BioMax Environmental
Environmental Consulting and Industrial Hygiene Services

June 12th, 2008

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

Mitigation Procedures for Moisture Impacted – Break Room 1905 Area
Department of General Services Board of Equalization Building
450 N. Street
Sacramento, California

Dear Mr. Button,

BioMax Environmental, LLC (BioMax) is pleased to provide the Department of General Services (DGS) with this letter summary report detailing BioMax's recommendations pertaining to our inspection of the moisture and microbial impacted 1905 break room and adjacent 1908 "Quiet Room" present within the BOE building located at 450 N Street Building (subject building) Sacramento, California. BioMax understands that these microbial inspection and preliminary assessment services were requested by DGS in an effort to evaluate the recently discovered moisture damage and visible staining initially noted present within the 1905 break room area of the subject building.

Hence, BioMax also understands, that these procedural activities have been requested by your offices in an effort to establish the necessary preliminary standard procedures required for forthcoming inspection and microbial mitigative efforts within the visually impacted 1905 and 1908 areas.

As such, these recommended procedures have been developed 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 observations based on our preliminary visual observations of the noted areas within the subject 1905 and 1908 areas gathered during BioMax's inspection performed on June 11th, 2008, are as follows:

- At the time of our preliminary inspection performed on Wednesday, June 11th, 2008, BioMax observed the 1905 break room at approximately 12:00 pm during normal BOE staff use and occupancy. Upon entry into the 1905 break room, BioMax noted the presence of an interim plastic barrier reportedly installed previously by BPM personnel. Such barrier consisted in a plastic sheet extending from the cabinet door base to the tile flooring and duct tape covering the cabinet joints. Signage was also placed on the door as an intended instruction to preclude access into the interior cabinet.

- Careful removal of the barrier and inspection of the cabinet sub-sink cavity revealed visual observations of significant historical moisture damage as indicated by laminant cracking, discoloration, and decomposition within the cabinet base materials. Significant mold-like odors were also noted emanating from the opened sink cabinet cavity at the time of our inspection. Hence, digital images were promptly collected and the cabinet doors were immediately closed as a precautionary measure as mold damages were verified subjectively and no additional sampling data (other than those collected previously by HTI) were deemed necessary.

- **Quiet Room 1908** - At the time of our assessment, a BOE occupant was observed residing and present within the noted quiet room area. Upon introduction and entry, the BOE occupant vacated the area and BioMax gained visual access to the shared wall located immediately adjacent to the back side of the break room sink cabinet. Utilization of a direct reading hand-held Delmhorst moisture detector (provided by HTI) indicated the presence of elevated moisture content along the baseboard level sheetrock materials extending a minimum of four linear feet from the approximate source area.

- A series of digital images were also collected during BioMax's inspection and sampling assessment activities. Images are attached to this summary report for further reference, as necessary. A detailed site map sketch indicating the extent of visibly affected areas noted at the time of this assessment and relative surface sampling locations is also provided as an attachment to this report for further reference.

At the request of DGS, BioMax prepared a summary of interim preliminary recommendations and transmitted such recommendations via email at approximately 10:21 am on 6/12/08. A recounting of these preliminary recommended actions provided with the noted transmittal are as follows:

> *In response to our discussions pertaining to the conditions associated with the damages within Break Room 1905 and the adjacent "quiet room" (1908), BioMax recommends the following:*
>
> *1) The water and mold impacted sink cabinet within 1905 should be immediately isolated with plastic containment barriers so as to preclude access and direct physical contact with (and/or disturbance of...) the mold damaged materials. This action has been completed by JLS as of*

yesterday afternoon (Wednesday 6/11/08) Any water supplies associated with the sink should be deactivated at this time.

2) Due to the HTI data reported verbally to BioMax which indicated "unremarkable" airborne spore levels present within the break room at this time, BioMax believes that BOE staff may temporarily access and remove any personal items within the break room which are present outside the contained sink cabinet. Such access shall only be provided on a temporary basis until full containment has been established. I would anticipate that such access should only be allowed through today (Thursday).

3) BioMax and HTI noted during our joint inspection on Wednesday that there was significant moisture content (indicative of chronic moisture release) present within the break room sink cabinetry as well as the adjacent shared wall located in room 1908. Hence, due to these findings, BioMax recommends that both rooms 1905 and 1908 will be isolated under negative pressure containment following BOE's notification and personal furnishing removal as discussed above. Although air data has indicated currently "unremarkable" airborne conditions, BioMax believes that such additional measures are prudent due to the presence of significantly elevated moisture content currently present within the inspected building materials and structures and the likely resultant continued mold growth and amplified spore production following plastic barrier isolation.

4) HVAC supply and returns locations within 1905 and 1908 should be immediately sealed until further notice. Critical containment barriers should then be erected at the entrances to 1905 and 1908 pending immediate forthcoming mitigative activities.

5) BioMax recommends that negative pressure containment barriers be established within both 1905 and 1908 under the mitigative procedures which will be developed and distributed by BioMax this afternoon. Only following the establishment of the controls and barriers noted above shall dehumidification equipment and air scrubbing equipment be utilized so as to minimize the release and distribution of potential fugitive spore emissions associated with the damaged materials. The establishment of such barrier controls and equipment systems should initiate on Friday at a minimum.

Please contact me directly at my offices and/or cell number if there are any questions pertaining to these recommended preliminary actions.

Please note - BioMax has visually inspected the noted areas and has been provided with a verbal summary of data (both airborne and surface) that was collected by HTI. Hence, these preliminary recommendations are based on BioMax's first hand observations and reliance of HTI's reported data. As such, these preliminary recommendations may be revised upon discovery of new and/or revised information, as necessary.

Based on BioMax's review of current site findings, historical information, and sampling data reported to BioMax by HTI as available at this time, BioMax recommends that the following additional investigative and mitigative corrective measures/actions be considered following the implementation of the preliminary actions noted above, as follows:

1. In performing such destructive investigative and mitigative measures, BioMax recommends that a qualified and experienced microbial abatement contractor be selected to erect critical containment barriers at the entrances to the impacted break room (1905) areas and quiet room (1908) so as to perform deconstructive inspection and microbial mitigative measures within each of the interior areas noted. The containment barrier system shall also be designed, established, and maintained so as to isolate the existing ceiling tiles and above ceiling plenum

areas from the active working areas below. The selected contractor must be specifically trained in the field of microbial abatement techniques and methods as well as maintain demonstrated proficiency in the establishment and use of appropriate barriers, personal protective equipment, abatement techniques and methods in the removal and decontamination of microbial affected and impacted materials.

2. These containment systems shall be designed for the purposes of containing and controlling possible fugitive emissions of airborne fungal spore contaminants during all forthcoming deconstruction, inspection, and mitigative activities within the noted areas. All critical containment systems shall be constructed of plastic and/or otherwise airtight materials so as to create a negative pressure system within the noted areas of concern. Due to physical constraints, all negative air pressure shall be maintained within the critical areas with the use of a High Efficiency Particulate Aerosol (HEPA) filtered "negative air machine" vented to the adjacent outside workspace environment. An adequate supply of HEPA filtered intake air shall also be established to allow an adequate supply of "clean" filtered make-up air into the critical containment. Wherever possible, clear translucent plastic observation windows shall be placed on the critical containment barrier within direct sight of the affected areas for the purposes of inspection during the performance of prescribed mitigative measures. BioMax is prepared to provide your selected contractor with additional and ongoing detail pertaining to the establishment maintenance, and specific locations of critical containment barriers, as necessary. Once, containment paramcters have been established, the site contractor shall maintain an "as built" record of exact containment locations and materials for further review and reference.

3. A series of similar plastic and/or otherwise impermeable zippered entry chambers shall also be erected at the entrance of the containment systems for the purpose of establishing worker entrance/exit and clean personal protective equipment donning and decontamination area. HEPA filtered vacuum equipment capable of the effective removal of particulate contaminants from tools and personal protective equipment shall be placed within each of the zippered chambers closest to the working area. During such measures, appropriate signage and warnings must be posted on the exterior of containment entrances to preclude uninformed access from unauthorized personnel. Data logging monitoring equipment employed to record pressure differentials on a 24-hour basis shall be used for the duration of functional barrier use.

4. Upon establishment of critical containment barriers, BioMax recommends that the selected microbial abatement contractor also places and maintains appropriate HEPA filtered air-scrubbing and dehumidification units within the affected areas, as necessary. All Heating Ventilation and Air Conditioning (HVAC) supply/return vents and ceiling or wall mounted recessed lighting/ fan penetrations within the containment systems shall be deactivated and covered within similar plastic barrier systems. All appropriate wall and ceiling penetrations present within the containment systems shall also be sealed and/or otherwise rendered airtight and inoperable so as to minimize unfiltered particulate intrusion into and out of the established containment systems. It is specifically recommended that the ceiling tile level materials be critically sealed from the working areas within each of the noted containment

rooms so as to preclude fugitive emissions from exiting the noted containments. Any smoke detectors and/or fire suppression systems shall NOT be covered nor rendered inoperable within the subject building unless authorized to do so under the direction and supervision of personnel.

5. Workers engaged in mold remediation/mitigation activities must be adequately trained and equipped with properly selected personal protective equipment (PPE) including, at minimum, hooded Tyvek coveralls, air purifying full face respirators with N100 minimum HEPA filter rating or similar PAPR systems, nitrile or latex gloves, chemical resistant boots or boot covers, with taped joints. Site control zones shall be established with exclusion, contaminant reduction (decontamination), and support zones in accordance with published Environmental Protection Agency (EPA) and California Department of Occupational Safety and Health (Cal/OSHA) guidelines. BioMax would be happy in providing the selected contractor with further site-specific detail regarding PPE regimen and appropriate site control zones, as necessary.

6. BioMax recommends that all interior items or furnishings located within the break room and quiet room areas be relocated from the containment area systems prior to the establishment of negative pressure containment and mitigative activities. Any remaining hard surface materials not removed from the containment must be appropriate disposal and/or decontamination as noted below. As a precautionary measure, all such hard surface furnishings remaining within the break room which has been deemed salvageable by DGS, shall receive a thorough cleaning, mildicide wet-wiping, and HEPA vacuuming as part of these recommended procedures prior to subsequent clearance testing and reuse.

7. BioMax specifically recommends that all affected floor mounted sink cabinet materials within each noted areas where visual evidence of potential moisture intrusion and damages has been identified, be removed for inspection of the interior and adjacent wall cavities/underlayment. As verified through inspection, any affected interior sheetrock and building materials shall be digitally documented and removed, wherever feasible, to the extent of visible staining, at a minimum. Flooring materials present within the impacted areas shall also be removed under containment controls for appropriate inspection of subflooring underlayment. Removal of moisture impacted and mold damaged materials may employ the use of appropriate item-specific containment methods and systems (such as sealed plastic glove-bag containment systems, or equivalent) applicable to the materials being removed at the discretion of the mitigation contractor. BioMax currently anticipates that all visually affected sheetrock, floor mounted cabinets and floor covering materials present within the break room areas shall be removed for disposal, and physical inspection of wall cavities and underlayment, as necessary. Any underlayment materials exhibiting visible signs of moisture staining shall also be removed or decontaminated (as noted below), as necessary.

8. Other potentially affected areas and building materials encountered during these deconstructive and investigative stages, such as adjacent wall studs, underlayment, etc., must be thoroughly inspected during these deconstructive stages to identify any potential signs of additional microbial related materials and water damage indicators. In general, all microbial

impacted materials shall be removed to the extent of visible staining and at least 2 feet beyond such identified perimeters, wherever possible.

9. All remaining moisture/mold affected porous and non-porous building materials deemed infeasible for removal and/or disposal (due to structural integrity concerns) shall be inspected and receive a series of decontamination treatment measures designed to minimize and control the presence of microbial related substances. Decontamination methods employed shall, at a minimum, include treatment of all identified surfaces with a series of thorough chlorine based mildicide (minimum 10 parts water to 1 part chlorine soln.) applications followed by a series of thorough HEPA filtered vacuuming procedures using power sanding and/or brush agitation. The duration and frequency of mildicide and HEPA sanding/brushing applications employed may vary depending on local material contamination but shall be sufficient in removing and decontaminating all visible surface staining to levels deemed by BioMax to be consistent with representative background levels. Reasonable additional mitigative measures and controls may be required, as necessary, upon discovery of additional contaminated materials as well as BioMax's site inspection findings and observations performed during this scope of work. BioMax would be happy to provide ongoing consultation with the contractor pertaining to these measures and site/material specific decontamination measures upon request.

10. Upon completion of mitigation efforts performed by the selected microbial abatement contractor, BioMax recommends the performance of a visual inspection conducted by the Project Certified Industrial Hygienist (Project CIH) to verify that all significant mold related staining and moisture indicators have been removed and/or treated and that all prescribed mitigative efforts and measures have been appropriately achieved. Once established, it is recommended that the Project CIH collect a series of microbial "clearance" air samples to verify that all affected interior areas have been appropriately decontaminated to acceptable background airborne levels and that the affected areas within the subject building are verified as "cleared" for reconstruction, forthcoming reoccupancy, and reuse. Additional "punch-list" action items may by provided to the contractor following the performance of this site clearance inspection prior to receipt of analytical results, as deemed necessary.

11. Upon review of analytical sampling results by the Project CIH and achievement of acceptable clearance criteria, BioMax recommends that the mitigation/reconstruction contractor considers applying a mildicide-based sealant onto all remaining organic-based building materials and treated surfaces. Use of a recognized commercially available encapsulant/sealant product with microbial growth inhibitors in accordance with manufacturer's application and use instructions is believed to be currently acceptable for these purposes. Following the achievement of acceptable clearance criteria, the provision of appropriate access shall be provided to BOE and its consultants for inspection of affected areas and materials prior to final encapsulation and reconstruction.

12. Following the performance of these mitigative measures, the designated site reconstruction contractor is strongly encouraged to verify that repairs to any faulty and/or deficient building penetration, drainage, plumbing and/or building envelop sealing systems have been

appropriately inspected, replaced/repaired, and function tested prior to the reconstruction of the affected interior structures and cavities. Certainly, the repair/replacement and/or establishment of any such additional engineering controls (as recommended through additional professional consultation) must be performed and implemented in accordance with applicable standards, building codes, and ordinances, as necessary.

13. Upon successful completion, reconstruction of interior structural materials should be undertaken utilizing visibly clean (hand selected) construction grade materials in accordance with applicable building codes and requirements. The reconstruction contractor shall be required to only select materials which are obtained from reputable commercial sources and which are believed and visually verified to be free from elevated microbial contamination and/or elevated moisture content. New building materials, which are notably moist and/or visibly stained, shall NOT be used during the reconstruction of the subject structure. BioMax specifically recommends that reconstruction materials selected for use in the break room areas be specifically selected based on their moisture deterrent and anti-microbial properties wherever feasible.

14. Reasonable additional assessment and mitigative measures may also be required upon the identification of new or previously undiscovered materials and/or information related to moisture/microbial impacts, as necessary. Any reoccurrence of moisture intrusion following reconstruction should certainly be reviewed and addressed through further professional consultation, as necessary. BioMax would be happy to provide additional microbial consultative services pertaining to the mitigation of such structures so as to minimize any adverse impacts to the interior environment during the performance of any such activities upon request..

Once again, it has been a pleasure working with DGS on these important matters. If you have any additional questions, comments, or require further assistance, please do not hesitate to contact me directly at (510) 724-3100.

Sincerely,

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

LIMITATIONS

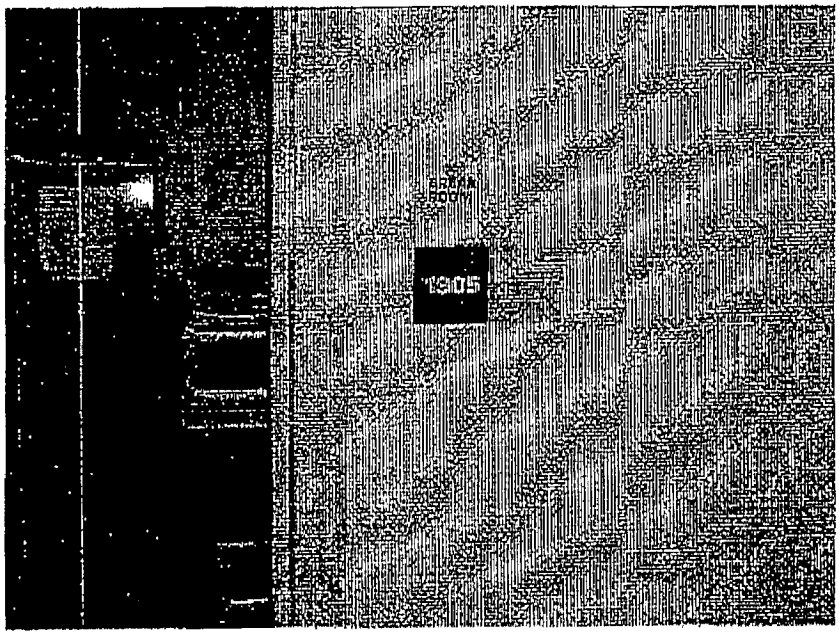
Please note that the professional opinions presented in this review are intended for the sole use of DGS and their designated beneficiaries. No other party should rely on the information contained herein without the prior written consent of BioMax Environmental and DGS. The professional opinions provided 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 report communication is intended 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 identification, evaluation and control of potential contamination or unnecessary physical, chemical, and/or biological 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. Risk management and safety is criteria dependent and situation specific requiring extensive knowledge and value assessments to be properly determined by competent professionals.

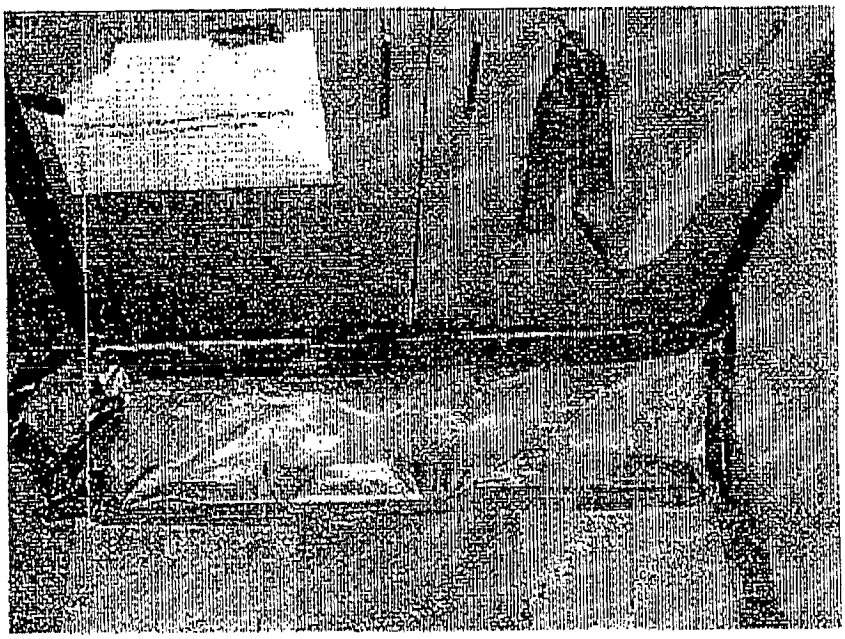
These services were performed by BioMax in accordance with generally accepted professional industrial hygiene principals, practices, and standards of care. Under the existing Industrial Hygiene Definition and Registration Act, all reports, opinions or official documents prepared by a Certified Industrial 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.

Attachment A: Digital Images
June 11th, 2008
BOE Building 19th Floor Break Room Areas (1905 + 1908)
Sacramento, CA

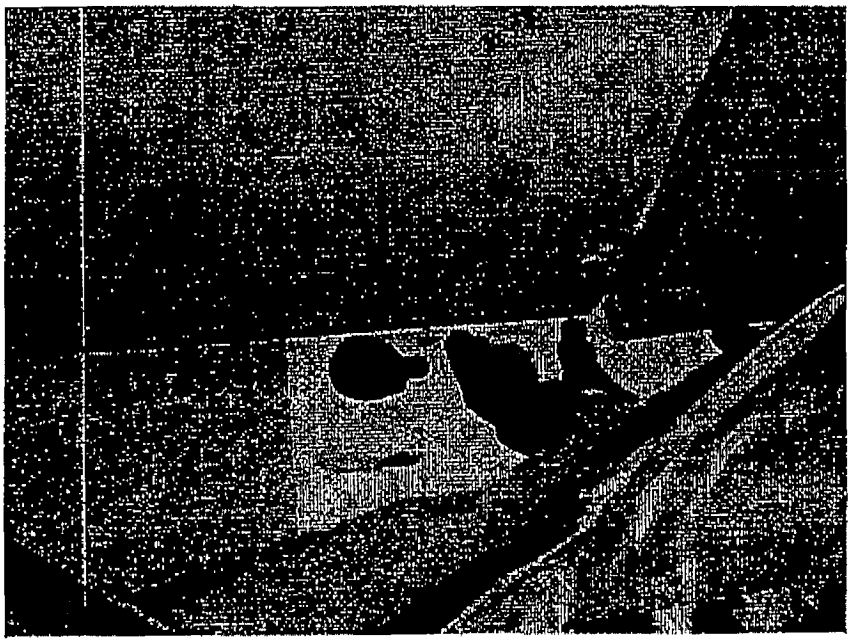
Click here for color photos



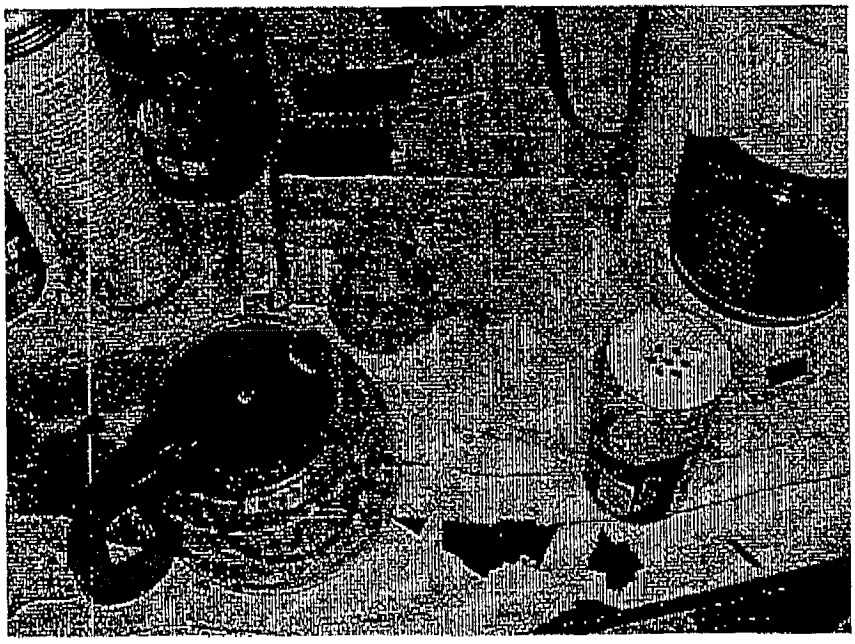
1) Image of 19th Floor Break Room (1905) main entrance at time of assessment of BOE Building (Subject Building) located at 450 N Street, Sacramento, California.



2) Image of sink cabinet at time of assessment. Noted signage and interim plastic and duct tape barriers were present as noted as installed (according to DGS) by BPM site representatives.

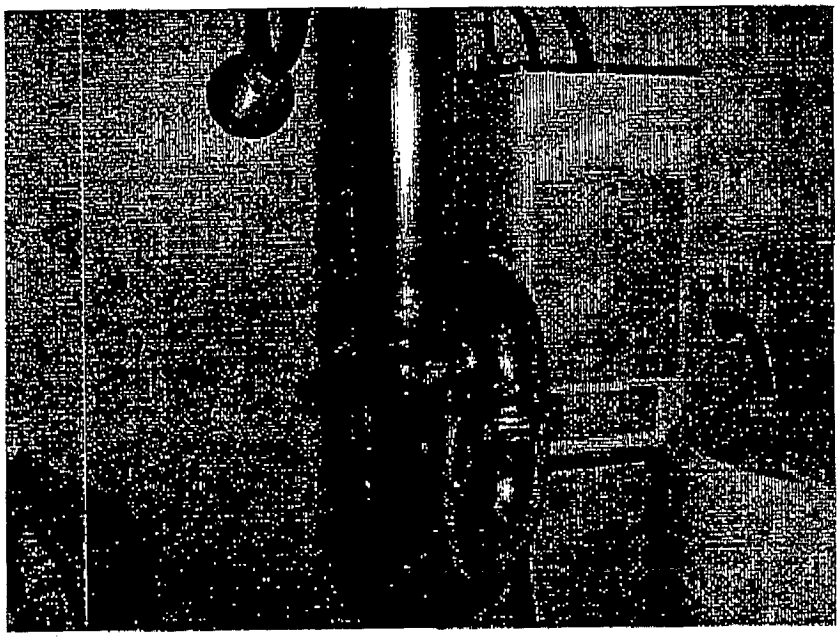


3) Image of dark liquid staining present on tile flooring at cabinet door entry at time of assessment.

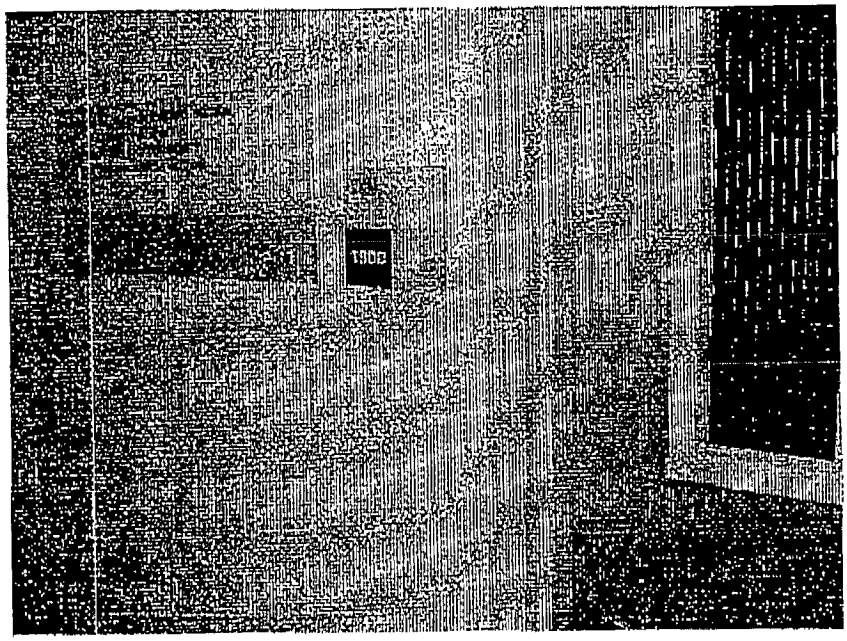


4) Close-up image of stained and cracked cabinet materials associated with chronic historic moisture release within sink area plumbing systems.

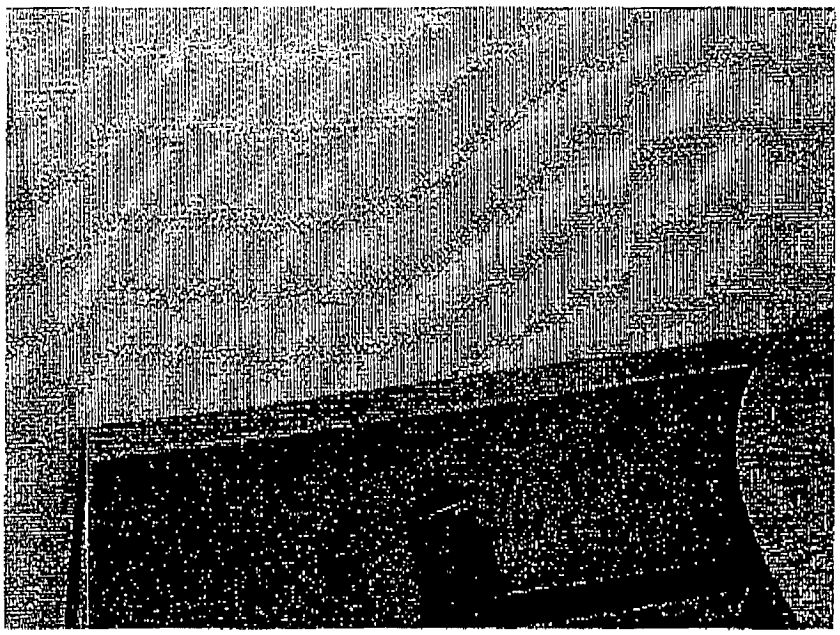
June 11th, 2008
BOE Building 1905 + 1908
Sacramento, CA



5) Image of sink cabinet "S" effluent trap and InstaHot water heater unit on rear wall. Note staining trail from InstaHot unit visible in image at time of assessment.



6) Image of entry to room 1908 which shares an interior wall and is adjacent to break room 1905.



7) Image of stared wall within 1908 which is immediately adjacent to the break room impacted cabinet materials. Baseboard and sheetrock materials indicated elevated moisture content at the time of assessment.