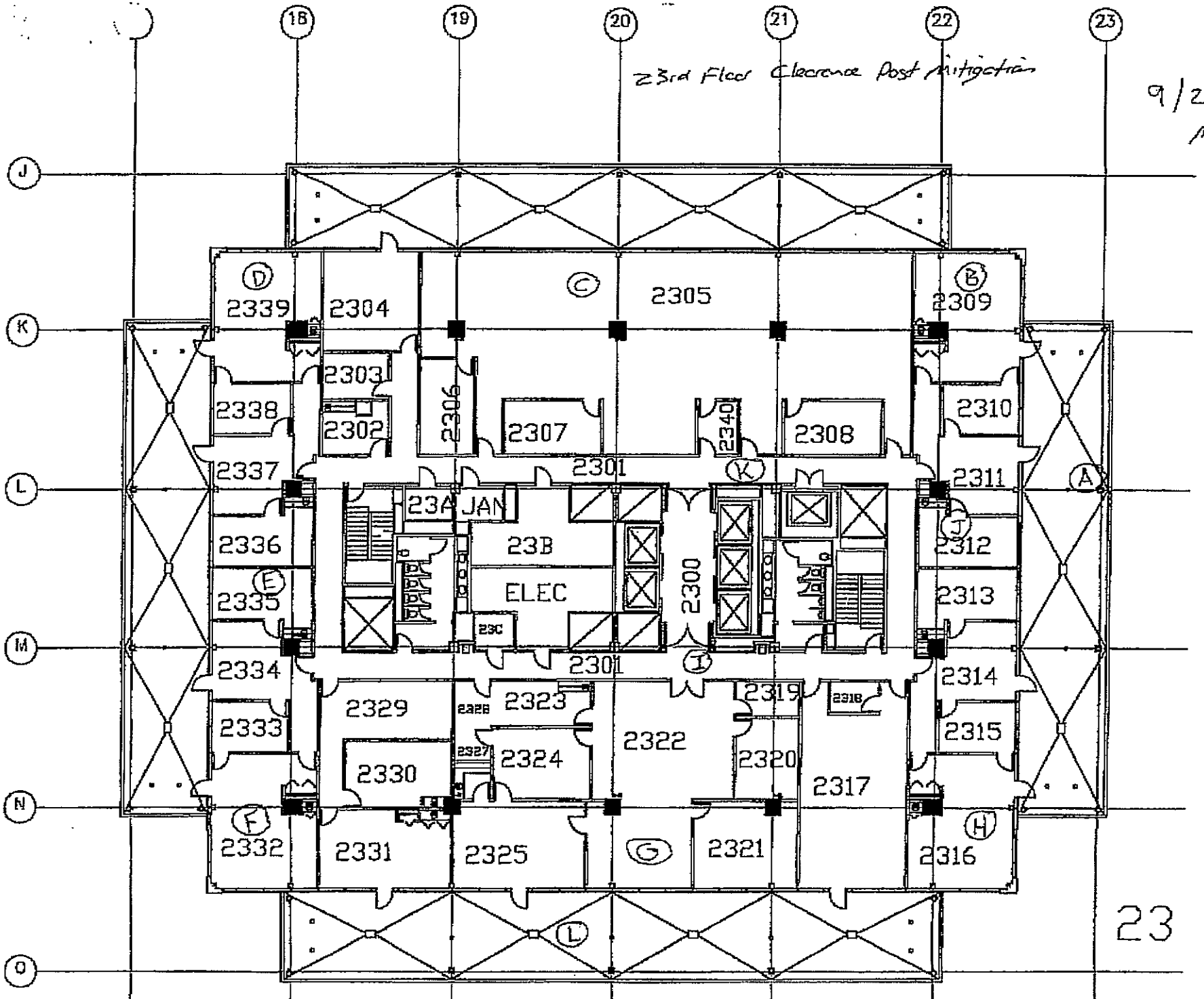
Please sign this form below acknowledging sample receipt and return executed form with laboratory reports. Fax, send, e-mail results to BioMax Environmental at (510) 724-3145 biomaxenv@aol.com

Other Instructions: _____

Relinquished by:	Received By: Ann Monissey
Method of Transportation: 2nd EX	
Time/Date Sent: 4:00 9/2/08	Time/Date Received: 9-3-08 9am

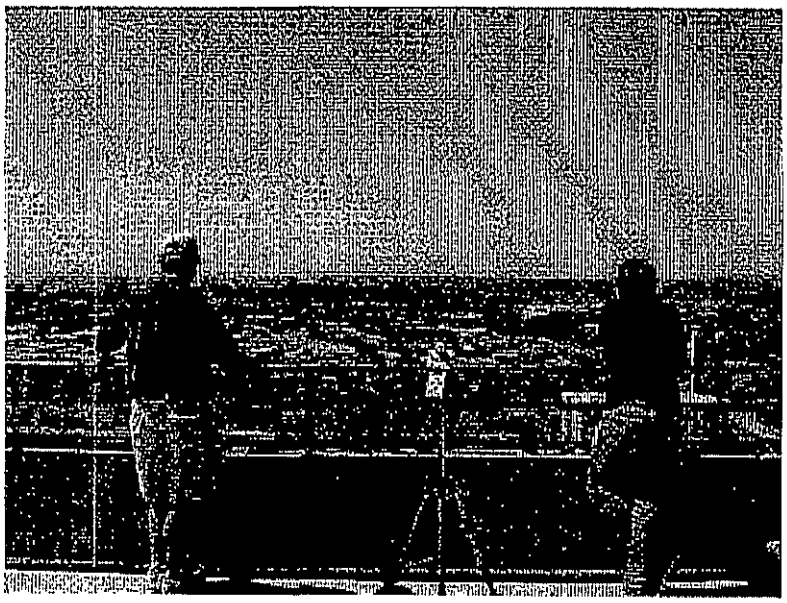
23rd Floor Clearance Post Mitigation

9/2/08
MAP

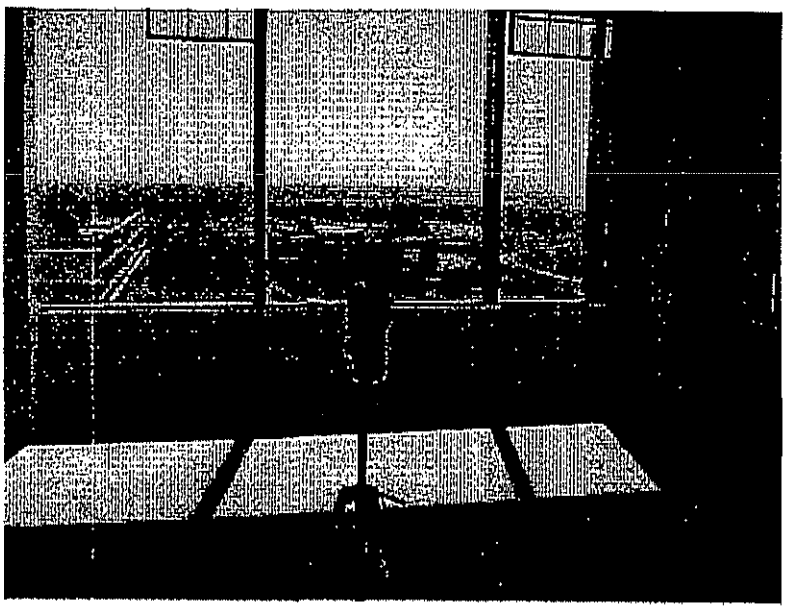


Attachment A: Digital Images
September 2nd, 2008
BOE Building 23rd Floor Wide Post Mitigation Assessment
Sacramento, CA

Click here for color photos

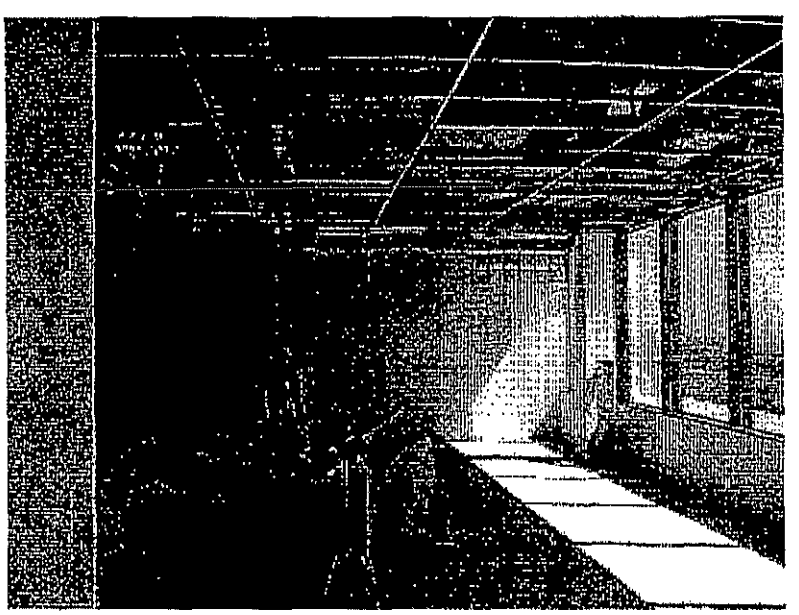


1) Image of ambient air sampling location on West side of 23rd Floor Balcony located at 450 N Street, Sacramento, California (Subject Building) at time of assessment.

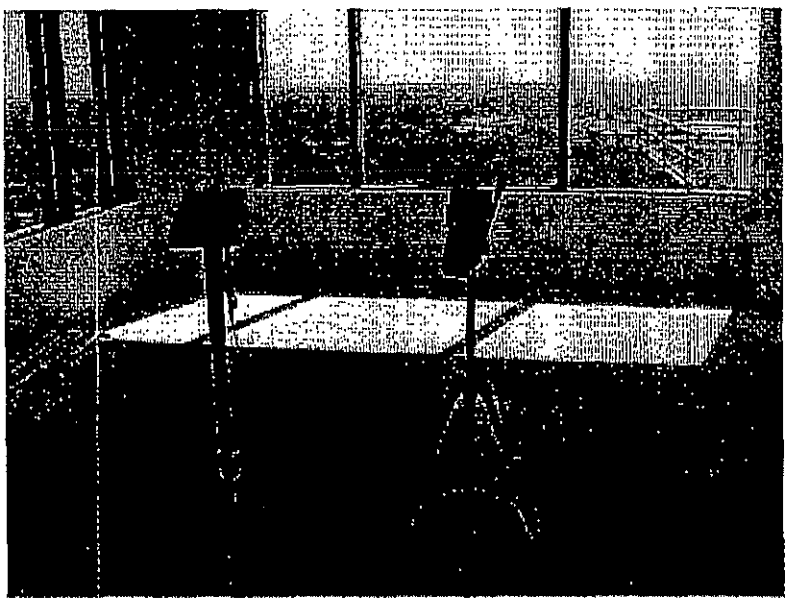


2) Image of air sampling performed within southwestern corner of 23rd floor (office 2309) at time of clearance inspection and sampling assessment.

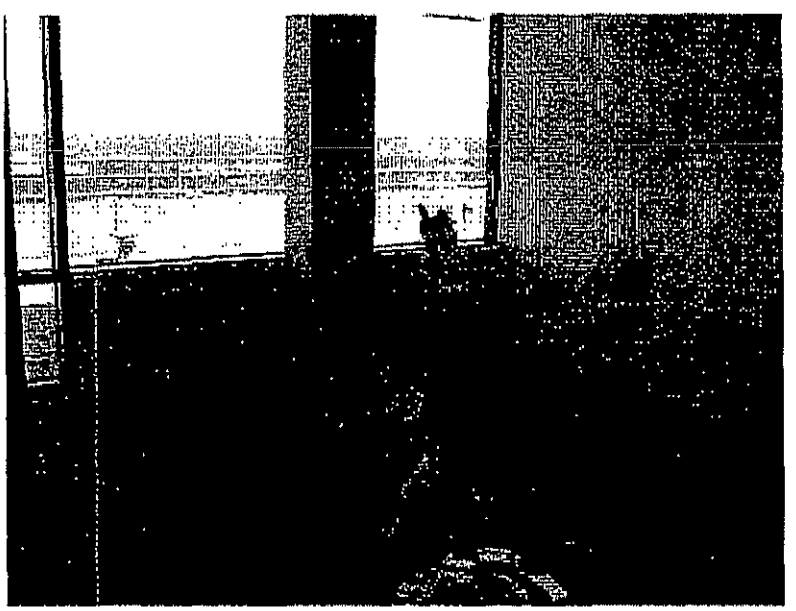
3) Image of air sampling equipment operated within area 2305 at time of assessment.



4) Image of physical layout within room 2305 located at center segment of southern perimeter wall within 23rd Floor.

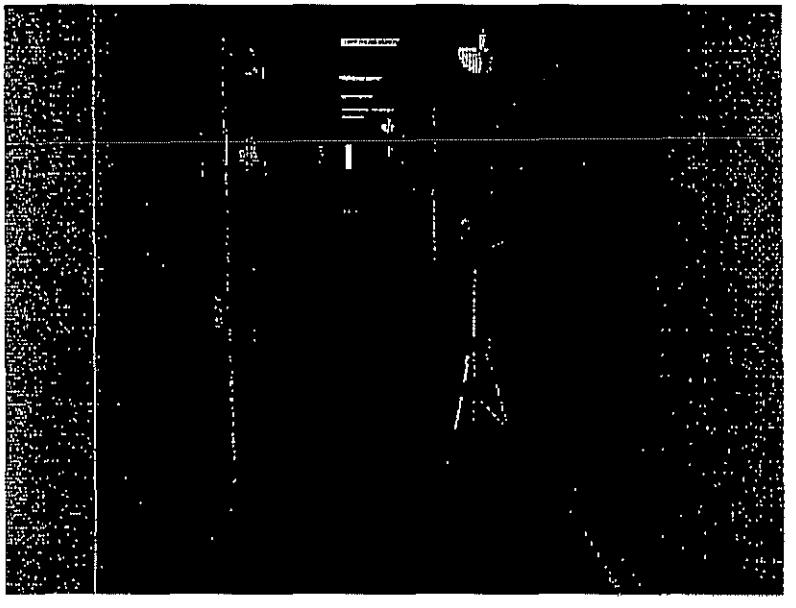


5) Image of air sampling activity performed within room 2339 at southeastern corner of 23rd floor at time of assessment.

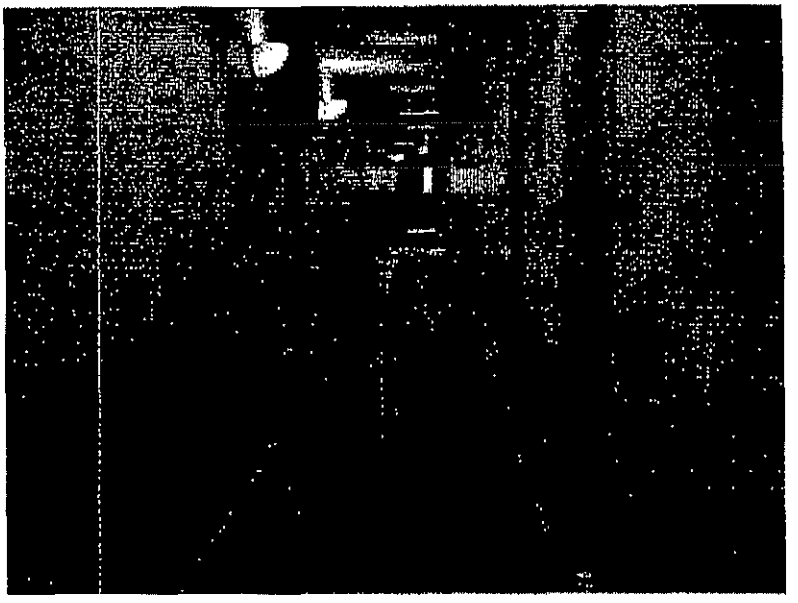


6) Image of structures and sampling equipment within office 2335 located along eastern side of 23rd floor at time of assessment.

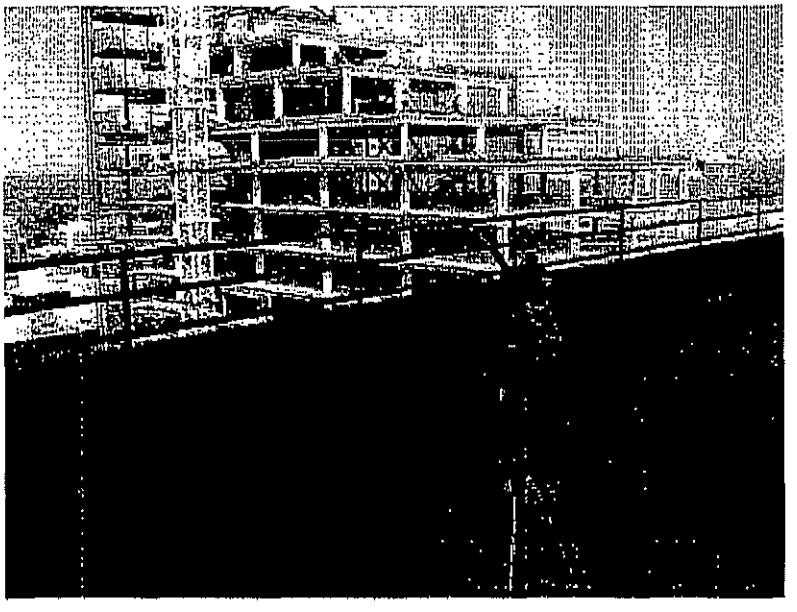
7) Image of structures and sampling equipment within office 2332 located along northeastern corner of 23rd floor at time of assessment.



8) Image of air sampling performed within northern hallway of 23rd floor of subject building at time of assessment.



9) Image of air sampling performed within south hallway of 23rd floor of subject building at time of assessment.



10) Image of ambient air sampling performed on northern balxony of 23rd floor at time of assessment.