TAB 17

BioMax Environmental
Environmental Consulting and Industrial Hygiene Services

March 19th, 2008

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

Post Mitigation Assessment
Department of General Services Board of Equalization Building
10th Floor Break Room Areas
450 N. Street
Sacramento, California

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 10th Floor Break room areas present within the Board of Equalization (BOE) building (subject building) located at 450 N Street, Sacramento, California. BioMax understands that these post mitigation microbial inspection and clearance sampling assessment services were contracted with BioMax, at your request, in an effort to review and verify the successful completion of microbial mitigative efforts performed by your restoration contractor, JLS Environmental, Inc., within the previously identified mold damaged and moisture impacted areas within the 10th floor of the subject building. These microbial clearance assessment services were requested following the discovery of moisture and mold damage materials visually identified within the noted break room and adjacent conference and office areas following a localized water release incident which occurred within the sink area of the noted break room on January 23rd, 2008. During the preliminary response activities performed by DGS personnel, it was also discovered that previous moisture damaged materials were also present within the newly impacted areas which warranted the performance of additional containment and mitigative activities as a result of this discovery.

Hence, these post mitigation assessment services are intended to assess the current site conditions wherein mitigative activities were performed to address both new and prior moisture related damages and impacts. Observations, findings, and recommendations pertaining to BioMax's preliminary site assessments of the subject areas have been summarized within our previous Letter Summary Assessment Report entitled Mitigation Procedures for 10th Floor Mitigation – Break Room Area dated February 8th, 2008 and may be referenced for further historical information, as necessary. Following the completion of prescribed mitigative activities

performed by your selected contractor, JLS, Mr. Michael A. Polkabla, CIH, REA of BioMax performed a post mitigation site inspection and sampling assessment within the affected areas of the subject building areas as noted below. BioMax's findings and conclusions pertaining to our post mitigation sampling assessment are summarized herein.

These post mitigation microbial clearance assessment services, thereby, are intended to provide a professional evaluation supported by technical sampling information verifying physical conditions wherein the successful completion of microbial removal and decontamination within the affected areas has been achieved.

SITE OBSERVATIONS

Site inspection and post mitigation assessment sampling activities were performed on Tuesday, February 19th, 2008 wherein site access into contained and non-contained areas was facilitated by Mr. Rick Boggs of JLS. On this day, Mr. Michael A. Polkabla, CIH, REA of BioMax performed a visual site inspection of each of the containment system barriers associated with this impact and collected a series of airborne samples within and surrounding the areas of concern the subject structures 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. A summary of significant notations and observations gathered during BioMax's site inspection and clearance assessment within the subject facility are compiled as follows:

1. At the time of our site inspection and clearance sampling assessment performed on February 19th, 2008 ambient outdoor conditions both prior to and following our interior assessment consisted of sunny and cold conditions with an outdoor temperatures range between 51 and 53 degrees F and relative humidity range between 63 and 68 %. Predominant winds were noted at approximately 0-5 knots from the northwesterly direction at the time of our assessment. Interior environmental conditions within the sampled 10th Floor areas consisted of a temperature range between 71 and 72 degrees F with relative humidity range of 29 to 34 percent.

2. Interior containments whereby microbial mitigative activities were performed included the floor to ceiling plastic barriers erected by JLS within the impacted areas including the Break room (1004), Conference room (1002), Office (1003), and adjacent north facing hallway in the general cubicle area (1014). Based on our inspection and review of observations within and surrounding the containment areas, BioMax concluded that such systems provided

evidence of appropriate control barriers and site protections at the time of our post mitigation assessment. A detailed site map indicating the delineation of established (as-constructed) containment systems utilized during this procedure may be referenced from JLS site records, as necessary.

3. Based on our post mitigation inspection within and surrounding the containment areas noted above, BioMax documented the absence of visible interior indications of elevated residual moisture and/or microbial indicators (such as staining, delamination, etc.) within the remaining exposed interior walls, wall framing, and wall cavities following the performance of mitigative measures. Utilization of a TraMex hand-held inductive moisture meter indicated normal moisture content within all remaining walls and building materials inspected within each of the sampled containment areas at the time of our assessment.

4. As noted within BioMax's previously referenced report, the primary affected areas of visible moisture damage previously identified included moisture and mold damaged wallboard materials and cabinetry primarily located within the break room, conference room, and adjacent office area/hallway.

5. At the time of our post mitigation inspection, containment system encompassing each of the interior affected areas were observed and verified under appropriate posting and negative pressure differential. Worker and equipment entry and exit chambers comprised of a series of zippered plastic access doorways were also observed attached to the noted containment break room barrier consistent with BioMax's written mitigation recommendation protocols.

6. As prescribed, all identified affected interior wallboard building materials had been removed from each of the affected areas exposing interior wall cavity framing (metal) as well as underlayment wallboard siding materials once present within the impacted containment areas. Upon post mitigation inspection, all remaining exposed building materials associated with the interior wall systems exhibited no significant staining and/or elevated mold growth following the completion of prescribed physical mold removal and chemical decontamination procedures performed by the selected mitigation contractor on the surfaces of such exposed building materials.

7. In conjunction with our visual inspection, BioMax collected series airborne samples within and outside each of the containment areas noted in Table 1 below for subsequent comparative analysis. Such samples collected within the interior containment area were performed in an effort to identify and quantify the presence of any potential significant fugitive airborne mold spores present within (and surrounding) the containment systems following the mitigative effort.

8. BioMax also collected a series of digital images during this 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 February 19th, 2008. All sampling equipment, supplies, calibration materials, and collection media were provided by BioMax as part of the performance of this scope of work. Sample collection procedures and methods were performed using aseptic 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 Table 1. A total of seven (7) airborne Spore Trap samples were collected within and outside the containment areas 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 sample. Field calibration of the SKC air sampling pump was conducted and recorded prior to and following sampling activities using a Bios Drycal primary standard flow meter and field rotometer. 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 samples were also similarly collected and analyzed before the collection of interior samples in an effort to identify and quantify normal background microbial taxa (types), rank order, and corresponding airborne spore levels present at the time of this assessment. Efforts were made in the collection of airborne samples to capture such samples during representative building occupancy conditions and activities so as to closely approximate normal air handling system ventilation conditions within each of the subject areas located immediately outside of the evaluated containment areas. Sampling collection activities performed during this study included the collection of identifiable airborne microbial contaminants within the representative areas noted in Table 1 below:

Table 1. Airborne Spore Trap Sampling Locations:

Air Sample Number	Spore Trap Air Sampling Location
13430728	Ambient outside location (Main Entry Level)
13430697	NW side of work area (outside containment area)
13430695	West side of work area (outside containment)
13430702	Ambient outside sample from 12th Floor SE balcony

Air Sample Number	Spore Trap Air Sampling Location
13430720	Ambient outside sample from 23rd Floor west balcony
13430686	Break Room (within containment)
13430699	Office 1003 (Dave Hayes Office)

Please note that due to the physical wall removal between the break room and adjacent conference room area, (and resultant shared air space between) no additional samples collected from the physical area of the conference room were deemed necessary. 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 detail. Analytical comments provided by the microbial laboratory regarding relative levels are noted as a semi-quantitative assessment based on historical and regional data. BioMax has also provided a copy of a current analytical interpretive guideline as an attachment to this report for further reference. 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. Summary of Airborne Microbial and Particulate Findings

Location Desc.	Total Mold Spores (Cts/m3)	Background Debris (scale of 1-4)	Skin Cell Fragments (scale of 1-4)
Ambient outside location (Main Entry Level)	119	2+	<1+
NW side of work area (outside containment)	53	2+	<1+

Location Desc.	Total Mold Spores (Cts/m3)	Background Debris (scale of 1-4)	Skin Cell Fragments (scale of 1-4)
West side of work area (outside containment)	53	2+	<1+
Ambient outside sample from 12th Floor SE balcony	372	2+	<1+
Ambient outside sample from 23rd Floor west balcony	867	2+	<1+
Break Room (within containment)	119	2+	<1+
Office 1003 (Dave Hayes Office)	346	2+	<1+

The analytical findings presented in Table 2 indicate the presence of significantly lower concentrations of microbial (mold) spores measured within each of the interior samples collected within and surrounding the subject areas 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 mitigated areas as well as the worker occupied area samples. Analytical findings also indicated the absence of significantly elevated levels of unique fungal taxa present within this noted areas currently occupied and accessed by BOE staff. Particularly worthy of note, was the absence of elevated levels of hydrophilic (moisture loving) mold taxa such as Penicillium, Aspergillus, and Stachybotrys which were previously identified present within the surface and air samples collected from within the noted containment area as summarized in BioMax's previously referenced assessment report.

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 microbial contamination found within "typical healthy" living 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 moisture, absence of significant visible residual mold, and relatively fewer total airborne mold levels with typical taxa and rank order distribution following mitigative clean-up activities are consistent with these generally acceptable conditions. BioMax, therefore, believes that these findings provide reasonable evidence indicating that current microbial clean-up measures have successfully mitigated and contained mold contamination within previously affected areas and previously affected materials to normal representative levels.

Based on these findings, BioMax believes that the current site conditions present within the mitigated areas as well as the corresponding analytical data collected and evaluated, following the performance of the recommended mitigative procedures, meets the clearance criteria established for these activities as presented in BioMax's Post Mitigation Clearance Assessment Protocols dated February 15th, 2008 as reviewed and approved by Hygientech. Therefore, BioMax believes that achievement of such criteria warrants our determination and recommendation that the previously impacted areas may be considered acceptable for reconstruction at this time.

Airborne Particulate Findings:

Analytical findings pertaining to the relatively low levels of airborne particulates debris identified within the collected air samples within and surrounding the previously impacted 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.

Although, there are similarly no currently applicable regulatory standards pertaining to allowable particulate levels with which to compare, it is BioMax's professional opinion that interior particulate levels should continue to be minimized wherever possible. Therefore, additional (and ongoing) recommendations for optional particulate control measures have been provided at the end of this report for client consideration.

RECOMMENDATIONS

Based on the findings and conclusions presented in this report, BioMax believes that the current airborne microbial levels sampled and analyzed from within the identified 10th Floor break room, conference room, and adjacent office and hallway areas provides no significant evidence of elevated residual microbial contamination or airborne migration following the completion of prescribed microbial mitigative measures. Hence, based on our direct site observations, measurements, and review of these findings at this time, BioMax believes that the previously affected areas located within the established interior containment area may be considered acceptable for general reconstruction following prudent reconstruction practices with the implementation of the noted additional measures discussed below. Therefore, based on these findings, BioMax recommends the following post-mitigation measures and actions:

1. BioMax believes that current airborne microbial (mold) levels and mold types were identified at levels which are believed to fall within generally acceptable ranges and parameters at present. Hence, BioMax recommends that no further airborne microbial sampling activities are warranted within the specific areas sampled and mitigated at this time. Certainly, due to the knowledge that microbial contamination, by nature, may change over time due to additional moisture intrusion, favorable growth conditions, and changing environments, these recommendations are subject to revision in the event that such conditions and/or environments arise.

2. During the performance of interior reconstruction activities, BioMax recommends that a qualified and experienced building inspector/contractor be utilized to verify the current functional integrity of all applicable plumbing, flashing, sealing, and drainage systems in accordance with current building codes and construction practices. Any identified deficiencies should be appropriately documented, corrected, and then functionally verified (tested) prior to subsequent reconstruction and commercial use. Certainly, the establishment/installation of any additional 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 necessary.

3. Due to the anticipated forthcoming renovation and reuse of these areas for kitchen related activities, as an additional precautionary measure, BioMax recommends that all remaining interior wall cavity wallboard materials be reconstructed utilizing an appropriate grade of sheetrock materials where moisture barrier properties are desired. As an client option, any interior sheetrock surfaces may also receive the application of a spray-on sealant with microbial growth inhibitors prior to wall construction. The application of such sealant (if desired) should be performed by your selected contractor in accordance with all product manufacturer's use specifications and application guidelines.

4. BioMax recommends that all reconstruction of interior structural building materials should only be undertaken utilizing high quality, visibly clean (hand selected) construction grade building materials obtained from reputable commercial sources and which are believed and visually 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 residence. BioMax recommends that all current plastic barriers (as established during this mitigation) should also remain during such reconstruction so as to minimize the potential transmission of associated construction dust and debris throughout the currently occupied areas of the subject structure.

5. As previously noted in is report, detectable levels of airborne particulates consisting of skin cell fragments and general debris particles were identified within the sampled interior areas surrounding the containment systems. Hence, and as an additional precautionary measure due to the presence of such materials, BioMax recommends that DGS considers the performance of supplemental post construction vacuuming and cleaning following the completion of interior renovation activities.

6. BioMax believes that any potential transmission and accumulation of the identified indoor airborne particulates may also be significantly reduced (if desired) on an immediate and ongoing basis through the use of routine HEPA filtered vacuuming and damp-wipe O&M cleaning methods employed by DGS maintenance personnel. BioMax's experience has indicated that these relatively simple and effective measures and methods have been shown to significantly reduce the accumulation of settled particulate debris on an immediate and ongoing basis if so desired.

7. 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 subject building structures, as necessary. Any occurrence and/or re-occurrence of moisture intrusion following routine O&M and/or general reconstruction within the subject building should also be reviewed and addressed through professional consultation, as necessary. BioMax is certainly prepared to provide such additional consultation pertaining to these and any follow-up investigative measures as necessary and upon request.

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

Sincerely,

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

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.

MICROBIAL SPORE TRAP AIR SAMPLING RECORD

000391386

Page 1 of 1

BioMax Environmental
775 San Pablo Ave.
Pinole, CA 94564

www.biomaxenvironmental.com

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

Location: 450 N Street Sacramento, CA

Client: DGS

Project #: 021908-01

Date: 2/19/08

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

Signature: [signature]

Laboratory: EM Labs

Req. Turn Around: ~~Expedited~~ Same Day

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

Sample Number	Time	Location/Desc	Temp / RH
13430728	0935	Ambient Ground Level Main Entry	51°F / 68%
13430697	1050	NW Side out of Containment	72°F / 29.8%
13430695	1100	West side out of Containment	72°F / 31%
13430702	1110	Ambient 12th Floor SE corner	54°F / 61%
13430720	1120	Ambient 23rd F West Balcony	53°F / 63%
13430686	1135	Break Room	71° / 33%
13430699	1150	Dave Hayes Office	71° / 34%
	Fungi Spore Trap Analysis		
	Cts / m³ (Same Day Expedited)		

Total Sample Time (min):	Flow Rate (l/min):	Total Sample Volume (liters):	Ambient Conditions:	Comments:
5	15	75 l	AM Clear / Cold PM Cloudy w/ Rain	

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: Cool / Overcast in AM

Relinquished by: [signature]	*Received By:* Am Morrissey 2-21-08 1:14
Method of Transportation: Fed X Priority	
Time/Date Sent: 6:30 PM 2/20/08	*Time/Date Received:*

BioMax Environmental, LLC

Fax and Email results ASAP
Thanks, MP

EMLab P&K

Report for:

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

Regarding: Project: 021908-01
EML ID: 391386

Approved by:

Lab Manager
Dr. Kamashwaran Ramanathan

Dates of Analysis:
Spore trap analysis: 02-21-2008

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 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.

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: 021908-01

Date of Sampling: 02-19-2008
Date of Receipt: 02-21-2008
Date of Report: 02-21-2008

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	13430728: Ambient ground level, main entry		13430697: NW side out of containment		13430695: West side out of containment		13430702: Ambient 12th floor SE corner	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	1718097-1		1718098-1		1718099-1		1718100-1	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria							1	13
Arthrinium								
Ascospores*								
Aureobasidium								
Basidiospores*	1	53					3	160
Bipolaris/Drechslera group								
Botrytis								
Chaetomium								
Cladosporium					1	53	1	53
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Other brown							1	13
Other colorless								
Penicillium/Aspergillus types†	1	53	1	53			2	107
Pithomyces								
Rusts*	1	13					1	13
Smuts*, Periconia, Myxomycetes*								
Stachybotrys								
Stemphylium								
Torula								
Ulocladium							1	13
Zygomycetes								
Background debris (1-4+)††	2+		2+		2+		2+	
Hyphal fragments/m3	< 13		13		< 13		< 13	
Pollen/m3	53		< 13		< 13		40	
Skin cells (1-4+)	< 1+		< 1+		< 1+		< 1+	
Sample volume (liters)	75		75		75		75	
TOTAL SPORE/m3		119		53		53		372

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.

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Date of Sampling: 02-19-2008
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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	13430720: Ambient 23rd floor, west balcony		13430686: Breakroom		13430699: Dave Hayes office	
Comments (see below)	None		None		None	
Lab ID-Version‡:	1718101-1		1718102-1		1718103-1	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Alternaria	1	13				
Arthrinium						
Ascospores*						
Aureobasidium						
Basidiospores*	2	107				
Bipolaris/Drechslera group						
Botrytis						
Chaetomium						
Cladosporium	9	480	1	53	4	213
Curvularia						
Epicoccum					1	13
Fusarium						
Myrothecium						
Nigrospora						
Other brown					1	13
Other colorless						
Penicillium/Aspergillus types†	5	267	1	53	2	107
Pithomyces						
Rusts*						
Smuts*, Periconia, Myxomycetes*			1	13		
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+		2+		2+	
Hyphal fragments/m3	13		< 13		13	
Pollen/m3	13		< 13		< 13	
Skin cells (1-4+)	< 1+		2+		2+	
Sample volume (liters)	75		75		75	
TOTAL SPORE/m3		867		119		346

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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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.

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MoldRANGE™: Extended Outdoor Comparison

Outdoor Location: 13430728, Ambient ground level, main entry

Fungi Identified	Outdoor data	Typical Outdoor Data by Date† Month: February				Typical Outdoor Data by Location‡ State: CA			
	spores/m3	low	med	high	freq %	low	med	high	freq %
Generally able to grow indoors*									
Alternaria	-	7	19	190	35	7	27	230	60
Bipolaris/Drechslera group	-	7	13	160	10	7	13	120	14
Chaetomium	-	7	13	130	7	7	13	110	19
Cladosporium	-	27	290	4,300	89	53	640	6,500	98
Curvularia	-	7	13	340	8	7	13	210	7
Nigrospora	-	7	13	140	8	7	13	170	8
Penicillium/Aspergillus types	53	27	160	1,700	84	40	210	2,500	89
Stachybotrys	-	7	13	370	3	7	13	330	5
Torula	-	7	13	230	5	7	13	150	13
Seldom found growing indoors**									
Ascospores	-	13	110	2,200	67	13	110	1,800	73
Basidiospores	53	13	270	8,600	87	13	270	6,900	95
Rusts	13	7	13	240	11	7	13	270	29
Smuts, Periconia, Myxomycetes	-	7	27	270	53	8	40	480	71
TOTAL SPORES/M3	119								

† 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.

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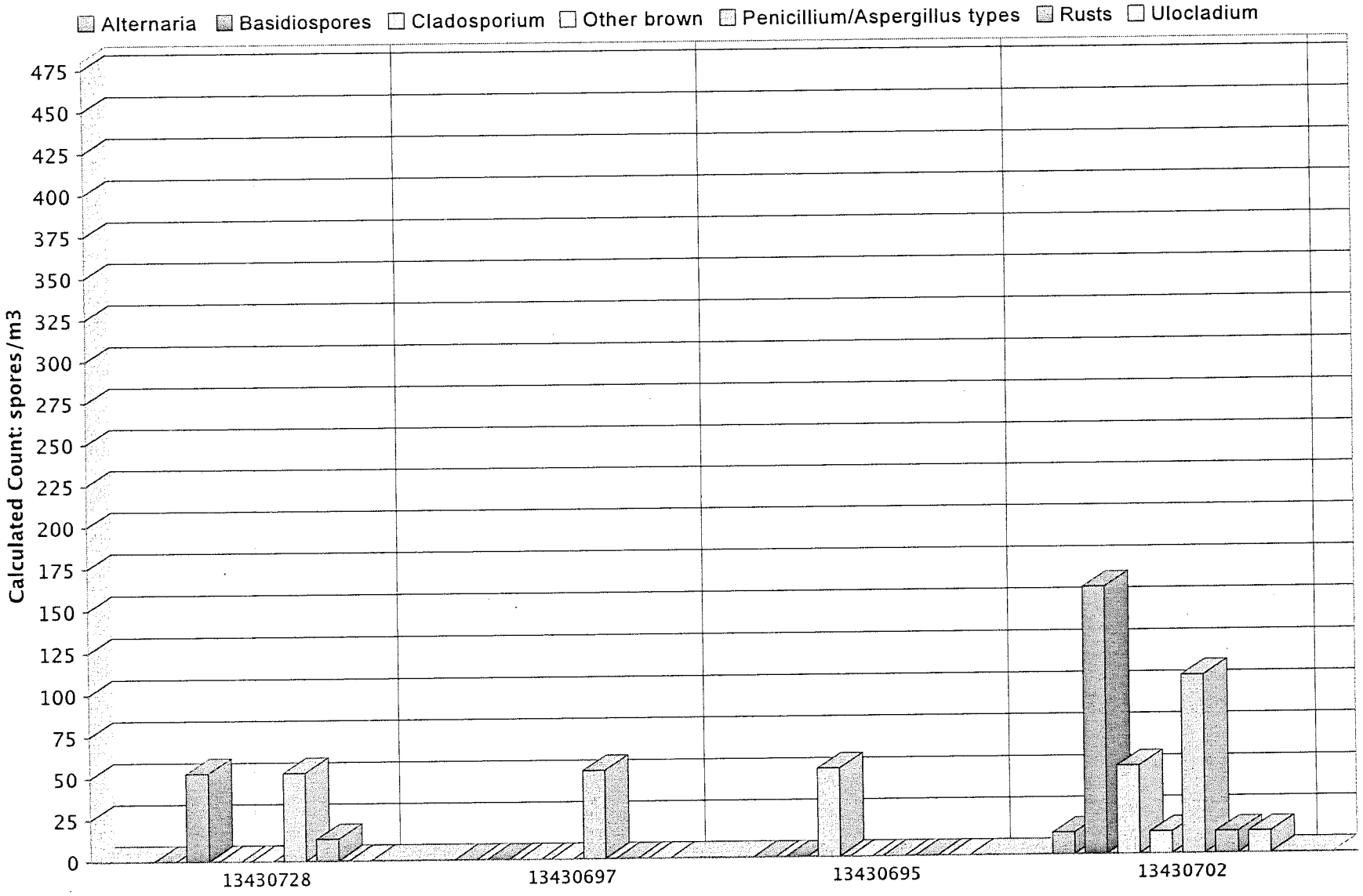
02-21-2008: 021908-01

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.

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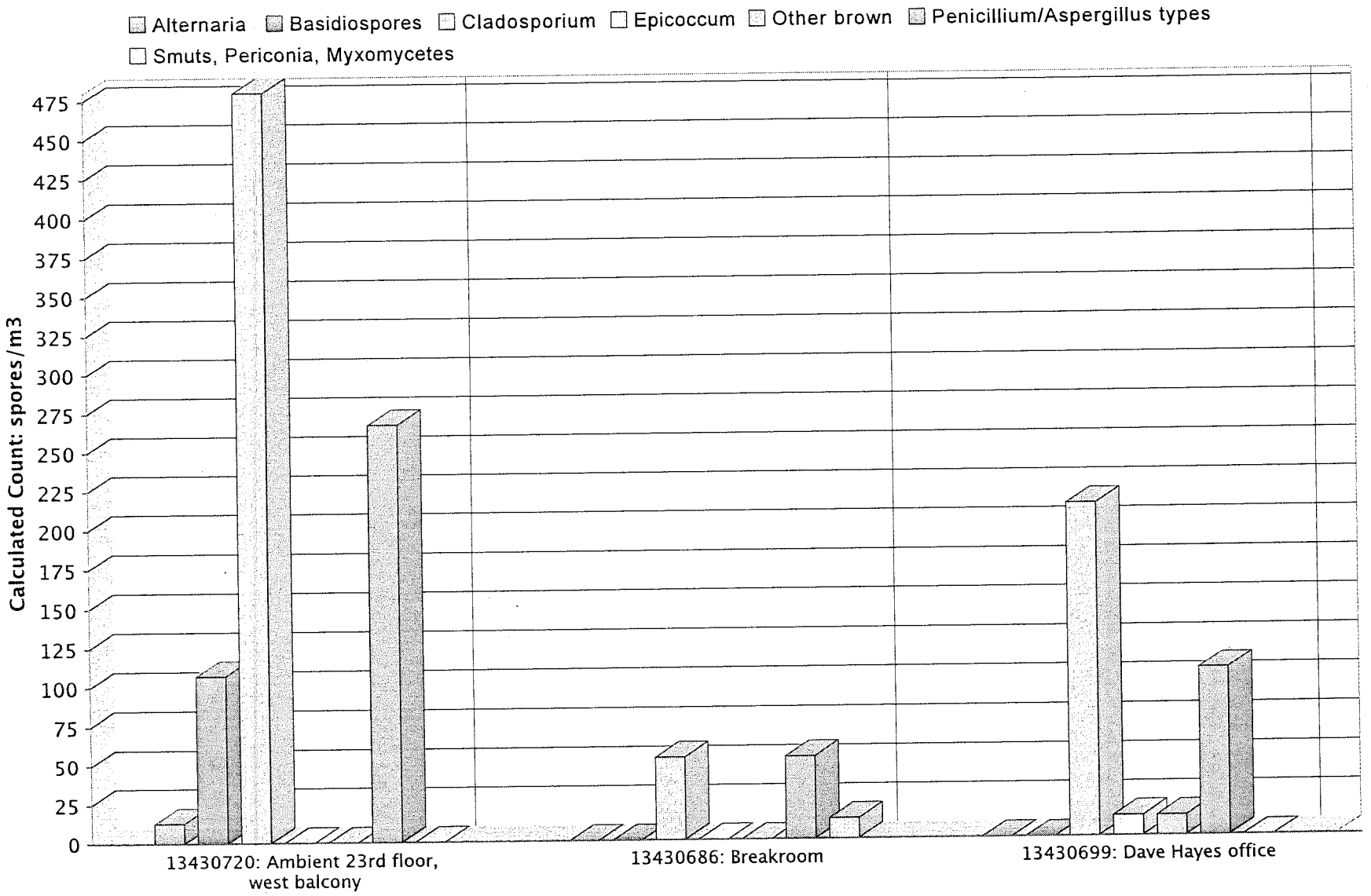
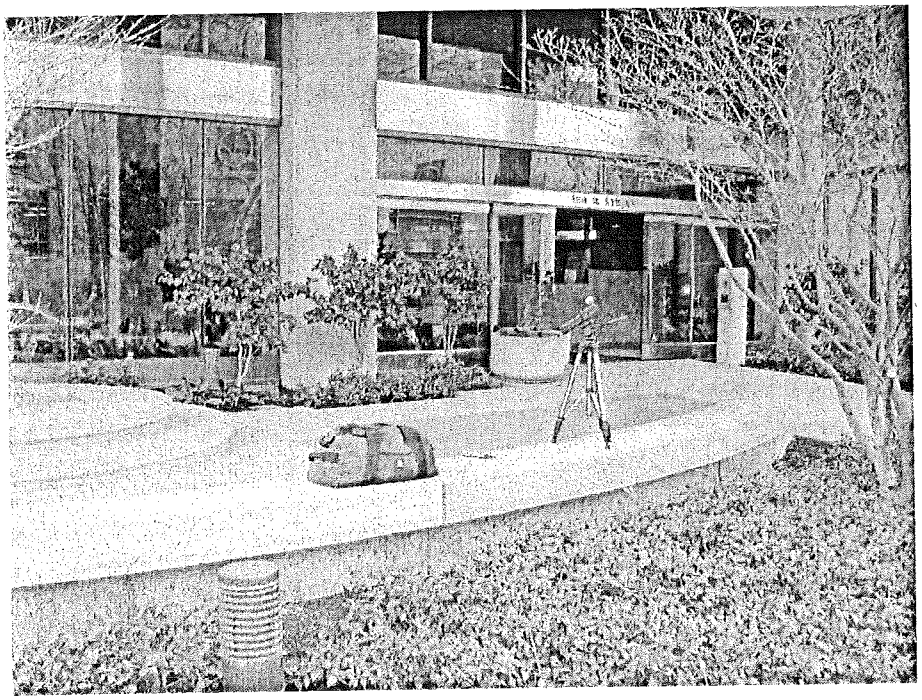


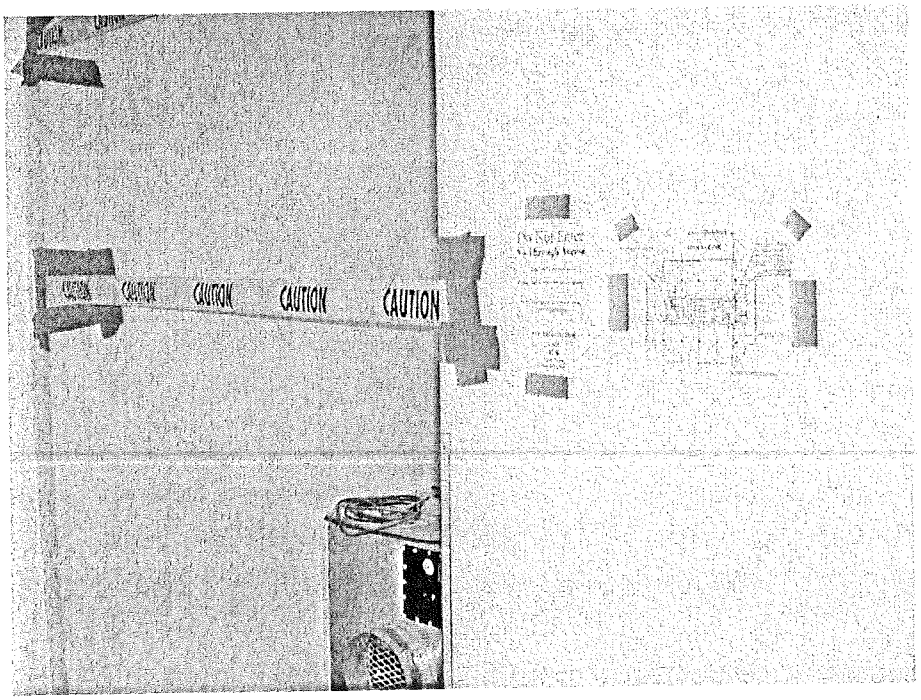
Comments:
Note: Graphical output may understate the importance of certain "marker" genera.

Attachment A: Digital Images
February 19th, 2008
BOE Building 10th Floor Break Rooms
Sacramento, CA

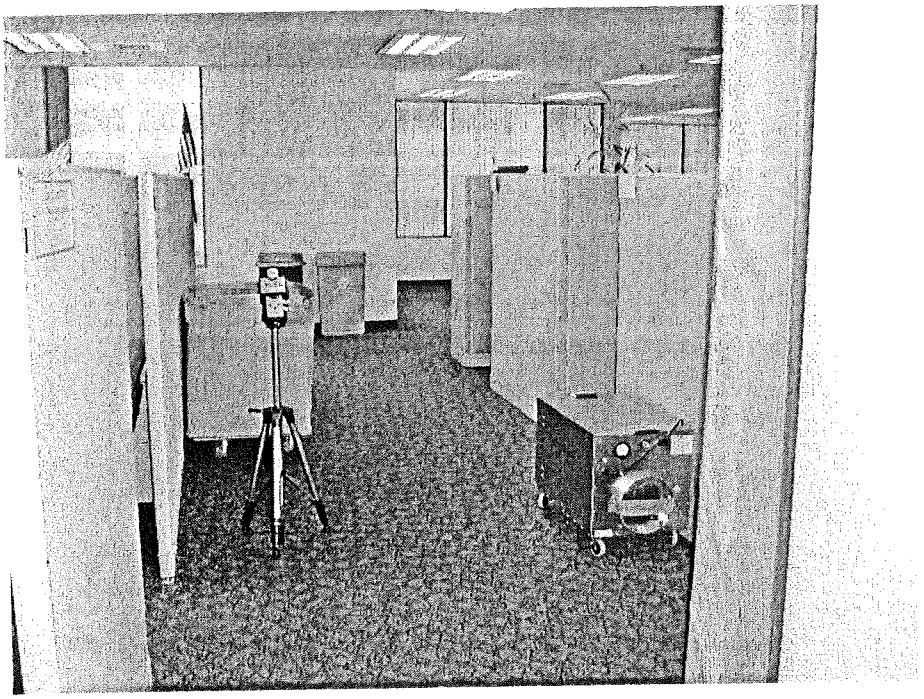
Click here for color photos



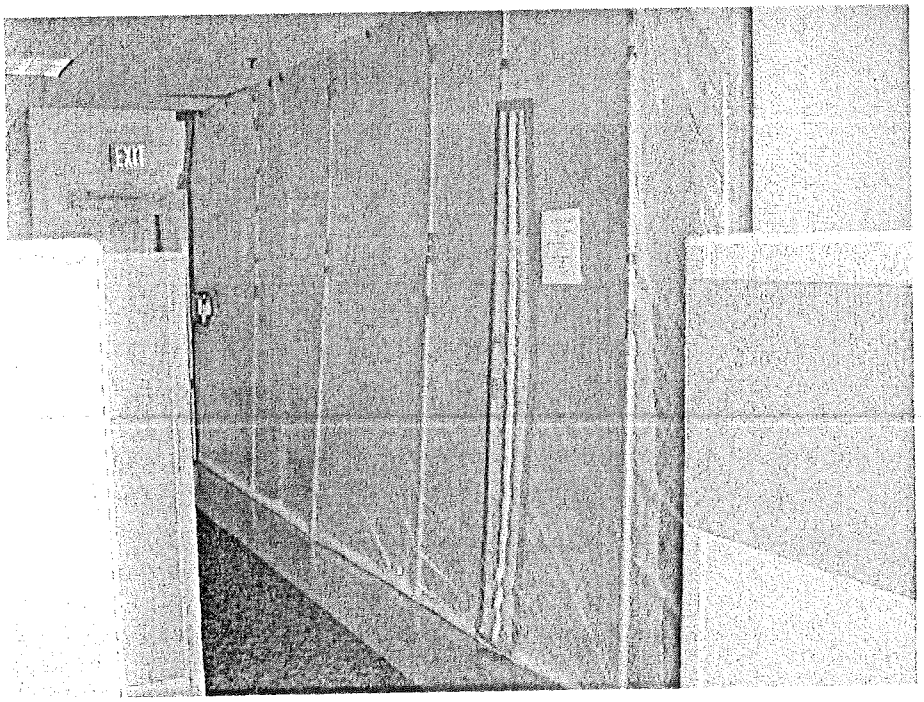
1) Image of ambient air sampling location at front entry of BOE Building (Subject Building) located at 450 N Street, Sacramento, California at time of assessment.



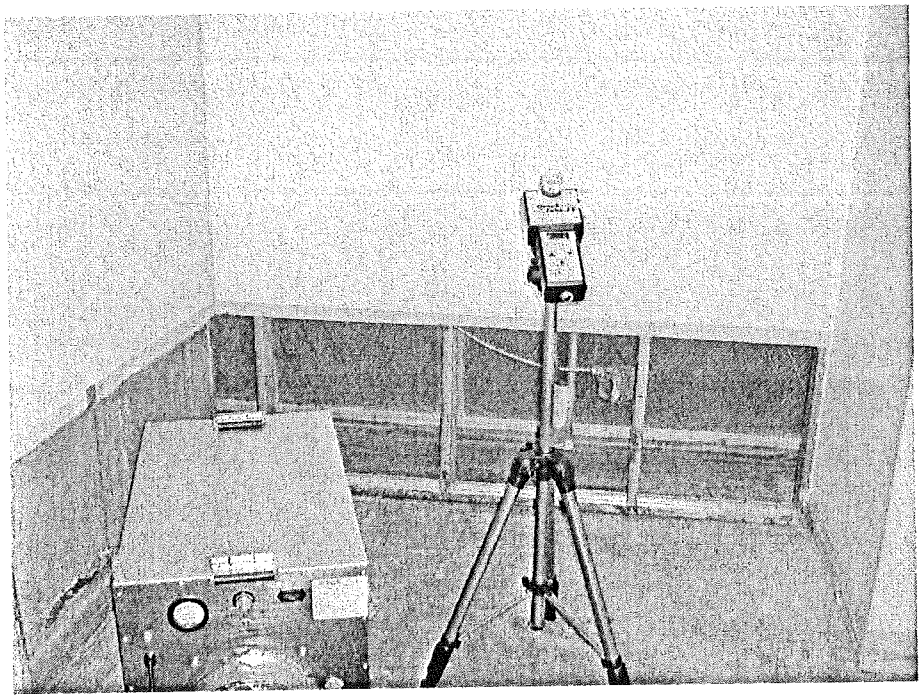
2) Image of postings and alternate routing directions for BOE employees at hallway leading to break room containment on the 10th floor.



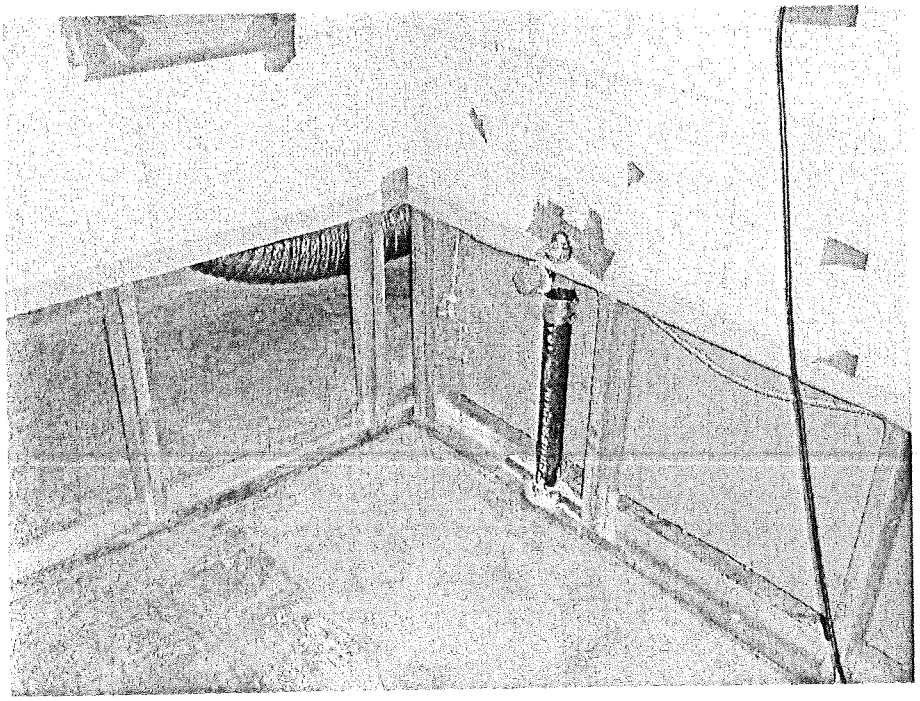
3) Image of cubicle work area located outside the established containment system where air sampling equipment is observed present in the foreground at time of assessment.



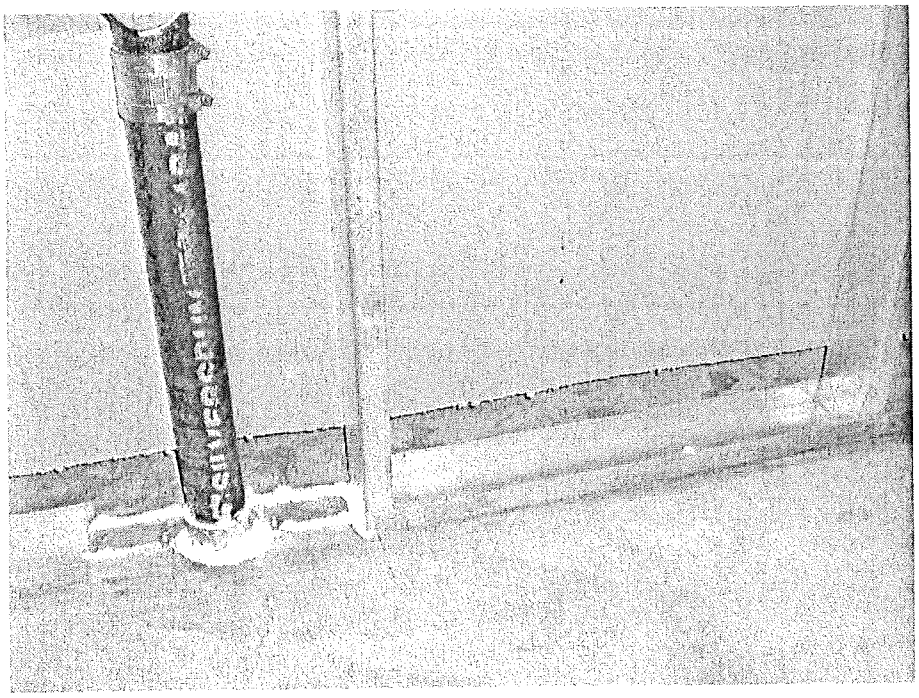
4) Image of hallway air sampling location adjacent to Break Room as viewed from 1014 cubicle area (outside containment) at time of assessment.



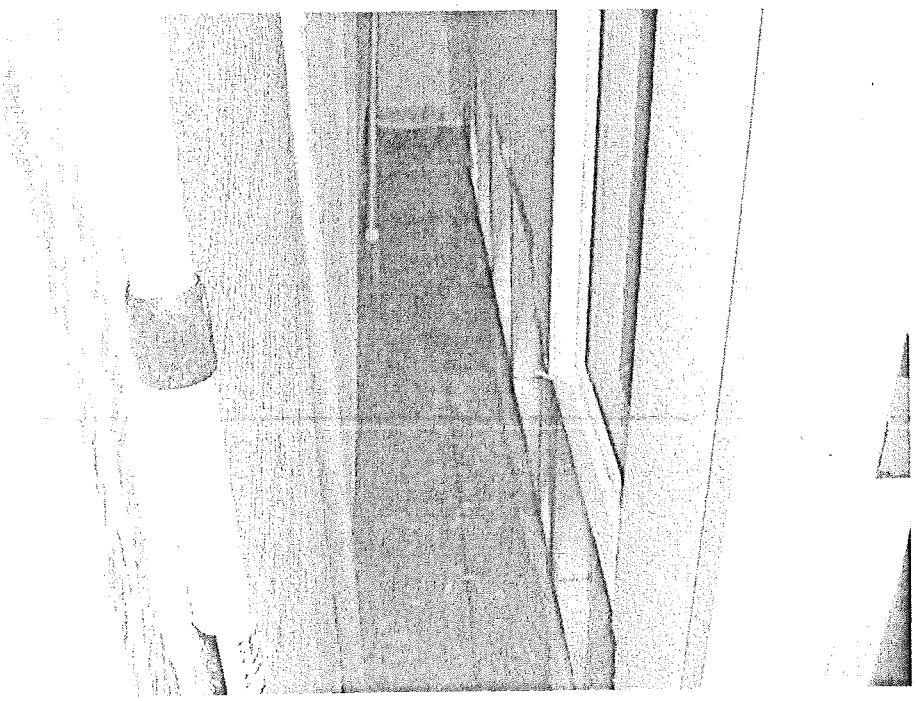
5) Image within 10th Floor break room containment 1004containment indicating location of air sampling equipment and extent of removal of cabinetry and wallboard materials.



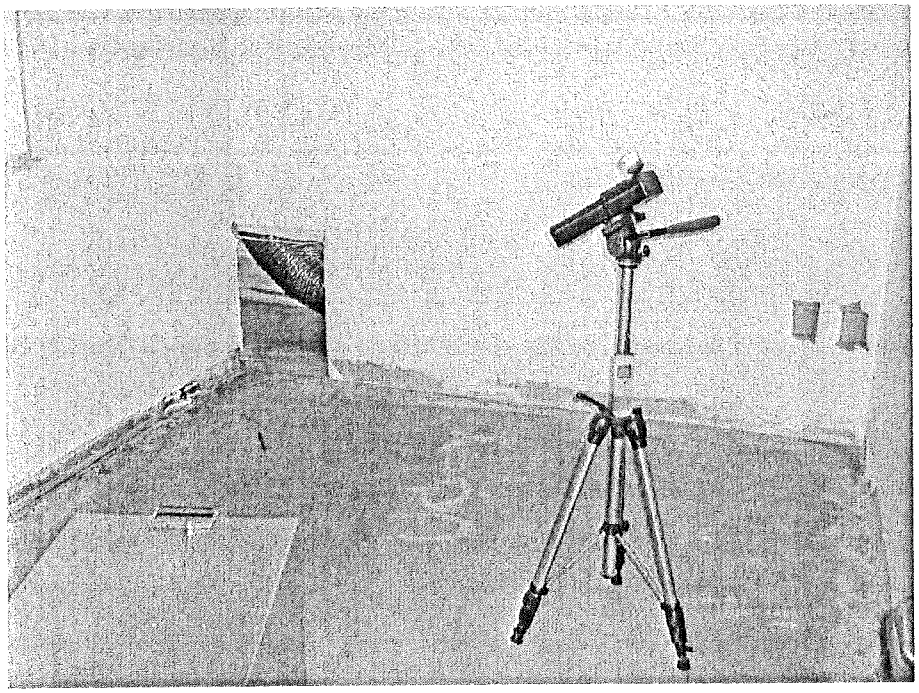
6) Additional image within Break Room containment area viewing corner where previous cabinetry had existed prior top removal.



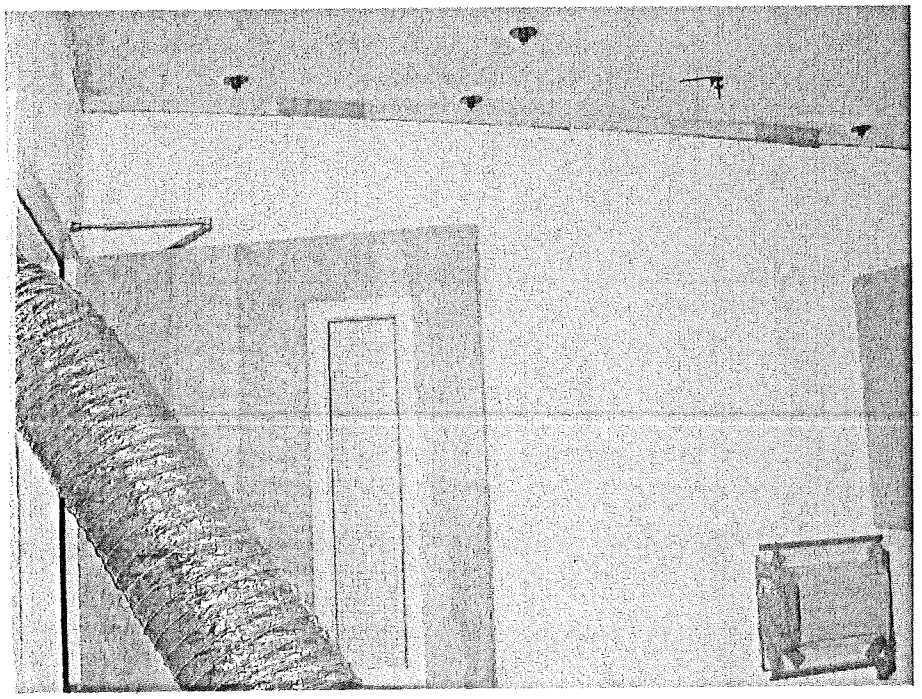
7) Close-up image within Break Room containment showing plumbing detail and wall space cavity following physical removal of damaged materials.



8) Image of containment space located along north facing hallway adjacent to break room and office area.



9) Image of air sampling equipment location within office (1003) inside containment adjacent to break room at time of assessment.



10) Image within break room containment area showing establishment of ceiling barrier and negative air exhaust ducting onto hallway.