TETRA TECH

March 15, 2010

Mr. Roy Crossland
START Project Officer
U.S. Environmental Protection Agency, Region 7
901 North 5th Street
Kansas City, Kansas 66101

Subject: **Phase I Targeted Brownfields Assessment, Hazardous Materials Survey, Revision 01**
Recovery-West High Complex, 1810 and 1829 Madison Avenue, Kansas City, Missouri
U.S. EPA Region 7, START 3, Contract No. EP-S7-06-01, Task Order No. 0163
Task Monitor, Ron King, EPA Site Assessment Team Leader

Dear Mr. Crossland:

Tetra Tech EM Inc. is submitting the attached revised Phase I Targeted Brownfields Assessment (TBA) Hazardous Material Survey report for the Recovery-West High School Complex, also known as the Switzer School Complex, located at 1810 and 1829 Madison Avenue in Kansas City, Missouri. This TBA was completed in accordance with industry standard practice for Hazardous Materials Surveys.

If you have any questions or comments regarding this submittal, please call Jeffrey Mitchell at (816) 412-1773.

Sincerely,

for Jeffrey Mitchell
START Project Manager

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PHASE I TARGETED BROWNFIELDS ASSESSMENT
HAZARDOUS MATERIALS SURVEY
REVISION 01

RECOVERY-WEST HIGH COMPLEX
1810 AND 1829 MADISON AVENUE, KANSAS CITY, MISSOURI

Superfund Technical Assessment and Response Team (START) 3

Contract No. EP-S7-06-01, Task Order No. 0163

Prepared For:

U.S. Environmental Protection Agency
Region 7
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SITE SUMMARY

The Tetra Tech EM Inc. (Tetra Tech) Region 7 Superfund Technical Assessment and Response Team (START) was tasked by the U.S. Environmental Protection Agency (EPA) Region 7 Superfund Division to conduct a Phase I Targeted Brownfields Assessment (TBA) Hazardous Materials Survey on the Recovery-West High Complex and Annex (former West High School and West High Annex) located at 1810 and 1829 Madison Avenue (aka, 1936 Summit), in Kansas City, Jackson County, Missouri (subject property). The City of Kansas City, Missouri, Department of City Planning and Development applied for the EPA Brownfields grant for the subject property under the name "West High Complex / Switzer School."

A school operated on portions of the subject property from 1889 to 2005. The Recovery-West High complex is currently two unused school buildings surrounded by high-density residential and commercial development. The subject property includes the West High Annex area and the West High Complex area, which are contiguous properties on either side of Madison Avenue. The West High Annex area encompasses approximately 2.4 acres, and the West High Complex area encompasses approximately 2.24 acres. The subject property is roughly bounded by W. 18th Street on the north, Summit Street on the east, W. 20th Street on the south, and Belleview Avenue and West Pennway on the west. The subject property is currently owned by School District of Kansas City, Missouri, Building Corporation (MBC), a not-for-profit corporation. Through a specific part of the Missouri statutory framework, the MBC was established as an independent legal entity which owns the buildings used by the Kansas City Missouri School District (KCMSD). By using this structure, the KCMSD can issue/obtain funding through school construction bonds. START worked with representatives from the KCMSD and the MBC to obtain access to interior areas of the buildings. Ms. Teresa C. Pacheco, Real Estate Specialist with the KCMSD, is considered the key site manager for the subject property.

1.0 INTRODUCTION

Tetra Tech's Project Manager for the TBA Hazardous Material Survey was Mr. Jeffrey Mitchell, Certified Asbestos and Lead Based Paint (LBP) Inspector. The survey team included Mr. Jeffrey Mitchell, Ms. Michelle Nicholson, Certified Asbestos Inspector, and Ms. Rachel Norton, Certified Asbestos and Mold Inspector. The survey strategy and sample methodology were developed based on the possibility that all parts of the subject property buildings both inside and out could be impacted by future renovation plans. Due to limited access to parts of the buildings and because destructive sampling methods were limited, additional suspect materials not detected may be located in walls, voids, or other concealed areas. Assumptions and deviations regarding each building surveyed on the subject property are identified in Section 15.0. Further survey work may be needed to comply with all local, state, and federal requirements regulating asbestos containing materials (ACM) prior to any renovation of the buildings cited in this report.

Tetra Tech conducted the survey from November 9, 2009 through January 15, 2010. The purpose of the survey was to evaluate the subject property for the presence, quantity, locations, and characterization of ACM that may require abatement prior to any renovation activities in accordance with National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations as adopted by the U.S. Environmental Protection Agency (EPA). The intent of the asbestos NESHAP regulations is to protect the public (and workers) by minimizing release of asbestos fibers during activities involving processing, handling, and disposal of ACM. In some instances, due to limited access, visual documentation of suspect materials was completed instead of sample collection. For the purpose of this survey, the subject property was divided into five unique buildings that are shown on Figure 1 in Appendix A.

Tetra Tech also conducted a screening for the presence, quantity, and locations of damaged LBP exceeding lead hazard levels and requiring Occupational Safety and Health Administration (OSHA) worker safety precautions during remodeling activities; therefore, Tetra Tech screened paint-covered surfaces with an XT-260 x-ray fluorescence spectrometer (XRF) manufactured by Innov-X Systems, Inc. (Innov-X). The XT-260 is a state-of-the-art XRF spectrum analyzing system for quantitative measurement of lead in paint on various substrates. ASTM Practice E 1527-05 does not require a survey or testing for the presence of LBP. However, the subject property buildings were constructed prior to 1978, and LBP likely was used in the build-out of these structures. The LBP survey was conducted according to protocols similar to the single-family housing inspection procedures in the Department of Housing and Urban Development (HUD) *Guidelines* (HUD 1997).

Because the subject property buildings were constructed prior to 1978, polychlorinated biphenyls (PCB) also may be present within building materials. Tetra Tech thus screened suspect materials for the presence, quantity, and locations of PCBs exceeding the action level that would require OSHA worker safety precautions during remodeling activities.

As part of the TBA Hazardous Materials Survey, Tetra Tech completed an inventory of household hazardous waste and hazardous waste located in the subject property buildings. This inventory includes but is not limited to the following types of materials: thermostats and fluorescent light bulbs possibly containing mercury, fluorescent light ballasts potentially containing PCBs, emergency lighting and exit signs that house batteries containing heavy metals, appliances containing Freon, product containers containing hazardous materials (such as cleaning supplies, paint, etc.), and any other household hazardous waste items that may need to be removed during renovation of the subject property. It should be noted that according to two previous Phase I ESAs (Tetra Tech 2008, 2009), a large number of potential hazardous waste containers were identified throughout the complex. These containers held cleaning supplies, paint, anti-freeze, etc. Tetra Tech has made every effort to provide a complete inventory of these items; however, given the large size of the complex and the disorderly distribution of these items inside the various buildings, Tetra Tech cannot guarantee an accounting of every container.

Finally, Tetra Tech's survey included an evaluation of the subject property buildings to report readily observable mold and conditions conducive to mold in the buildings. This investigation consisted of physical observation, including acquisition of several indoor and outdoor air quality measurements and collection of tape-lift samples on suspected microbial growth. The scope of work for the Mold Screening was intended to be consistent with ASTM International (ASTM) Standard Practice E 2418-06: Standard Guide for Readily Observable Mold and Conditions Conducive to Mold in Commercial Buildings: Baseline Survey. A copy of this methodology is included in Appendix F.

Mold is naturally occurring, and levels of mold vary with testing locations and with time. The passage of time may have resulted in changed environmental characteristics at this site. Molds are microscopic fungi, a group of organisms that also includes mushrooms and yeasts. Fungi are highly adapted to grow and reproduce rapidly, producing spores and mycelia in the process. Tetra Tech prepared this report in accordance with generally accepted industrial hygiene practice and procedures, the project Scope of Work, and the terms and conditions in the Agreement. In addition, the report was prepared in accordance with guidelines available at the time the work was performed, including those of the New York City Department of Health, the American Industrial Hygiene Association, and the EPA, among others. This report does not cover or comment on structural areas not assessed either visibly or by sample collection.

The data evaluation and assessment stated herein constitute a professional opinion; no other warranty is expressed or implied.

Because buildings are not sterile and mold is ubiquitous in the environment, no building can be completely free of mold spores. However, according to the American Conference of Governmental Industrial Hygienists (ACGIH) publication *Bioaerosols: Assessment and Control* (1999), airborne fungal spore concentrations inside a building should be qualitatively and quantitatively similar to those found outdoors. In addition, visible accumulations of mold indoors are undesirable and should be removed. This process is commonly referred to as remediation.

There are no regulatory standards for mold with regard to clearance levels or Permissible Exposure Limits (PEL). Mold is typically present both indoors and outdoors, and levels change daily. Therefore, the industry standard for mold evaluation is to collect an outdoor sample at the time of any sampling indoors for comparison purposes. Airborne mold spore concentrations inside should be at or below outdoor concentrations, with similar types of molds found.

No interviews were conducted because of the lack of a knowledgeable person from property management or engineering staff familiar with the buildings. Tetra Tech observed all readily accessible areas of the subject property buildings.

No method can guarantee that a hazard will be discovered if evidence of the hazard is not encountered within the performance of the mold screening as authorized; moreover, opinions and conclusions must be extrapolated from limited information and discrete, non-continuous data points. Unidentified mold or other microbial conditions may exist on the property.

Tetra Tech provided these services consistent with the level and skill ordinarily exercised by members of the profession currently practicing under similar conditions. This statement is in lieu of other statements either expressed or implied. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document, the findings, conclusions, or recommendations is at the risk of said user. Although a reasonable attempt has been made to identify suspect fungi (mold) in the areas identified, the inspection techniques used are inherently limited in the sense that only full demolition procedures can reveal all building materials of a structure and therefore all areas of potential fungal growth. This report does not warrant against future operations or conditions that could affect its recommendations. In addition, completing the survey does not guarantee identification of all hazardous materials, asbestos, or LBP, because parts of the building were not accessible and because—given some limitations on destructive sampling—hazardous materials may be present in voids of walls or ceilings.

Section 2.0 of this report discusses the site structures; Section 3.0 specifies field survey and analytical protocols for the asbestos survey; Section 4.0 presents the field survey and analytical protocols for the LBP screening; Section 5.0 describes the field survey and analytical protocols for the PCB survey; Section 6.0 provides the household hazardous waste and hazardous waste inventory; Section 7.0 discusses the field survey and analytical protocols for the mold survey; Section 8.0 provides a mold overview; Section 9.0 presents the asbestos findings; Section 10.0 describes the LBP findings; Section 11.0 discusses the PCB findings; Section 12.0 provides the household hazardous waste and hazardous waste inventory findings; Section 13.0 presents the mold findings; Section 14.0 offers recommendations based on the survey findings; and Section 15.0 discusses assumptions and deviations.

2.0 SITE STRUCTURES

For the purposes of the TBA, the subject property is currently two unused school buildings surrounded by high-density residential and commercial development (see Figure 1, Appendix A). The subject property includes the West High Annex area and the West High Complex area, which are contiguous properties on either side of Madison Avenue. The West High Annex area encompasses approximately 2.4 acres bounded by W. 18th Street on the north, Madison Avenue on the east, Lots 175 through 178 of Block 7 (an excavated area) on the south, and Belleview Avenue and West Pennway on the west. The West High Complex area encompasses approximately 2.24 acres bounded by Lots 219 and 201 of Block 8 on the north, Summit Street on the east, W. 20th Street on the south, and Madison Avenue on the west.

The subject property was divided into five unique buildings for the survey: Buildings A, B, C, D, and the Annex. Building A encompasses approximately 35,000 square feet (sq. ft.); and was built between 1952 and 1955. Building B encompasses approximately 74,000 sq. ft.; and was built in 1889. Building C encompasses approximately 15,000 sq. ft.; and was built between 1889 and 1909. Building D encompasses approximately 16,500 sq. ft.; and was built between 1909 and 1940. The Annex encompasses approximately 27,260 sq. ft.; and was built between 1957 and 1963. All the buildings currently are not in use and have been vacant for many years.

Building A is constructed of concrete, brick, and cinderblock, with a rolled asphalt roof and tunnels beneath that connect to the boiler room of Building B. Interior finishes include plaster, drywall, and cinder block walls (some cinderblock walls have ceramic coating over them). Flooring materials include carpet, floor tile and associated mastic, and concrete. The kitchen/cafeteria areas on the 3rd floor have ceramic tile on the walls.

Building B is constructed of concrete, brick, stone, and cinderblock, with a rolled asphalt roof and tunnels beneath that connect to Building A. Interior finishes include plaster, drywall, and cinder block walls. Flooring materials include carpet, floor tile and associated mastic, hardwood, and concrete.

Building C is constructed of brick, cinderblock, and concrete, with a slate roof and tunnels beneath that connect to Building B. Interior finishes include plaster, drywall, and concrete walls. Flooring materials include, concrete, floor tile and associated mastic, with acoustical ceiling tiles.

Building D is constructed of brick, cinderblock, and concrete, with a rolled asphalt roof and tunnels beneath. Interior finishes include plaster, drywall, and concrete walls. Flooring materials include concrete, floor tile and associated mastic, with acoustical ceiling tiles.

The Annex is constructed of concrete, cinderblock, and brick, with rolled asphalt and gravel roofs. The Annex has a tunnel system that circles the outside footprint of the building beneath the 1st floor. Interior finishes include drywall, plaster, tile and cinder block walls, with parts containing suspended acoustical tile ceilings. Flooring materials include floor tile and mastic, linoleum sheeting, and concrete.

3.0 ACM FIELD SURVEY AND ANALYTICAL PROTOCOLS

Tetra Tech made every effort to inspect all areas of the subject property buildings. Minor demolition of materials (destructive sampling) was required during the survey effort. The inspector took care to ensure that the areas remained unoccupied during sample collection. Asbestos samples were collected in accordance with NESHAP as adopted by EPA and the Asbestos Hazard and Emergency Response Act of 1986 (AHERA) protocols. AHERA defines "asbestos containing building material" (ACBM) as any building material or product that contains more than 1 percent (%) asbestos. Suspected ACMs were grouped as homogeneous areas if the material was similar in appearance and texture; however, if the inspector decided that a material (for example, wall texturing) was not similar in appearance and texture to other materials in the building, the inspector distinguished the material as unique and collected samples of each unique material accordingly. Due to limited access to parts of the buildings and because destructive sampling methods were limited, additional suspect materials not detected may be present in walls, voids, or other concealed areas. Assumptions and deviations regarding each building surveyed on the subject property are identified in Section 15.0.

Bulk samples of suspected ACM were collected to ensure that each distinct layer of material was represented in the sample. A wetting agent was applied to friable surfaces prior to sample collection to reduce the potential for fiber release. All samples collected were placed in plastic bags, labeled, and sealed immediately upon collection. To prevent cross-contamination between samples, the sampling instruments were wiped clean using a wet, lint-free cloth after collection of each sample. A unique sample identification number was assigned to each sample.

The samples remained in the inspector's custody until sent to the laboratory. Upon completion of sampling activities, the bulk samples were sent, along with Tetra Tech's chain-of-custody documentation, to EMSL Laboratories (EMSL) in St. Louis, Missouri. Suspect ACM samples were analyzed per EPA Method 600/R-93/116 by EMSL using Polarized Light Microscopy (PLM) analysis. EMSL is a member of the National Voluntary Laboratory Accreditation Program (NVLAP)-certified laboratory, certification number 200742-0. Appendix B of this report provides the ACM analytical results and chain-of-custody forms for the bulk samples, and Section 9 of this report summarizes the ACM analytical results.

4.0 LBP SCREENING AND ANALYTICAL PROTOCOLS

Tetra Tech made every effort to inspect all areas of the buildings. HUD *Guidelines for the Evaluation and Control of LBP in Housing* (1997) suggests that paint applied before 1978 could contain lead.

A XRF screening of suspected LBP was performed according to protocols similar to the single-family housing inspection procedures in the HUD *Guidelines*. Tetra Tech utilized an XT-260 XRF Spectrum Analyzer manufactured by Innov-X to perform the LBP testing. The XT-260 is a state-of-the-art XRF spectrum analyzing system for quantitative measurement of lead in paint on various substrates. Tetra Tech performed XRF testing of suspect painted surfaces that possibly would be impacted during renovation activities.

Tetra Tech utilized the XRF "Lead Paint Mode" for testing, standardized per the equipment instruction manual, and programmed the unit with an action level of 1.0 milligram per square centimeter (mg/cm^2). The XT-260 automatically adjusts the measurement time to be the least time needed to make a definitive measurement based on the action level. Paint containing greater than or equal to 1.0 mg/cm^2 lead by XRF testing or 1.0 mg/cm^2 lead by laboratory analysis is considered LBP.

Tetra Tech performed XRF calibration checks on the XT-260 according to Innov-X's recommended protocol and the HUD *Guidelines*. These quality control readings were used to monitor the performance of the XT-260. The calibration-check readings were taken after every two hours of operation using a

Standard Reference Material (SRM) paint film, developed by the National Institute of Standards and Technology (NIST). Section 10 of this report provides a summary of the results of the XRF samples collected from the painted surfaces at the subject property.

Approximately 10 percent of the XRF screening locations were selected for confirmation sampling (based on the professional judgment of the field team). A 2-square-inch square template was used to accurately measure the sample size. The template was placed on the painted surface where the paint was observed. While held in place manually, the template was outlined with a permanent marker. A clean piece of paper was taped to the bottom of the template to create a funnel effect. The paint inside the template area was scraped off using a small chisel. The paint chip samples were collected in hard plastic containers, labeled, and sealed immediately upon collection. To prevent cross-contamination between samples, the sampling instruments were wiped clean using a wet, lint-free cloth after collection of each sample. A unique sample identification number was assigned to each sample. The inspector took care to ensure that the areas remained unoccupied during sample collection.

The samples remained in the inspector's custody until sent to the laboratory. Upon completion of sampling activities, the samples were sent, along with Tetra Tech's chain-of-custody documentation, to Quantem in Oklahoma City, Oklahoma. Quantem is a member of the Environmental Lead Lab Accreditation Program (ELLAP). The paint chips collected were analyzed for total lead. The results are summarized in Section 10, and copies of the analytical results and chain-of-custody are included in Appendix C.

5.0 PCB FIELD SURVEY AND ANALYTICAL PROTOCOLS

Tetra Tech made every effort to inspect all areas of the subject property buildings. Minor demolition of materials (destructive sampling) was required during the survey effort. The inspector took care to ensure that the areas remained unoccupied during sample collection. PCB caulking samples were collected following EPA guidance. Because EPA has set an action level of 50 parts per million (ppm) for PCBs in materials, this will be the benchmark used for this survey. Suspected PCB-containing caulking materials were grouped as homogeneous areas if the material was similar in appearance and texture; however, if the inspector decided that a material was not similar in appearance and texture to other materials in the building, or that the material was associated with a different building construction date, the inspector distinguished the material as unique and collected samples of each unique material accordingly. Assumptions and deviations regarding each building surveyed on the subject property for PCBs are identified in Section 15.0.

Bulk samples were collected to ensure that only the suspect caulking materials were represented in the sample. A wetting agent was applied to the material prior to sample collection to reduce the potential for particulate release. All samples collected were placed in plastic bags, labeled, and sealed immediately upon collection. To prevent cross-contamination between samples, the sampling instruments were wiped clean using a wet, lint-free cloth after collection of each sample. A unique sample identification number was assigned to each sample.

The samples remained in the inspector's custody until sent to the laboratory. Upon completion of sampling activities, the bulk samples were sent, along with Tetra Tech's chain-of-custody documentation, to Test America Laboratories (Test America) in Nashville, Tennessee. Suspect PCB samples were analyzed per EPA Method SW 846 8082 by Test America. Appendix D of this report provides the PCB analytical results and chain-of-custody forms for the bulk PCB samples.

6.0 HOUSEHOLD HAZARDOUS WASTE AND HAZARDOUS WASTE INVENTORY

Tetra Tech completed an inventory of household hazardous waste and other potentially hazardous waste located in the subject property buildings. This inventory included but is not limited to the following types of materials: thermostats and fluorescent light bulbs possibly containing mercury, fluorescent light ballasts potentially containing PCBs, emergency lighting and exit signs that house batteries containing heavy metals, appliances containing Freon, product containers containing hazardous materials (such as cleaning supplies, paint, etc.), and any other household hazardous waste items that may need to be removed during renovation of the facility. Tetra Tech used an inventory field sheet and went through every room on every floor in each of the five buildings on the subject property identifying, categorizing, and quantifying these materials. Tetra Tech made every effort to provide a complete inventory of these items; however, given the large size of the complex and the disorderly distribution of these items inside the various buildings, Tetra Tech cannot guarantee an accounting of every container. The exterior of the building was not included in this inventory, based on the professional judgment of the assessment team. Items located on the subject property—for example, pole-mounted transformers that may contain PCBs—will not be affected during any renovation activities and therefore were not applicable to the inventory. It should be noted that the assessment team did walk the perimeter of the building to identify any drums or other large containers that may contain hazardous waste; at the time of this assessment, no materials fitting this description had been identified outside of the buildings.

7.0 MOLD SURVEY AND ANALYTICAL PROTOCOLS

The following subsections detail the methods and materials used during this investigation. To determine the quality of indoor air in the buildings, various representative areas were selected inside of the building for air testing. Additional outdoor air samples were collected so that exterior air concentrations could be compared to interior air concentrations. Additionally, a visual inspection of the Heating Ventilation and Air Conditioning (HVAC) system was conducted to determine the condition and operation of the system. The initial microbial investigation included a visual inspection, tape-lift sampling, and air sampling. The methodology for the mold investigation is included as Appendix F.

7.1 VISUAL INSPECTION & INTERVIEW

A visual inspection was conducted of the exterior of the subject property. Apparent structural damage that may contribute to water infiltration into the building and visible suspect microbial growth on the exterior surfaces were noted, if observed. A visual survey was conducted of the interior areas of the buildings. Although parts of the subject property buildings were not accessible, an attempt was made to visually inspect as many areas of the subject property buildings as possible. The buildings have not been in use for many years, so most HVAC system components appeared dirty and not well maintained.

To determine the condition and operation of the HVAC system, a visual inspection was conducted of readily accessible areas throughout the interior of the building. The inspection consisted of observing rooms with wall-mounted air conditioning units, floor- and ceiling-mounted radiator units, and duct work associated with the system. Most if not all air conditioning units were no longer mounted in the windows and had been damaged. Duct work was limited and not consistent throughout all the subject property buildings.

Building A has forced central air throughout the building, but it was not clear if this system provided heat and/or air conditioning to the building. Exterior window air conditioning units were identified. Radiators were present throughout the buildings, indicating heat had been provided by the radiators.

Buildings B, C, and D have forced central air throughout the buildings, and it appears those buildings were connected to the boiler, but whether this system had recently provided heat and/or air conditioning to the buildings is not clear. Some exterior window air conditioning units were identified. Radiators were present throughout the buildings, indicating heat had been provided by the radiators at some time.

The Annex is a newer, separate structure and has forced central air throughout the building. No exterior air conditioning units were identified but individual window air conditioning units were identified in parts of the building. Radiators were present throughout the building, indicating that additional heat had also been provided by the radiators.

7.2 BIOAEROSOL SAMPLING

Ambient fungal bioaerosol (mold) sampling and analysis was performed as a tool to measure the total bioaerosol concentration in the accessible areas within the building for comparison with outdoor environments. Sampling consisted of total countable bioaerosol (spore trap) samples to screen the selected sample areas for hidden mold reservoirs.

The testing was performed using Air-O-Cell™ cassettes manufactured by Zefon™ International. The cassettes were used in accordance with the methods recommended by the manufacturer. A high-volume pump that had been calibrated against a primary airflow standard was used to draw 15 liters of air per minute (lpm) through the cassette. The number of samples collected for each building onsite depended on building size, functional area, and common area room types.

To determine the levels of airborne fungal spores (non-viable), air samples were collected using a high-volume air pump, calibrated before and after each sample at a flow rate of 15 lpm. Ambient air samples were run for 10 minutes to collect approximately 150 liters of air through an Air-O-Cell® cassette. The cassettes were then sealed, labeled, and forwarded under chain of custody to Quantem in Oklahoma City, Oklahoma, for analysis. Quantem has accreditation from the Environmental Microbiology Laboratory Accreditation Program (EMLAP), certification number 101352 (for fungal spore direct examination, as well as fungi and bacteria culture identification). Laboratory analytical data sheets and chain-of-custody records are included in Appendix E.

7.3 SURFACE SAMPLES

Surface samples (tape) for laboratory analysis were collected where deemed necessary to confirm the field technician's observations of suspect mold. Samples from surfaces were collected by a tape-lift procedure in which a prepared adhesive glass slide was pressed onto the suspect visible mold. These samples were also sent to Quantem and analyzed by direct microscopy for the presence of mold. Laboratory analytical data sheets and chain-of-custody records are included in Appendix E as well.

8.0 MOLD OVERVIEW

8.1 WHAT ARE MOLDS?

Molds are microscopic fungi, a group of organisms that also includes mushrooms and yeasts. Fungi are highly adapted to grow and reproduce rapidly, producing spores and mycelia in the process. Molds are found in damp indoor areas, such as the basement or bathroom, as well as in the outdoor environment in grass, leaf piles, hay, and mulch. Molds are only visible to the unaided eye where conditions allow mold colonies to grow.

Molds may be encountered every day. Foods spoil because of mold. Leaves decay and pieces of wood lying on the ground rot due to mold. The fuzzy black growth on wet windows is mold. Paper or fabrics stored in a damp place have a musty smell that is due to the action of molds. Molds can be useful to people. The drug penicillin is obtained from a specific type of mold. Some foods and beverages are made by the actions of molds. The good kinds of molds are selected and grown in a controlled fashion. Molds are undesirable when they grow in unwanted spaces, such as in structures.

Molds do not form a specific taxonomic or phylogenetic grouping. Examples of molds include *Cladosporium*, *Epicoccum*, *Paecilomyces*, *Alternaria*, *Aspergillus*, *Penicillium*, *Fusarium*, *Histoplasmium*, *Paecilomyces variotti*, and *Stachybotrys.* Over 270 species of mold have been identified as living in structures. Appendix H provides a summary list of the fungal types evaluated in this investigation.

8.2 WHY IS MOLD A CONCERN?

When molds are growing inside the structure, there may be health concerns. Molds release chemicals and spores. Health experts indicate that—depending on the type of mold present in a structure, the amount and degree of exposure, and the health condition of the occupant—the health effects of mold can range from insignificant to allergic reactions and respiratory illness.

Some people are sensitive to molds. For these people, exposure to molds can cause symptoms such as nasal stuffiness, eye irritation, wheezing, or skin irritation. Some people have serious allergies to molds and may have more severe reactions. Severe reactions may occur among workers exposed to large amounts of molds in occupational settings, such as farmers working around moldy hay. Severe reactions may include fever and shortness of breath. Some people with chronic lung illnesses, such as obstructive lung disease, may develop mold infections in their lungs. Pregnant women, infants, the elderly, and those with health problems, such as respiratory disease or a weakened immune system, are at a higher risk when exposed to mold. Consultation with a family physician is recommended for those persons who may be at risk to exposure to mold.

Mold can also cause damage to materials. Moldy paper and cardboard disintegrate over time. Continued mold growth can be indicative of moisture conditions favorable for growth of fungi that cause wood rot and structural damage.

8.3 WHAT MAKES MOLD GROW?

Mold colonies need three things to grow into mold:

- Nutrients: food for spores in an indoor environment is organic matter, often cellulose.
- Moisture: moisture is required to begin the decaying process caused by the mold.
- Time: mold growth begins between 24 hours and 10 days from provision of growing conditions. There is no known way to date mold.

Molds will grow only if provided with moisture and nutrients. Mold does not grow on dry materials. High moisture levels can be the result of:

- Moisture intrusion from the outside, through the floor, walls, or roof
- Leaks in plumbing or mechanical systems
- Moisture produced by the people living in the structure through daily activities like bathing, washing clothes, or cooking.

Exhaust ventilation (e.g., bathroom fans, stove fans, dryer exhausts, etc.) can reduce moisture levels resulting from daily activities.

Different kinds of molds grow on different materials. Certain kinds of molds prefer extremely wet environments. Other kinds of molds may develop even if no moisture can be seen. Dampness inside materials may be sufficient to allow the mold to grow.

8.4 HOW CAN YOU TELL IF IT IS MOLD?

Sensory indicators of the presence of mold may include:

- **Discoloration**—Discoloration is a sign of mold. However, all discoloration is not due to mold. For example, materials can be stained by outdoor pollution or soot caused by smoke from burning candles or cigarettes. Mold may be any color: black, white, red, orange, yellow, blue, or violet. If there is doubt as to the presence of mold, suspected mold should be verified by a professional.

- **Smell/Odor—**Sometimes molds are hidden and cannot be seen. A musty or earthy smell often indicates the presence of molds. However, a smell may not be present for all molds.

- **Moisture or Water Intrusion—**Even when an odor is not apparent, wet spots, dampness, or evidence of moisture-impacted or water-impacted materials are indications of moisture problems, and that mold growth may follow or may be already present.

8.5 HOW CAN YOU TELL IF THERE IS A MOLD PROBLEM?

The presence of mold in a building does not automatically mean that building occupants are at risk. As long as the mold growth remains in low concentrations or is similar to the outside ambient environment (and depending on the building occupants), there may be no or little health risk. Some mold growing, for example on the window sill but not elsewhere, is not a cause of concern. The problem starts when mold grows and proliferates in the indoor environment.

The presence of mold is a sign of too much moisture in a structure and must be corrected. The structure should be thoroughly inspected to identify the extent of the mold and the moisture or water intrusion source.

9.0 ACM FINDINGS

The laboratory report in Appendix B identifies the PLM results for the ACM samples collected from the subject property, which are summarized in Table 1 below. The bolded results in Table 1 indicate that asbestos was detected at a concentration greater than 1 percent.

TABLE 1
SUMMARY OF SUSPECT ACM LABORATORY ANALYSIS
WEST HIGH COMPLEX

Figure Key	Sample ID	Material Description	Material Locations	Analytical Result (% ACM*)	Quantity
Building A					
Ground Floor					
3C	A-G-HW-CT1-1	White 12 in x 12 in ceiling tile with small and large holes	Hallway	ND	NA
4C	**A-G-HW-CT1M-1**	**Brown mastic on white ceiling tile**	**Hallway, south classroom and west classroom**	**4% Chry**	**5,800 sq. ft.**
15C	A-G-HW-FTW-1	White 12 in x 12 in floor tile and associated mastic	Hallways throughout building	ND	NA
21	A-G-WCR-CBMB-1	Blue cove base mastic	West room	ND	NA
22A	A-G-HW-DW-1	Drywall	Hallway	ND	NA
22B	A-G-HW-DW-2	Drywall	Hallway	ND	
22C	A-G-HW-DW-3	Drywall	Hallway	ND	
First Floor					
3B	A-1-WCR-CT1-1	White 12 in x 12 in ceiling tile with small and large holes	First floor west classroom and south classroom	ND	NA
4B	**A-1-WCR-CT1M-1**	**Brown mastic on white ceiling tile**	**First floor west classroom and south classroom**	**4% Chry**	**4,935 sq. ft.**
9B	A-1-HW-PL-1	White plaster	Cafeteria storage, hallway	ND	NA
9C	A-1-HW-PL-2	White plaster	Cafeteria storage, hallway	ND	NA
10B	A-1-HW-PLSC-1	White plaster skim coat	Cafeteria storage, hallway	ND	NA
10C	A-1-HW-PLSC-2	White plaster skim coat	Cafeteria storage, hallway	ND	NA
15B	A-1-HW-FTW-2	White 12 in x 12 in floor tile and associated mastic	Hallways throughout the building	ND	NA
16	**A-1-WCR-FTO-1**	**Orange 9 in x 9 in floor tile and associated mastic under carpet**	**West classroom**	**Tile-9% Chry, Mastic 9%Chry**	**2535 sq. ft.**
17	A-1-WCR-CT3-1	White 2 ft x 4 ft fissured ceiling tile	West classroom	ND	NA
18	A-1-WCR-CT4-1	White 2 ft x 4 ft ceiling tile with holes	West classroom	ND	NA
19A	A-1-SCR-DW-1	Drywall	Room off of south classroom	ND	NA
19B	A-1-SCR-DW-2	Drywall	Room off of south classroom	ND	
19C	A-1-SCR-DW-3	Drywall	Room off of south classroom	ND	

TABLE 1
SUMMARY OF SUSPECT ACM LABORATORY ANALYSIS
WEST HIGH COMPLEX

Figure Key	Sample ID.	Material Description	Material Locations	Analytical Result (% ACM*)	Sq. Ft. Lin Ft.
20A	A-1-SCR-JC-1	Joint compound	Room off of south classroom	ND	NA
20B	A-1-SCR-JC-2	Joint compound	Room off of south classroom	ND	NA
20C	A-1-SCR-JC-3	Joint compound	Room off of south classroom	ND	NA
23	**A-1-WCR-CBMBR-1**	**Brown cove base mastic**	**West classroom**	**Cove base 9% Chry, Adhesive 12% Chry**	**125 lin. ft.**
Second Floor					
1	**A-2-HW-FTR-1**	**Red 9 in x 9 in floor tile and associated mastic**	**Hallway**	**Tile-9% Chry, Mastic 12% Chry**	**450 sq. ft.**
2	A-2-HW-CBM-1 A-2-HW-CBM-1-DUP	Black cove base mastic	Hallway	ND	NA
3A	A-2-HW-CT1-1	White 12 in x 12 in ceiling tile with small and large holes	Hallway	ND	NA
4A	**A-2-HW-CT1M-1**	**Brown mastic on white ceiling tile**	**Hallway**	**4% Chry**	**650 sq. ft.**
5	**A-2-CAF-FTB-1**	**Blue 9 in x 9 in floor tile and associated mastic**	**Cafeteria**	**Tile ND, Mastic 9% Chry**	**5,100 sq. ft.**
6	A-2-HW-WC-1	Window caulking	Cafeteria	ND	NA
7	A-2-HW-WG-1	Window glazing	Cafeteria	ND	NA
8	A-2-CAF-CT2-1 A-2-CAF-CT2-1-DUP	White 12 in x 12 in ceiling tile with small holes	Cafeteria	ND	NA
9A	A-2CAF-PL-1	White plaster	Cafeteria storage, hallway	ND	NA
10A	A-2-CAF-PLSC-1	White plaster skim coat	Cafeteria storage, hallway	ND	NA
11	A-2-CAF-VJ-1	Vibration joints	Cafeteria storage	ND	NA
13A	A-2-CAF-CRM-1	Ceramic tile backing mastic	Cafeteria-kitchen hallway	ND	NA
13B	A-2-CAF-CRM-2	Ceramic tile backing mastic	Cafeteria-kitchen hallway	ND	NA
13C	A-2-CAF-CRM-3	Ceramic tile backing mastic	Cafeteria-kitchen hallway	ND	NA
14	A-2-SW-FTG-1	Gray (blueish) 9 in x 9 in floor tile and associated mastic	Stairway, top landing	ND	NA
15A	A-2-HW-FTW-1	White 12 in x 12 in floor tile and associated mastic	Hallways throughout the building	ND	NA
Exterior					
24	**A-EXT-WC-1**	**Window caulking**	**Exterior**	**6% Chry**	**1,100 lin. ft.**
25	**A-EXT-WG-1**	**Window glazing**	**Exterior**	**4% Chry**	**1,100 lin. ft.**

TABLE 1
SUMMARY OF SUSPECT ACM LABORATORY ANALYSIS
WEST HIGH COMPLEX

Figure Key	Sample ID.	Material Description	Material Locations	Analytical Result (% ACM*)	Sq. Ft. Lin Ft.
Building B Basement (Pool, Locker Rooms and Lower Boiler Room)					
4G	B-B-P-PL-1	White Plaster	Throughout	ND	NA
5G	B-B-P-PLSC-2	White plaster skim coat	Throughout	ND	NA
17C	B-G-POOL-CT3-1	White ceiling tile 12 in x 12 in with large holes	Pool area	ND	NA
Upper Boiler Room and Gym Floors					
4H	B-UB-HW-PL-1	White Plaster	Throughout	ND	NA
5H	B-UB-HW-PLSC-1	White plaster skim coat	Throughout	ND	NA
27A	B-UB-EG-DW-1	Drywall	East gym	ND	NA
27B	B-UB-EG-DW-2	Drywall	East gym	ND	NA
27C	B-UB-EG-DW-3	Drywall	East gym	ND	NA
28A	B-UB-EG-JC-1	Joint compound	East gym	ND	NA
28B	B-UB-EG-JC-2	Joint compound	East gym	ND	NA
28C	B-UB-EG-JC-3	Joint compound	East gym	ND	NA
Ground Floor (Lower Auditorium, Band Room and 2nd Floor of Gyms)					
4I	B-G-BAND-PL-1	White Plaster	Throughout	ND	NA
5I	B-G-BAND-PLSC-1	White plaster skim coat	Throughout	No lab results provided**	NA
7C	**B-G-BAND-FTT-1**	**Tan 9 in x 9 in floor tile and associated mastic**	**Band room**	**Tile 9% Chry, Mastic 9%Chry**	**1,400 sq. ft.**
17B	B-G-AUD-CT3-1	White ceiling tile 12 in x 12 in with large holes	Auditorium	ND	NA
21A	B-G-AUD-CT3M-1	Ceiling tile mastic	Auditorium	ND	NA
21B	B-G-AUD-CT3M-2	Ceiling tile mastic	Auditorium	ND	
21C	B-G-AUD-CT3M-3	Ceiling tile mastic	Auditorium	ND	
22	B-G-AUD-FC-1	Fire curtain	Auditorium	ND	NA
23C	**B-G-HW-FTBR-1**	**Dark brown 9 in x 9 in floor tile and associated mastic**	**Hallway**	**Tile-9% Chry, Mastic 9% Chry**	**200 sq. ft.**

TABLE 1
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WEST HIGH COMPLEX

Figure Key	Sample ID.	Material Description	Material Locations	Analytical Result (% ACM*)	Sq. Ft. Lin Ft.
First Floor					
4E	B-1-HW-PL-1	White Plaster	Throughout	ND	NA
4F	B-1-HW-PL-2	White Plaster	Throughout	ND	NA
5E	B-1-HW-PLSC-1	White plaster skim coat	Throughout	ND	NA
5F	B-1-HW-PLSC-2	White plaster skim coat	Throughout	ND	NA
6C	B-3-106-CB-1	Black chalkboard	Room 106	ND	NA
18B	B-1-103-CA-1	Carpet adhesive	Room 103	ND	NA
18C	B-1-109-CA-1	Carpet adhesive	Room 109	ND	NA
20A	**B-1-109-FTG2-1**	**Green 9 in x 9 in floor tile and associated mastic**	**Room 107**	**Tile-4% Chry, Mastic ND**	**460 sq. ft.**
23A, B	**B-1-103-FTBR-1 B-1-104-FTBR-1**	**Dark brown 9 in x 9 in floor tile and associated mastic**	**Room 103, 104 and hallway to Building C**	**Tile-9% Chry, Mastic 9%**	**1,700 sq. ft.**
24	**B-1-108-FTR-1**	**Red 9 in x 9 in floor tile and associated mastic**	**Room 108**	**Tile-12% Chry, Mastic ND**	**1,100 sq. ft.**
25	**B-1-108-FTBL-1**	**Black 9 in x 9 in floor tile and associated mastic**	**Room 108**	**Tile-12% Chry, Mastic ND**	**1,100 sq. ft.**
26A	B-1-108-CSC-1	Ceiling coating skim coat	Room 108	ND	NA
26B	B-1-108-CSC-2	Ceiling coating skim coat	Room 108	ND	
26C	B-1-108-CSC-3	Ceiling coating skim coat	Room 108	ND	
Second Floor					
2A	B-2-AO-DW-1	Drywall	East end, first office	ND	NA
2B	B-2-AO-DW-2	Drywall	East end, first office	ND	
3A	B-2-AO-JC-1	Joint compound	East end, first office	ND	NA
3B	B-2-AO-JC-2	Joint compound	East end, first office	ND	NA
4C	B-2-209-PL-1	White Plaster	Throughout	ND	NA
4D	B-2-209-PL-2	White Plaster	Throughout	ND	NA
5C	B-2-209-PLSC-1	White plaster skim coat	Throughout	ND	NA
5D	B-2-209-PLSC-2	White plaster skim coat	Throughout	ND	NA
6B	B-3-209-CB-1	Black chalkboard	Room 209	ND	NA
10	B-2-206-FTG-1	Green 12 in x 12 in floor tile and associated mastic	Room 206	ND	NA

TABLE 1
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WEST HIGH COMPLEX

Figure Key	Sample ID.	Material Description	Material Locations	Analytical Result (% ACM*)	Sq. Ft. Lin Ft.
14B	B-2-ELE-DW-2	Drywall	Elevator	ND	NA
15B	B-2-ELE-SC-2	Drywall skim coat	Elevator	ND	NA
19	**B-2-206-LC-1**	**Lab counter tops**	**Rooms 201, 206, 210 and 308**	**19% Chry**	**14 counters**
20B, C	**B-2-ECR-FTG2-1, 2**	**Green 9 in x 9 in floor tile and associated mastic**	**East end classroom**	**Tile 4% Chry, Mastic 12%Chry**	**825 sq. ft.**
Third Floor					
2C	B-3-AO-DW-1	Drywall	Room 302, second attendance office	ND	NA
3C	B-3-AO-JC-1	Joint compound	Room 302, second attendance office	ND	NA
4A	B-3-HW-PL-1	White plaster	Throughout	ND	NA
4B	B-3-302-PL-2	White plaster	Throughout	ND	NA
5A	B-3-HW-PLSC-1	White plaster skim coat	Throughout	ND	NA
5B	B-3-302-PLSC-2	White plaster skim coat	Throughout	ND	NA
6A	B-3-309-CB-1	Black chalkboard	Room 309	ND	NA
7A, B	**B-3-301-FTT-1 B-3-309-FTT-1**	**Tan 9 in x 9 in floor tile and associated mastic**	**Room 301 and 309**	**Tile 9% Chry, Mastic ND**	**1,950 sq. ft.**
8A	B-3-302-DW-1	Drywall	Room 302	ND	NA
8B	B-3-302-DW-2	Drywall	Room 302	ND	NA
8C	B-3-302-DW-3	Drywall	Room 302	ND	NA
9A	B-3-302-JC-1	Joint compound	Room 302	ND	NA
9B	B-3-302-JC-2	Joint compound	Room 302	ND	NA
9C	B-3-302-JC-3	Joint compound	Room 302	ND	NA
11A	B-3-301-CT2-1	Ceiling tile, 2 ft x 4 ft fissured	Room 301	ND	NA
11B	B-3-HW-CT2-1	Ceiling tile, 2 ft x 4 ft fissured	Room 301	ND	NA
11C	B-3-HW-CT2-2	Ceiling tile, 2 ft x 4 ft fissured	Room 301	ND	NA
12	**B-3-302-SU-1**	**Gray sink undercoat**	**Room 302**	**6% Chry**	**2 sq. ft.**
13A, B, C	**B-3-302-FTB-1, 2, 3**	**Blue 9 in x 9 in floor tile and associated mastic**	**Room 302**	**Tile 4% Chry, Mastic 9% Chry**	**1,300 sq. ft.**
14A	B-3-ELE-DW-1	Drywall	Elevator Hallway	ND	NA
14C	B-3-ELE-DW-3	Drywall	Elevator Hallway	ND	NA
15A	B-3-ELE-SC-1	Drywall skim coat	Elevator Hallway	ND	NA
15C	B-3-ELE-SC-3	Drywall skim coat	Elevator Hallway	ND	NA

TABLE 1
SUMMARY OF SUSPECT ACM LABORATORY ANALYSIS
WEST HIGH COMPLEX

Figure Key	Sample ID.	Material Description	Material Locations	Analytical Result (% ACM*)	Sq. Ft. Lin Ft.
16	B-3-ELE-CBM-1	Black cove base mastic	Elevator Hallway	ND	NA
17A	B-3-306-CT3-1	White ceiling tile 12 in x 12 in with large holes	Room 306	ND	NA
18A	B-3-306-CA-1	Carpet adhesive	Room 306	ND	NA
Attic					
1	**B-A-A-WG-1**	**Window glaze**	**Interior attic window**	**6% Chry**	**10 lin. ft.**
Exterior					
29A, B, C	**B-EXT-WC-1, 2, 3**	**Window caulking**	**Exterior**	**6% Chry**	**2,370 lin. ft.**
30A, B, C	**B-EXT-WG-1, 2, 3**	**Window glaze**	**Exterior**	**2% Chry**	**3,400 lin. ft.**
31A, B, C	**B-EXT-DC-1, 2, 3**	**Door caulking**	**Exterior door**	**2% Chry**	**180 lin. ft.**
Building C Ground Floor					
1A	C-G-ISS-WC-1	Window Caulking	ISS room	ND	NA
2	C-G-BR-VJ-1 C-G-BR-VJ-1-DUP	Vibration joint	Boiler room	ND	NA
3A	C-G-ISS-CH-1	Chalkboard	ISS room	ND	NA
4A	C-G-ISS-DW-1	Drywall	ISS room	ND	NA
4B	C-G-ISS-DW-2	Drywall	ISS room	ND	NA
4C	C-G-ISS-DW-3	Drywall	ISS room	ND	NA
5A	C-G-ISS-JC-1	Joint compound	ISS room	ND	NA
5B	C-G-ISS-JC-2	Joint compound	ISS room	ND	NA
5C	C-G-ISS-JC-3	Joint compound	ISS room	ND	NA
6	**C-G-ISS-FTB-1 C-G-ISS-FTB-1-DUP**	**Brown 9 in X 9 in floor tile**	**ISS room**	**Tile 12% Chry, Mastic 9% Chry**	**50 sq. ft.**
7	**C-G-ISS-CA-1**	**Carpet adhesive**	**ISS room**	**9% Chry**	**200 sq. ft.**
10A	C-G-ST-PL-1	Plaster	Stairway	ND	NA
11A	C-G-ST-PLSC-1	Plaster skim coat	Stairway	ND	NA
First Floor					
1B	C-1-2-WC-2	Window Caulking	Room 2	ND	NA
3B	C-1-2-CH-2	Chalkboard	Room 2	ND	NA

TABLE 1
SUMMARY OF SUSPECT ACM LABORATORY ANALYSIS
WEST HIGH COMPLEX

Figure Key	Sample ID.	Material Description	Material Locations	Analytical Result (% ACM*)	Sq. Ft. Lin Ft.
8A	C-1-1-FTW-1	White 12 in x 12 in floor tile and associated mastic	Room 1	ND	NA
8B	C-1-SWRM-FTW-2	White 12 in x 12 in floor tile and associated mastic	Southwest classroom	ND	NA
8C	C-1-EO-FTW-3	White 12 in x 12 in floor tile and associated mastic	East office	ND	NA
9A	C-1-1-CT-1	12 in x 12 in ceiling tile with small holes	Room 1	ND	NA
9B	C-1-2-CT-2	12 in x 12 in ceiling tile with small holes	Room 2	ND	NA
10B	C-1-2-PL-2	Plaster	Room 2	ND	NA
11B	C-1-2-PLSC-2	Plaster skim coat	Room 2	ND	NA
12	**C-1-2-FTG-1 C-1-2-FTG-1-DUP**	**Green 9 in x 9 in floor tile and associated mastic**	**Room 2**	**Tile 12% Chry, Mastic ND**	**800 sq. ft.**
13	C-1-2-FTG2-1	Green 12 in x 12 in floor tile and associated mastic	Room 2	ND	NA
14	C-1-SO-CT2-1 C-1-SO-CT2-1-DUP	White, fissured 2 ft x 4 ft ceiling tile	Security office	ND	NA
Second Floor					
1C	C-2-10-WC-3	Window caulking	Room 10	ND	NA
3C	C-2-10-CH-3	Chalkboard	Room 10	ND	NA
9C	C-2-10-CT-3 C-2-10-CT-3-DUP	12 in x 12 in ceiling tile with small holes	Room 10	ND	NA
10C	C-2-HW-PL-3	Plaster	Hallway	ND	NA
11C	C-2-HW-PLSC-3	Plaster skim coat	Hallway	ND	NA
Exterior					
15	**C-EXT-WC-1**	**Window caulking**	**Exterior**	**2% Chry**	**720 lin. ft.**

TABLE 1
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WEST HIGH COMPLEX

Figure Key	Sample ID.	Material Description	Material Locations	Analytical Result (% ACM*)	Sq. Ft. Lin Ft.
Building D Ground Floor					
1A	D-G-TR-CT1-1 D-G-TR-CT1-1-DUP	White 12 in x 12 in ceiling tile with small holes	Transition room	ND	NA
3A	D-G-ST-PL-1	Plaster	Stairway	ND	NA
4A	D-G-ST-PLSC-1	Plaster skim coat	Stairway	ND	NA
5A	D-G-TR-WC-1	Window caulking	Transition room	ND	NA
9A	D-G-TR-CH-1	Chalkboard	Transition room	ND	NA
11A	D-G-HW-PL-1	Plaster	Hallway	ND	NA
12A	D-G-HW-PLSC-1	Plaster skim coat	Hallway	ND	NA
18	D-G-TR-CTM-1	Ceiling tile mastic	Transition room	ND	NA
First Floor					
1B	D-1-8-CT-2	White 12 in x 12 in ceiling tile with small holes	Room 8	ND	NA
3B	D-1-4-PL-2	Plaster	Room 4	ND	NA
4B	D-1-4-PLSC-2	Plaster skim coat	Room 4	ND	NA
5B	D-1-6-WC-2	Window caulking	Room 6	ND	NA
9B	D-1-6-CH-2	Chalkboard	Room 6	ND	NA
11B	D-1-HW-PL-2	Plaster	Hallway	ND	NA
12B	D-1-HW-PLSC-2	Plaster skim coat	Hallway	ND	NA
13	D-1-HW-WC-1 D-1-HW-WC-1-DUP	Window caulking	Hallway	ND	NA
14	D-1-4-CA-1	Carpet adhesive	Room 4	ND	NA
Second Floor					
1C	D-2-5-CT-3	White 12 in x 12 in ceiling tile with small holes	Room 5	ND	NA
2	D-2-1-CBM-1 D-2-1-CBM-1-DUP	Gray cove base mastic	Room 1	ND	NA
3C	D-2-7-PL-3	Plaster	Room 7	ND	NA
4C	D-2-7-PLSC-3	Plaster skim coat	Room 7	ND	NA
5C	D-2-2-WC-3	Window caulking	Room 2	ND	NA
6A	D-2-BR-DW-1	Drywall	Boiler room	ND	NA
6B	D-2-BR-DW-2	Drywall	Boiler room	ND	NA

TABLE 1
SUMMARY OF SUSPECT ACM LABORATORY ANALYSIS
WEST HIGH COMPLEX

Figure Key	Sample ID.	Material Description	Material Locations	Analytical Result (% ACM*)	Sq. Ft. Lin Ft.
6C	D-2-BR-DW-3	Drywall	Boiler room	ND	NA
7A	D-2-BR-JC-1	Joint compound	Boiler room	ND	NA
7B	D-2-BR-JC-2	Joint compound	Boiler room	ND	NA
7C	D-2-BR-JC-3 D-2-BR-JC-3-DUP	Joint compound	Boiler room	ND	NA
8	D-2-BR-CBM-1 D-2-BR-CBM-1-DUP	Cove base mastic	Boiler room	ND	NA
9C	D-2-3-CH-3	Chalkboard	Room 2	ND	NA
10	**D-2-5-FTT-1 D-2-5-FTT-1-DUP**	**Tan 9 in x 9 in floor tile and associated mastic**	**Room 5**	**Tile 9% Chry, Mastic 9% Chry**	**850 sq. ft.**
11C	D-2-HW-PL-3	Plaster	Hallway	ND	NA
12C	D-2-HW-PLSC-3	Plaster skim coat	Hallway	ND	NA
15	D-2-5-FTF-1	Felt under 9 in x 9 in floor tile	Room 5	ND	NA
Exterior					
16	**D-EXT-DC-1**	**Door caulking**	**Exterior door**	**2% Chry**	**190 lin. ft.**
17	**D-EXT-WC-1**	**Window caulking**	**Exterior**	**2% Chry**	**1,100 lin. ft.**
Annex First Floor					
19	X-1-HW-CTB-1	1 ft x 1 ft ceiling tile with large holes	Hallway	ND	NA
21	X-1-HW-CTAB-1	Ceiling tile adhesive with large holes	Hallway	ND	NA
23	X-1-HW-CBM-1	Cove base mastic	Hallway	ND	NA
24	X-1-102-CBM-1	Cove base mastic	Room 102	ND	NA
25	X-1-102-LIN-1 X-1-102-LIN-1-DUP	Gray linoleum	Bathrooms	ND	NA
26	X-1-106-CBMB-1	Black cove base mastic	Bathrooms in classrooms	ND	NA
27	X-1-104-GA-1	Window glaze	Classrooms	ND	NA
28	X-1-103-CH-1	Chalkboard	Classrooms	ND	NA
29	X-1-104-SU-1	Black sink underlayment	Classrooms	ND	NA
31	X-1-HW-FTRD-1	Red 12 in x 12 in floor tile and associated mastic	Hallway and Room 106	ND	NA

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WEST HIGH COMPLEX

Figure Key	Sample ID.	Material Description	Material Locations	Analytical Result (% ACM*)	Sq. Ft. Lin Ft.
32	X-1-105-FTT-1	Tan 12 in x 12 in floor tile and associated mastic	Room 105	ND	NA
33	**X-1-104-FTB-1 X-1-104-FTB-1-DUP**	**Beige 12 in x 12 in floor tile and associated mastic**	**Rooms 102-104**	**Tile ND, Mastic 12% Chry**	**1,800 sq. ft.**
39	X-1-100-SU-1	Gray sink underlayment	Room 100	ND	NA
Second Floor					
1	X-2-CAF-FTC-1	Cream 12 in x 12 in floor tile and associated mastic	Cafeteria	ND	NA
2	X-2-CAF-FTG-1	Gray 12 in x 12 in floor tile and associated mastic	Cafeteria	ND	NA
3	X-2-CAF-FTGR-1	Green 12 in x 12 in floor tile and associated mastic	Cafeteria	ND	NA
4	X-2-CAF-FTDRG-1	Dark gray 12 in x 12 in floor tile and associated mastic	Cafeteria	ND	NA
5	X-2-CAF-FTT-1	Teal 12 in x 12 in floor tile and associated mastic	Cafeteria	ND	NA
6	X-2-CAF-FTR-1	Red 12 in x 12 in floor tile and associated mastic	Cafeteria	ND	NA
7	X-2-CAF-FTP-1	Purple 12 in x 12 in floor tile and associated mastic	Cafeteria	ND	NA
8	X-2-CAF-FTDDG-1	Dark gray 12 in x 12 in floor tile and associated mastic	Cafeteria	ND	NA
9	X-2-CAF-FTB-1 X-2-CAF-FTB-1-DUP	Blue 12 in x 12 in floor tile and associated mastic	Cafeteria	ND	NA
10	X-2-CAF-CBM-1 X-2-CAF-CBM-1-DUP	Cove base mastic	Cafeteria	ND	NA
11A	X-2-CAF-DW-1	Drywall	Cafeteria	ND	NA
11B	X-2-CAF-DW-2	Drywall	Cafeteria	ND	NA
11C	X-2-CAF-DW-3	Drywall	Cafeteria	ND	NA
12A	**X-2-CAF-JC-1**	**Joint compound**	**Cafeteria**	**<0.25 Chry*** **	**NA**
12B	**X-2-CAF-JC-2**	**Joint compound**	**Cafeteria**	**<0.25 Chry*** **	**NA**
12C	**X-2-CAF-JC-3**	**Joint compound**	**Cafeteria**	**<0.25 Chry*** **	**NA**

TABLE 1
SUMMARY OF SUSPECT ACM LABORATORY ANALYSIS
WEST HIGH COMPLEX

Figure Key	Sample ID.	Material Description	Material Locations	Analytical Result (% ACM*)	Sq. Ft. Lin Ft.
Second Floor					
13	X-2-CAF-FTLG-1	Light green 12 in x 12 in floor tile and associated mastic	Cafeteria	ND	NA
14	X-2-CAF-FTPI-1	Pink 12 in x 12 in floor tile and associated mastic	Cafeteria	ND	NA
15A	X-2-CAF-PL-1	Plaster	Cafeteria	ND	NA
15B	X-2-CAF-PL-2	Plaster	Cafeteria	ND	NA
15C	X-2-CAF-PL-3	Plaster	Cafeteria	ND	NA
16A	X-2-CAF-PLSC-1	Plaster skim coat	Cafeteria	ND	NA
16B	X-2-CAF-PLSC-2	Plaster skim coat	Cafeteria	ND	NA
16C	X-2-CAF-PLSC-3	Plaster skim coat	Cafeteria	ND	NA
17	X-2-CAF-CT-1 X-2-CAF-CT-1-DUP	2 ft x 2 ft Ceiling tile	Cafeteria	ND	NA
18	**X-2-H-FTO-1**	**Orange 9 x 9 floor tile and associated mastic**	**Hallway 1st and 2nd floors**	**Tile 4% Chry, Mastic 12% Chry**	**3,200 sq. ft.**
20	X-2-HW-CTS-1	1 ft x 1ft ceiling tile with small holes	Hallway	ND	NA
22	X-2-HW-CTAS-1	Ceiling tile adhesive with small holes	Hallway	ND	NA
30	**X-2-209-FTBR-1**	**Brown 9 in x 9 in floor tile and associated mastic**	**Room 209 and room north of 209**	**Tile 4% Chry, Mastic 9% Chry**	**100 sq. ft.**

TABLE 1
SUMMARY OF SUSPECT ACM LABORATORY ANALYSIS
WEST HIGH COMPLEX

Figure Key	Sample ID.	Material Description	Material Locations	Analytical Result (% ACM*)	Sq. Ft. Lin Ft.
Exterior					
34	X-EXT-WG-1	Window glaze	Exterior	ND	NA
35	X-EXT-WC-1	Window caulking	Exterior on east side	ND	NA
36	X-EXT-WC1-1	Window caulking	Exterior on north side	ND	NA
37	X-EXT-RS-1	Roof shingling	Roof	ND	NA
38	X-EXT-RC-1	Roof caulking	Roof	ND	NA

Notes:

Bolded results indicate that ACM was detected.

* AHERA defines ACM as any material or product that contains more than 1 percent asbestos.

** The lab indicated that this sample was misplaced, so no analysis was completed. This sample was the first in a series of nine of one homogenous material; Tetra Tech's professional opinion is that because all other eight samples in this series of homogenous material came back as ND, sufficient data exist for this homogenous material to determine that the material does not contain asbestos.

*** EPA defines ACM as greater than 1% asbestos. Because the Joint Compound contains <1% asbestos, the material is not regulated for disposal purposes. However, the material does contain asbestos, so if the material is disturbed, OSHA regulations need to be followed and personal protective equipment must be used.

<	Less than
%	Percent
ACM	Asbestos-containing material
AHERA	Asbestos Hazard and Emergency Response Act of 1986
Chry	Chrysotile asbestos
ft	Feet
ID	Identification
in	Inch
Lin. Ft.	Linear feet
NA	Not applicable
ND	Not detected
OSHA	Occupational Safety and Health Administration
Sq. Ft.	Square feet

10.0 LBP FINDINGS

The laboratory report in Appendix C indicates the results for the LBP samples. The laboratory results and the XRF readings obtained from the subject property are summarized in Table 2 below. The bolded results in the table indicate XRF readings above 1.0 mg/cm^2.

TABLE 2
SUMMARY OF LBP SCREENING
WEST HIGH COMPLEX

Sample No.	Paint Color	Room	Component	Substrate	XRF Reading (mg/cm^2)	Damaged	Confirmation Paint Chip Sample ID	Laboratory Analytical Result (mg/cm^2)
Building A Second Floor								
1	Cream	Cafeteria	Window Frame	Metal	0.03	NA	NA	NA
2	Cream	Cafeteria and Bathroom	Wall	Concrete	0.00	NA	NA	NA
3	Gray	Cafeteria and Bathroom	Door	Metal	0.05	NA	NA	NA
4	Blue	Cafeteria and Hallway	Wall	Cinder and Metal	0.17	NA	LB-A-2-ST-1	0.021
5	Brown	Cafeteria	Door	Wood	0.07	NA	NA	NA
6	Gray	Cafeteria	Railing	Metal	0.00	NA	NA	NA
7	Red	Cafeteria	Pillar	Concrete	0.00	NA	NA	NA
8	Yellow	Cafeteria	External Wall	Metal	0.04	NA	NA	NA
9	White	Cafeteria Prep Area	Ceiling	Plaster	0.00	NA	LA-A-3-KIT-1	<0.004
10	Cream	Cafeteria	Wall	Plaster	0.00	NA	NA	NA
First Floor								
11	**Red**	**Hallway**	**Wall**	**Cinder Block**	**>1.00**	**No**	**NA**	**NA**
12	Cream	Classroom	Wall	Cinder Block	0.07	NA	NA	NA
13	Cream	Classroom	Radiator	Metal	0.07	NA	NA	NA
14	Cream	South Classroom	Wall	Concrete	0.00	NA	NA	NA
15	Cream	Bathroom	Wall	Cinder Block	0.00	NA	NA	NA
16	Tan	Bathroom	Access Door	Metal	0.04	NA	NA	NA
17	Blue	Bathroom	Toilet Stall	Metal	0.00	NA	NA	NA
18	Blue	Stairwell	Door	Metal	0.02	NA	NA	NA
Ground Floor								
19	Blue	Hallway	Wall	Cinder Block	0.13	NA	NA	NA
20	Blue	Hallway	Wall	Plaster	0.05	NA	NA	NA
21	Cream	Bathroom	Wall	Cinder Block	0.00	NA	NA	NA
22	Orange	Hallway	Door	Wood	0.03	NA	NA	NA
23	Blue	West Room	Wall	Cinder Block	0.03	NA	NA	NA
24	Cream	West Room Storage	Wall	Cinder Block	0.00	NA	NA	NA
25	Beige	West Room Storage	Door	Wood	0.00	NA	NA	NA
26	Green	West Room Storage	Wall	Cinder Block	0.05	NA	NA	NA
27	Cream	South Room	Wall	Cinder Block	0.00	NA	NA	NA
28	Tan	South Room	Door	Metal	0.55	Yes	LB-A-1-S-1	0.206
29	Purple	South Room	Door	Wood	0.00	NA	NA	NA

TABLE 2
SUMMARY OF LBP SCREENING
WEST HIGH COMPLEX

Sample No.	Paint Color	Room	Component	Substrate	XRF Reading (mg/cm^2)	Damaged	Confirmation Paint Chip Sample ID	Laboratory Analytical Result (mg/cm^2)
Building B Attic								
30	**Black**	**Stairwell Up To Attic**	**Stairs**	**Concrete**	**>1.00**	**No**	**NA**	**NA**
31	**Cream**	**Stairwell Up To Attic**	**Wall**	**Plaster**	**>5.00**	**No**	**NA**	**NA**
32	Gray	Attic	Door Frame	Wood	0.38	NA	NA	NA
Third Floor								
33	**Purple**	**Hallway**	**Baseboard**	**Concrete**	**>1.00**	**No**	**NA**	**NA**
34	**Cream**	**Hallway**	**Lower Wall**	**Plaster**	**>1.00**	**Yes**	**NA**	**NA**
35	**Cream**	**Hallway**	**Upper Wall**	**Plaster**	**>1.00**	**Yes**	**NA**	**NA**
36	**Cream**	**Room 310/ All Classroom Walls**	**Wall**	**Plaster**	**>5.00**	**Yes**	**LB-B-3-310-1**	**6.523**
37	**Orange**	**Hallway**	**Baseboard**	**Concrete**	**>1.00**	**No**	**NA**	**NA**
38	**Cream**	**Bathroom**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
39	Gray	Janitors Closet	Door	Wood	0.00	NA	NA	NA
40	Gray	Janitors Closet	Door Frame	Wood	0.04	NA	NA	NA
41	Blue	Elevator Hall	Wall	Plaster	0.00	NA	NA	NA
42	**Red**	**Hallway**	**Baseboard**	**Concrete**	**>1.00**	**Yes**	**NA**	**NA**
43	**Gray**	**Room 305/Property Room**	**Lower Wall**	**Plaster**	**4.19**	**Yes**	**NA**	**NA**
44	**Yellow**	**Stairwell**	**Baseboard**	**Concrete**	**3.27**	**No**	**NA**	**NA**
Second Floor								
45	**Cream**	**Hallway**	**Upper Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
46	**Cream**	**Hallway**	**Lower Wall**	**Plaster**	**1.92**	**Yes**	**LB-B-2-HW-1**	**3.142**
47	Cream	Janitors Closet	Wall	Plaster	0.18	NA	NA	NA
48	**Cream**	**Room 201/ All Rooms and Ceilings**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
49	Varnish	Room 209	Trim	Wood	0.06	NA	NA	NA
50	**Cream**	**Upper Auditorium**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
First Floor								
51	**Cream**	**Hallway**	**Upper Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
52	**Cream**	**Hallway**	**Lower Wall**	**Plaster**	**2.91**	**Yes**	**LB-B-1-HW-1**	**5.480**
53	**Black**	**Entry Way**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
54	White	Entry Way	Door Frame and Ceiling	Wood	0.00	NA	NA	NA

TABLE 2
SUMMARY OF LBP SCREENING
WEST HIGH COMPLEX

Sample No.	Paint Color	Room	Component	Substrate	XRF Reading (mg/cm^2)	Damaged	Confirmation Paint Chip Sample ID	Laboratory Analytical Result (mg/cm^2)
55	**Cream**	**Auditorium**	**Walls and Beams**	**Plaster**	**>5.00**	**Yes**	**LB-B-1-AUD-1**	**5.870**
56	**White**	**Auditorium**	**Ceiling**	**Plaster**	**1.92**	**Yes**	**NA**	**NA**
57	**Cream**	**Room 108**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
58	**White**	**Room 108**	**Ceiling**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
59	**Yellow**	**Room 108 – Bathroom**	**Wall**	**Plaster**	**1.91**	**Yes**	**NA**	**NA**
60	**Cream**	**Office**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
61	**Light Green**	**Office**	**Closet Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
62	Blue	Men’s Room	Stalls	Metal	0.00	NA	NA	NA
Ground Floor								
63	**Green**	**Stairwell – East Side**	**Wall**	**Plaster**	**4.12**	**Yes**	**NA**	**NA**
64	**Black**	**Stairwell Door – East Side**	**Door**	**Wood**	**4.00**	**Yes**	**NA**	**NA**
65	**Cream**	**Hallway – East Side**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
66	**Red**	**Under Stairwell – East Side**	**Wall**	**Plaster**	**>5.00**	**No**	**NA**	**NA**
67	Cream	Stairwell – Boiler Room	Wall	Plaster	0.00	NA	NA	NA
68	Black	Stairwell – Boiler Room	Wall	Plaster	0.00	NA	NA	NA
69	**Gray**	**Stairwell – Boiler Room**	**Wall**	**Plaster**	**>1.00**	**Yes**	**NA**	**NA**
70	**Gray**	**Stairwell – Boiler Room**	**Stairs**	**Metal**	**>1.00**	**Yes**	**NA**	**NA**
71	**Gray**	**Lower Boiler Room**	**Boiler**	**Metal**	**>1.00**	**Yes**	**NA**	**NA**
72	**Cream**	**East Locker Room**	**Wall**	**Plaster**	**>1.00**	**Yes**	**NA**	**NA**
73	Varnish	East Locker Room	Window Frame	Wood	0.00	NA	NA	NA
74	**Black**	**East Locker Room**	**Door**	**Wood**	**4.32**	**Yes**	**NA**	**NA**
75	**Green**	**East Locker Room**	**Stairwell Wall**	**Plaster**	**>1.00**	**Yes**	**NA**	**NA**
76	Cream	East Locker Room – Shower Room	Wall and Door Frame	Plaster, Cinder Block and Wood	0.00	NA	NA	NA
77	**Cream**	**Pool**	**Wall**	**Plaster**	**>5.00**	**Yes**	**LB-B-POOL-1**	**5.593**
78	Cream	Pool	Window Frame	Wood	0.00	NA	NA	NA
79	Cream	West Locker Room	Shower Wall	Cinder Block	0.00	NA	NA	NA
80	**Cream**	**West Locker Room**	**Exterior Wall**	**Plaster**	**>1.00**	**Yes**	**NA**	**NA**
81	Varnish	West Locker Room	Trim and Doors	Wood	0.09	NA	NA	NA
82	**Multi-Colored**	**Hallway – Leading to Northwest Exit**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**

TABLE 2
SUMMARY OF LBP SCREENING
WEST HIGH COMPLEX

Sample No.	Paint Color	Room	Component	Substrate	XRF Reading (mg/cm^2)	Damaged	Confirmation Paint Chip Sample ID	Laboratory Analytical Result (mg/cm^2)
83	**Blue**	**North Stairwell**	**Baseboard**	**Concrete**	**>1.00**	**Yes**	**LB-B-NS-1**	**3.036**
Upper and Lower Gym Floors								
84	**Cream**	**West Gym**	**Wall**	**Plaster**	**>1.00**	**Yes**	**NA**	**NA**
85	**Cream**	**Hallway Between Gyms**	**Wall**	**Plaster**	**>5.00**	**Yes**	**LB-B-LBG-HW-1**	**0.273***
86	**Blue**	**Gym Offices**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
87	**Light Green**	**Gym Offices**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
88	**Tan**	**Gym Office – Bathroom**	**Wall**	**Plaster**	**>1.00**	**Yes**	**NA**	**NA**
89	Blue	Gym Office – Bathroom	Stall	Metal	0.25	NA	NA	NA
90	**Cream**	**East Gym**	**Wall**	**Plaster**	**2.35**	**Yes**	**NA**	**NA**
91	Cream	Gym Balcony	Wall	Plaster	0.10	NA	LB-B-G-BAL-1	0.158
92	**Cream**	**Hallway**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
Building C Second Floor								
93	**Brown**	**In Stairwell**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
94	**Blue**	**Upper Walls Hallway – Between Bldg B and C**	**Wall**	**Plaster**	**>5.00**	**Yes**	**LB-C-2-HW-1**	**24.733**
95	**Blue**	**Lower Walls Hallway – Between Bldg B and C**	**Wall**	**Plaster**	**2.81**	**Yes**	**NA**	**NA**
96	Varnish	Throughout Floor	Doors and Door Frames	Wood	0.21	NA	NA	NA
97	Blue	Room 10	Wall	Plaster	0.13	NA	NA	NA
98	Green	Room 10	Wall	Slate	0.18	NA	NA	NA
99	Orange	Room 10	Wall	Slate	0.04	NA	LB-C-2-10-1	0.254
100	Yellow	Room 10	Door	Metal	0.14	NA	NA	NA
101	Tan	Hallway	Wall	Plaster	0.13	NA	NA	NA
102	**Cream**	**Hallway**	**Wall**	**Wood**	**>5.00**	**Yes**	**NA**	**NA**
103	White	Hallway	Lower Trim	Plaster	0.28	NA	NA	NA
104	**Green**	**Storage Room – East Side**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
105	Green	Room 9	Wall	Plaster	0.00	NA	NA	NA
106	Cream	Room 8	Wall	Plaster	0.12	NA	NA	NA
107	Cream	Room 11	Wall	Plaster	0.00	NA	NA	NA
108	**Cream**	**North Hallway**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
109	**Orange**	**North Hallway**	**Pillar**	**Plaster**	**1.38**	**Yes**	**NA**	**NA**

TABLE 2
SUMMARY OF LBP SCREENING
WEST HIGH COMPLEX

Sample No.	Paint Color	Room	Component	Substrate	XRF Reading (mg/cm^2)	Damaged	Confirmation Paint Chip Sample ID	Laboratory Analytical Result (mg/cm^2)
110	**Yellow**	**North Hallway**	**Wall**	**Plaster**	**1.50**	**Yes**	**NA**	**NA**
111	**Light Blue**	**North Hallway**	**Wall**	**Plaster**	**2.00**	**Yes**	**NA**	**NA**
112	**Dark Blue**	**North Hallway**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
First Floor								
113	**Cream**	**North Hallway**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
114	**Yellow**	**Hallway**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
115	**Orange**	**East Room**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
116	**Light Gray**	**East Room**	**Doors and Door Frames**	**Wood**	**>5.00**	**Yes**	**NA**	**NA**
117	Varnish	Throughout Floor	Wall	Plaster	0.01	NA	NA	NA
118	Light Green	East Room	Wall	Plaster	0.00	NA	NA	NA
119	Pink	Room 1	Door	Plaster	0.01	NA	LB-C-1-1-1	0.064
120	White	Room 1	Wall	Wood	0.17	NA	NA	NA
121	Teal	Southwest Rooms	Wall	Plaster	0.03	NA	NA	NA
122	Blue	Southwest Rooms	Wall	Plaster	0.00	NA	NA	NA
123	**Cream**	**Southwest Rooms**	**Wall**	**Plaster**	**1.00**	**Yes**	**NA**	**NA**
124	**Orange**	**Southwest Rooms**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
125	**Purple**	**West Hallway**	**Wall**	**Plaster**	**2.83**	**Yes**	**NA**	**NA**
126	Red	West Hallway	Railing	Metal	0.00	NA	NA	NA
127	Green	West Hallway	Railing	Metal	0.00	NA	NA	NA
Ground Floor								
128	**Blue**	**Throughout Floor**	**Wall**	**Brick, Cinder Block and Plaster**	**>5.00**	**Yes**	**NA**	**NA**
129	**Light Blue**	**Throughout Floor**	**Wall**	**Brick, Cinder Block and Plaster**	**>5.00**	**Yes**	**NA**	**NA**
130	**Light Green**	**Bathroom**	**Wall**	**Brick, Cinder Block and Plaster**	**>5.00**	**Yes**	**NA**	**NA**
131	**Dark Green**	**Bathroom**	**Wall**	**Brick, Cinder Block and Plaster**	**>5.00**	**Yes**	**NA**	**NA**
132	White	Boiler Room	Boiler	Brick	0.00	NA	NA	NA

TABLE 2
SUMMARY OF LBP SCREENING
WEST HIGH COMPLEX

Sample No.	Paint Color	Room	Component	Substrate	XRF Reading (mg/cm^2)	Damaged	Confirmation Paint Chip Sample ID	Laboratory Analytical Result (mg/cm^2)
133	Green	ISS	Wall	Brick	0.35	NA	NA	NA
134	**Brown**	**Bathroom**	**Wall**	**Brick and Plaster**	**>5.00**	**Yes**	**NA**	**NA**
135	**Cream**	**Bathroom**	**Wall**	**Brick and Plaster**	**>5.00**	**Yes**	**NA**	**NA**
Building D Ground Floor								
136	Tan	Transition Room	Door	Metal Brick and Cinder Block	0.33	NA	NA	NA
137	Blue	Transition Room	Wall	Concrete	0.01	NA	NA	NA
138	Tan	Transition Room	Pillar	Concrete	0.07	NA	NA	NA
139	Black	Tunnel to Annex Bldg	Wall	Concrete	0.08	NA	NA	NA
140	Blue	Tunnel to Annex Bldg	Wall	Concrete	0.02	NA	NA	NA
141	Gray	Tunnel to Annex Bldg	Wall	Concrete	0.01	NA	NA	NA
142	**Dark Blue**	**North Stairwell**	**Wall**	**Plaster**	**>5.00**	**Yes**	**LB-D-G-SW-1**	**29.256**
143	**Light Blue**	**North Stairwell**	**Wall**	**Plaster**	**1.5**	**Yes**	**NA**	**NA**
144	Purple	North Stairwell	Railing	Metal	0.00	NA	NA	NA
145	**Cream**	**North Stairwell**	**Ceiling**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
First Floor								
146	Cream	Room 8	Wall	Plaster	0.17	NA	LB-D-1-8-1	0.243
147	Green	Room 8 Storage	Wall	Plaster	0.13	NA	NA	NA
148	Varnish	Room 8	Doors and Door Frame	Wood	0.04	NA	NA	NA
149	Tan	Hallway	Door	Metal	0.19	NA	NA	NA
150	Cream	Room 7	Wall	Plaster	0.24	NA	NA	NA
151	Blue	Room 7 Storage	Wall	Plaster	0.19	NA	NA	NA
152	**Blue**	**Bathroom**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
153	**Cream**	**Hallway**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
154	Cream	Room 6	Wall	Plaster	0.07	NA	NA	NA
155	Green	Room 6 Storage	Wall	Plaster	0.21	NA	NA	NA
156	Cream	Room 5	Wall	Plaster	0.14	NA	NA	NA
157	Green	Room 4	Wall	Plaster	0.10	NA	NA	NA
158	Cream	All Room Ceiling	Ceiling	Concrete	0.06	NA	NA	NA
159	Cream	Room 3	Wall	Plaster	0.24	NA	NA	NA

TABLE 2
SUMMARY OF LBP SCREENING
WEST HIGH COMPLEX

Sample No.	Paint Color	Room	Component	Substrate	XRF Reading (mg/cm^2)	Damaged	Confirmation Paint Chip Sample ID	Laboratory Analytical Result (mg/cm^2)
Second Floor								
160	**Cream**	**Hallway**	**Wall**	**Plaster**	**>5.00**	**Yes**	**NA**	**NA**
161	Orange	Room 7	Wall	Plaster	0.26	NA	LB-D-2-7-1	0.253
162	White	All Room Ceiling	Ceiling	Concrete	0.01	NA	NA	NA
163	Cream	Room 6	Wall	Plaster	0.05	NA	NA	NA
164	Blue	Room 5	Wall	Plaster	0.10	NA	LB-D-2-5-1	0.200
165	Teal	Room 4	Wall	Plaster	0.16	NA	NA	NA
166	Cream	Room 3	Wall	Plaster	0.18	NA	NA	NA
167	Blue	Room 2	Wall	Plaster	0.20	NA	NA	NA
168	Green	Room 2	Chalk Board	Slate	0.06	NA	NA	NA
169	Cream	Room 1	Wall	Plaster	0.09	NA	NA	NA
170	Cream	Bathroom	Wall	Plaster	0.00	NA	NA	NA
171	Brown	Exterior	Door	Metal	0.00	NA	NA	NA
Annex Second Floor								
172	Cream	Cafeteria	Wall	Cinder Block	0.00	NA	LB-X-2-CAF-1	0.013
173	Cream	Cafeteria	Wall	Plaster	0.00	NA	NA	NA
174	Cream	Cafeteria	Door Frame	Metal	0.00	NA	NA	NA
175	Cream	Cafeteria Closet	Wall	Cinder Block	0.00	NA	NA	NA
176	Cream	Hallway	Pillar	Concrete	0.02	NA	NA	NA
177	Cream	Room 201	Wall	Cinder Block	0.00	NA	NA	NA
178	Cream	Room 202	Wall	Plaster	0.00	NA	NA	NA
179	Cream	Room 204	Door Frame	Metal	0.00	NA	NA	NA
180	Red	Stairwell	Stair Railing	Metal	0.02	NA	NA	NA
First Floor								
181	Cream	Hallway	Door Frame	Metal	0.00	NA	NA	NA
182	Cream	Room 106	Door Frame	Metal	0.00	NA	NA	NA
183	Cream	Room 105	Wall	Plaster	0.00	NA	NA	NA
184	Varnish	Stairwell	Door Frame	Wood	0.19	NA	NA	NA
185	Cream	Room 100	Wall	Cinder Block	0.13	NA	NA	NA
186	White	Exterior	Pillars and Wall	Concrete	0.00	NA	NA	NA
187	Cream	Exterior	Door	Metal	0.01	NA	NA	NA
188	Purple	Exterior	Door	Metal	0.06	NA	NA	NA

TABLE 2
SUMMARY OF LBP SCREENING
WEST HIGH COMPLEX

Sample No.	Paint Color	Room	Component	Substrate	XRF Reading (mg/cm^2)	Damaged	Confirmation Paint Chip Sample ID	Laboratory Analytical Result (mg/cm^2)
189	Dark Brown	Exterior	Door Frame	Metal	0.00	NA	NA	NA
Exterior First Floor - Complex								
190	Brown	Exterior – Bldg D (West)	Door	Metal	0.03	NA	NA	NA
191	Green	Exterior – Bldg C (West)	Trim on Window	Metal	0.00	NA	NA	NA
192	**White**	**Exterior – Bldg B (West)**	**Porch**	**Wood**	**>5.00**	**Yes**	**NA**	**NA**
193	**Multi-colored**	**Exterior – Bldg A (West)**	**Wall**	**Metal**	**>5.00**	**Yes**	**NA**	**NA**
194	**Dark Green**	**Exterior – Bldg B (South)**	**Loading Dock**	**Wood**	**>5.00**	**Yes**	**NA**	**NA**
195	Purple	Exterior – Bldg A (South)	Loading Dock	Wood	0.46	NA	NA	NA
196	**Cream**	**Exterior – Bldg A (East)**	**Hand Rail**	**Metal**	**2.46**	**Yes**	**NA**	**NA**
197	Cream	Exterior – Bldg B (East)	Door	Wood	0.00	NA	NA	NA
198	**Black**	**Exterior – Bldg B (East)**	**Door Frame**	**Wood**	**>5.00**	**Yes**	**NA**	**NA**
199	**Gray**	**Exterior – Bldg B (East)**	**Window Frame**	**Wood**	**>1.00**	**Yes**	**LB-B-EXT-1-1**	**7.047**

Notes:

Item in boldface indicates positive identification of LBP (>1 mg/cm^2).

* The analytical result indicates less than 1.00 mg/cm^2, therefore not considered positive for LBP; but the XRF result indicates a content of >5.00 mg/cm^2 lead. The survey team's professional opinion is that this paint does contain LBP; these walls have many layers and are extremely degraded. It is plausible that during the paint chip collection, not all layers of the paint on the wall were equally represented, and this may account for the low analytical result.

>	Greater than
<	Less than
Bldg	Building
mg/cm^2	Milligrams per square centimeter
ID	Identification
LBP	Lead-based paint
NA	Not applicable
No.	Number
XRF	X-ray fluorescence

11.0 PCB FINDINGS

The laboratory report in Appendix D indicates the analytical results for the PCB samples, and the results are summarized in Table 3 below. Bolded results in Table 3 indicate detections of PCBs above the action level of 50 ppm.

TABLE 3
SUMMARY OF PCB LABORATORY ANALYSIS
WEST HIGH COMPLEX

Figure Key	Sample ID	Material Description	Material Locations	Analyte Description	Analytical Result (ppm)
Building A Second Floor					
1	**AP-3-HW-WC-1**	**Window caulking**	**East Hallway**	**Aroclor-1260**	**284**
Exterior					
2	AP-EXT-WC-1	Window caulking	Exterior	ND	ND
Building B Exterior					
3	BP-EXT-WC-1	Window caulking	Exterior	ND	ND
4	BP-EXT-DC-1	Door caulking	Exterior	Aroclor-1254	0.139
Building C Ground Floor					
5	CP-G-BR-WC-1	Window caulking	Boiler room	Aroclor-1254	2.10
First Floor					
6	CP-1-1-WC-2	Window caulking	Room 1	Aroclor-1254	2.28
Second Floor					
7	CP-2-11-WC-3	Window caulking	Room 11	Aroclor-1254	2.03
Exterior					
8	CP-EXT-WC-1	Window caulking	Exterior	ND	ND
Building D Ground Floor					
11	DP-G-TR-WC-1	Window caulking	Transition room	Aroclor-1260	6.34
First Floor					
12	DP-1-6-WC-2	Window caulking	Room 6	Aroclor-1260	6.62
Second Floor					
13	DP-2-4-WC-3	Window caulking	Room 4	Aroclor-1260	7.08
Exterior					
9	**DP-EXT-WC-1**	**Window caulking**	**Exterior**	**Aroclor-1260**	**260**
10	DP-EXT-DC-1	Door caulking	Exterior door	ND	ND
Attic					
Not accessible					
Building Annex Exterior					
14	XP-EXT-WC-1	Window caulking	Exterior	ND	ND
15	XP-EXT-DC-1	Door caulking	Exterior door	ND	ND

Notes:

Items in boldface indicates positive identification of PCB

ND Not detected
PCB Polychlorinated biphenyl
ppm Parts per million

12.0 HOUSEHOLD HAZARDOUS WASTE AND HAZARDOUS WASTE INVENTORY FINDINGS

The household hazardous waste and hazardous waste inventory is summarized in Table 4 below.

TABLE 4 A
SUMMARY OF HOUSEHOLD HAZARDOUS WASTE INVENTORY
WEST HIGH COMPLEX

Hazardous Chemical or Item	Amounts			Household Chemicals	Amounts			Room Number	Fluorescent Bulbs	Ballasts	Mercury Thermostat Switches	AC Units	Batteries (Emergency Lighting/Exit Signs)
	oz	gals	lbs		oz	gals	lbs						
Building A - Ground Floor													
Refrigerator			125					West Classroom	104	52	7	5	17
Lead (Computer Monitor)			375					Southeast Room, West Classroom					
				Glass Cleaner		1		Janitors Closet					
				Wall Glide		1		Janitors Closet					
				General Cleaner		1		Janitors Closet					
Subtotals	0		500		0	3	0		104	52	7	5	17
TOTALS	0		500	**TOTALS**	0.0	3.0	0						

TABLE 4 A
SUMMARY OF HOUSEHOLD HAZARDOUS WASTE INVENTORY
WEST HIGH COMPLEX

Hazardous Chemical or Item	Amounts			Household Chemicals	Amounts			Room Number	Fluorescent Bulbs	Ballasts	Mercury Thermostat Switches	AC Units	Batteries (Emergency Lighting/Exit Signs)
	oz	gals	lbs		oz	gals	lbs						
Building A - First Floor													
Refrigerator			125						116	50	8	5	3
Lead (Computer Monitor)			15										
Subtotals	0	0	140		0	0	0		116	50	8	5	3
TOTALS	0.0	0.0	140	**TOTALS**	0.0	0.0	0						

TABLE 4 A
SUMMARY OF HOUSEHOLD HAZARDOUS WASTE INVENTORY
WEST HIGH COMPLEX

Hazardous Chemical or Item	Amounts			Household Chemicals	Amounts			Room Number	Fluorescent Bulbs	Ballasts	Mercury Thermostat Switches	AC Units	Batteries (Emergency Lighting/Exit Signs)
	oz	gals	lbs		oz	gals	lbs						
Building A - Second Floor													
-				Unknown		0.5		Kitchen	54	22	11	1	3
Lead Acid Battery			20					West Classroom					
Subtotals	0	0	20		0	0.5	0		54	22	11	1	3
TOTALS	0.0	0.0	20	**TOTALS**	0	0.5	0						

Total for Building	**0.0**	**0**	**660**		0	**3.5**	**0**		**274**	**124**	**26**	**11**	**23**

TABLE 4 B
SUMMARY OF HOUSEHOLD HAZARDOUS WASTE INVENTORY
WEST HIGH COMPLEX

Hazardous Chemical or Item	Amounts			Household Chemicals	Amounts			Room Number	Fluorescent Bulbs	Ballasts	Mercury Thermostat Switches	AC Units	Batteries (Emergency Lighting/Exit Signs)
	oz	gals	lbs		oz	gals	lbs						
Building B - Basement Floor													
				Adhesive		1		SE - Band Room	14	7	8	0	9
Lead (Computer Monitor)			375					SE - Band Room					
				Unknown Yellow Powder			60	Boiler Room and Boiler Hall					
Refrigerator			125					Hallway North of Locker Room					
Oil Based Enamel		1						Closet					
				Floor Cleaner		10		Locker Room					
				Floor Adhesive		4		Locker Room					
				Gloss Enamel		3		Locker Room					
				Stain Sealer		2		Locker Room					
Oil Based Paint		2						Locker Room					
Organic Acid Mixture		150						Boiler Room					
Subtotals	0	153	500		0	20	60		14	7	8	0	9
TOTALS	0	153.0	1000	**TOTALS**	0.0	20.0	120						

TABLE 4 B
SUMMARY OF HOUSEHOLD HAZARDOUS WASTE INVENTORY
WEST HIGH COMPLEX

Hazardous Chemical or Item	Amounts			Household Chemicals	Amounts			Room Number	Fluorescent Bulbs	Ballasts	Mercury Thermostat Switches	AC Units	Batteries (Emergency Lighting/Exit Signs)
	oz	gals	lbs		oz	gals	lbs						
Building B - First Floor													
Oil Based Paint		0.5						Auditorium	210	106	14	7	4
				Enamel		1		Auditorium					
Power Strip Remover		3						Hallway					
Degreaser		3						Office					
				Stain Master		3		Office					
				Emblaze		3		Office					
				Glass Clean		4		Janitors Closet					
				Acetic Acid		1		Janitors Closet					
				Household Cleaners		3		Janitors Closet					
				Unknown		3		Janitors Closet					
				Stainless Steel Cleaner		3		Janitors Closet					
				Floor Finish		3		Janitors Closet					
				Surface Sanitizer		3		109					
Freon (Water Fountain)			2					Janitors Closet					
Power Strip Remover			3					Janitors Closet					
Subtotals	0	6.5	5		0	27	0		210	106	14	7	4
TOTALS	0.0	6.5	5	**TOTALS**	0	27.0	0						

TABLE 4 B
SUMMARY OF HOUSEHOLD HAZARDOUS WASTE INVENTORY
WEST HIGH COMPLEX

Hazardous Chemical or Item	Amounts			Household Chemicals	Amounts			Room Number	Fluorescent Bulbs	Ballasts	Mercury Thermostat Switches	AC Units	Batteries (Emergency Lighting/Exit Signs)
	oz	gals	lbs		oz	gals	lbs						
Building B - Second Floor													
				Fiber Fresh		0.5		208	208	106	7	1	3
				Wall Glide	17			208					
				Grease	14			Hallway					
Freon (Water Fountain)			2					Hallway					
Subtotals	0	0	2		31	0.5	0		208	106	7	1	3
TOTALS	0.0	0.0	2	**TOTALS**	31.0	0.5	0						
Building B - Third Floor													
Lead (Computer Monitor)			60					308	265	107	11	0	3
Subtotals	0	0	60		0	0	0		265	107	11	0	3
TOTALS	0.0	0.0	60	**TOTALS**	0.0	0.0	0						
Building B - Attic													
				Unknown		1.5		208	0	0	0	0	0
				Unknown		0.5		208					
				Duplicating Fluid		0.5		Hallway					
Subtotals	0	0	0		0	2.5	0		0	0	0	0	0
TOTALS	0.0	0.0	0	**TOTALS**	0.0	2.5	0						

Total for Building	**0.0**	**160**	**67**		**31**	**50.2**	**120**		**697**	**326**	**40**	**8**	**19**

TABLE 4 C
SUMMARY OF HOUSEHOLD HAZARDOUS WASTE INVENTORY
WEST HIGH COMPLEX

Hazardous Chemical or Item	Amounts			Household Chemicals	Amounts			Room Number	Fluorescent Bulbs	Ballasts	Mercury Thermostat Switches	AC Units	Batteries (Emergency Lighting/Exit Signs)
	oz	gals	lbs		oz	gals	lbs						
Building C - Ground Floor													
				Glass Cleaner		1		Boiler Room	0	0	1	1	4
				Ammonia Water		0.5		Boiler Room					
				Disinfectant Cleaner		0.5		Boiler Room					
				Shelia Shine		0.5		Stair Well					
Varnish		0.5						Stair Well					
Used Oil		110						ISS Room					
Lead (Computer Monitor)		15						ISS Room					
Degreaser		0.5						ISS Room					
				Unknown		0.5		Boiler Room					
Aluminum Chrome Finish	140							Boiler Room					
Motor Oil	152							Boiler Room					
Paste Wax	60							Boiler Room					
Subtotals	352	126	0		0	3	0		0	0	1	1	4
TOTALS	352	126.0	0	**TOTALS**	0	3.0	0						

TABLE 4 C
SUMMARY OF HOUSEHOLD HAZARDOUS WASTE INVENTORY
WEST HIGH COMPLEX

Hazardous Chemical or Item	Amounts			Household Chemicals	Amounts			Room Number	Fluorescent Bulbs	Ballasts	Mercury Thermostat Switches	AC Units	Batteries (Emergency Lighting/Exit Signs)
	oz	gals	lbs		oz	gals	lbs						
Building C - First Floor													
				Sanimaster		0.5		Stair Well	96	36	8	6	8
Lead (Computer Monitor)			15					1					
				Acrylic Sealer	6			1					
				Comet	6			2					
				Latex Paint		6		Office Store Room					
				Acrylic Paint		3		Office Store Room					
Refrigerator			125					Room 1					
				Unknown Paint		2		Office Store Room					
				Floor Finish		1		Office Store Room					
Freon (Water Fountain)			2					Hallway					
Subtotals	0	0	142		12	12.5	0		96	36	8	6	8
TOTALS	0.0	0.0	142	**TOTALS**	12.0	12.5	0						

TABLE 4 C
SUMMARY OF HOUSEHOLD HAZARDOUS WASTE INVENTORY
WEST HIGH COMPLEX

Hazardous Chemical or Item	Amounts			Household Chemicals	Amounts			Room Number	Fluorescent Bulbs	Ballasts	Mercury Thermostat Switches	AC Units	Batteries (Emergency Lighting/Exit Signs)
	oz	gals	lbs		oz	gals	lbs						
Building C - Second Floor													
-				Fiber Fresh		4	4	Janitor Closet	24	12	5	0	4
-				Glass Cleaner	10			Hallway					
Lead (Computer Monitor)			105					9					
Stencil Ink	160							Hallway					
Refrigerators			125					Room 10					
Refrigerators			125					Hallway					
Freon (Water Fountain)			2					Hallway					
Subtotals	160	0	357		10	4	4		24	12	5	0	4
TOTALS	160.0	0.0	357	**TOTALS**	10.0	4.0	4						
Total for Building	**512.0**	**126**	**499**		**22.0**	**19.5**	**0**		**120**	**48**	**14**	**7**	**16**

TABLE 4 D
SUMMARY OF HOUSEHOLD HAZARDOUS WASTE INVENTORY
West High Complex

Hazardous Chemical or Item	Amounts oz	Amounts gals	Amounts lbs	Household Chemicals	Amounts oz	Amounts gals	Amounts lbs	Room Number	Fluorescent Bulbs	Ballasts	Mercury Thermostat Switches	AC Units	Batteries (Emergency Lighting/Exit Signs)
Building D - Ground Floor													
				Quick Dry Acrylic Paint		1		Transition Room	32	6	2		3
Subtotals	0	0	0		0	1	0		32	6	2	0	3
TOTALS	0.0	0.0	0	**TOTALS**	0	1.0	0						
Building D - First Floor													
				Interior Paint		0.5		Hallway	8	2	6	5	5
Lead (Computer Monitor)			15					3					
Lead (Computer Monitor)			15					4					
Lead (Computer Monitor)			15					8					
Subtotals	0	0	45		0	0.5	0		8	2	6	5	5
TOTALS	0.0	0.0	45	**TOTALS**	0.0	0.5	0						
Building D - Second Floor													
-				Acrylic Latex Caulking	10			1	8	2	6	5	4
-				Adhesive Caulk	10			1					
				Enamel Spray Paint	10			1					
Freon (Water Fountain)			2										
Subtotals	0	0	2		30	0	0		8	2	6	5	4
TOTALS	0.0	0.0	2	**TOTALS**	30.0	0.0	0						
Total for Building	**0.0**	**0**	**47**		**30.0**	**1.5**	**0**		**48**	**10**	**14**	**10**	**12**

TABLE 4 E
SUMMARY OF HOUSEHOLD HAZARDOUS WASTE INVENTORY
WEST HIGH COMPLEX

Hazardous Chemical or Item	Amounts			Household Chemicals	Amounts			Room Number	Fluorescent Bulbs	Ballasts	Mercury Thermostat Switches	AC Units	Batteries (Emergency Lighting/Exit Signs)
	oz	gals	lbs		oz	gals	lbs						
Building Annex - First Floor													
Degreaser Liquid Product		4						Under South Stair	162	42	17	3	6
Oil Based Paint		2						Under South Stair					
Solvoil	8							South Hall					
				Wall Glide Plus		1		100/101					
				Glass Pro Clean		1		Under South Stair					
				Unknown		3		Under South Stair					
				Latex Paint		5		Under South Stair					
				Deodorant	32			Under South Stair					
				Ajax			1	Under South Stair					
				Floor Glaze Emblaze II		5		Under South Stair					
				Acrylic Paint		6		Under South Stair					
				Room Deodorant Odor-Go	16	0.25		South Hall					
				Pure-O-Mint Deoderant			8	South Hall					

TABLE 4 E
SUMMARY OF HOUSEHOLD HAZARDOUS WASTE INVENTORY
WEST HIGH COMPLEX

Hazardous Chemical or Item	Amounts			Household Chemicals	Amounts			Room Number	Fluorescent Bulbs	Ballasts	Mercury Thermostat Switches	AC Units	Batteries (Emergency Lighting/Exit Signs)
	oz	gals	lbs		oz	gals	lbs						
				Glass Cleaner		1		South Hall					
				Stainless Steel Polisher		1.25		South Hall					
				Spot Remover		1.5		South Hall					
				Metal Glow Liquid		2		South Hall					
				Finish Remover	315			South Hall					
				Gum Remover	5			South Hall					
				Fiber Fresh		3		South Hall					
				Wall Glide Plus		1		South Hall					
				Citric Acid			5	South Hall					
				Acrylic Caulk	20			N/S Hall Mid					
Freon (Water Fountain)			20					Hallway/All Class Rooms					
				Ajax			1	Janitors Closet					
				Floor Star Conquer			24	Janitors Closet					
				Pure-O-Mint Deoderant	16			Janitors Closet					
				Ceiling Tile Adhesive		1		Janitors Closet					
Bad 6000 Yellow	64							Janitors Closet					

TABLE 4 E
SUMMARY OF HOUSEHOLD HAZARDOUS WASTE INVENTORY
WEST HIGH COMPLEX

Hazardous Chemical or Item	Amounts			Household Chemicals	Amounts			Room Number	Fluorescent Bulbs	Ballasts	Mercury Thermostat Switches	AC Units	Batteries (Emergency Lighting/Exit Signs)
	oz	gals	lbs		oz	gals	lbs						
Subtotals	72	6	20		404	32	39		162	42	17	3	6
TOTALS	72.0	6.0	20	**TOTALS**	404.0	32.0	39						
Building Annex - Second Floor													
				Disenfectant	24			East Mid Room	124	55	15	1	6
				"Odor Go"		2		Janitors Closet					
				Span Matic		2		Janitors Closet					
				Wall Glide Plus		2		Janitors Closet					
				Glass Cleaner		2		Janitors Closet					
Finish Remover		2						Janitors Closet					
Oil Based Paint		2						Janitors Closet					
				Acrylic Paint		6		Janitors Closet					
				Pro Mint	32			Janitors Closet					
Freon (Water Fountain)			20					Hallway/All Class Rooms					
				Ceiling Tile Adhesive		1		Cafeteria					
				Stainless Steel Cleaner	33			Cafeteria					
				Scrub N Shine		0.25		Cafeteria					
				Coil Cleaner			1	Cafeteria					
				Fiber Fresh			4	Cafeteria					
				Carpet Cleaner		0.25		Cafeteria					

TABLE 4 E
SUMMARY OF HOUSEHOLD HAZARDOUS WASTE INVENTORY
WEST HIGH COMPLEX

Hazardous Chemical or Item	Amounts			Household Chemicals	Amounts			Room Number	Fluorescent Bulbs	Ballasts	Mercury Thermostat Switches	AC Units	Batteries (Emergency Lighting/Exit Signs)
	oz	gals	lbs		oz	gals	lbs						
				Ceiling Tile Adhesive		5		East Hall					
				Latex Paint		3		East Hall					
				Graphitti Removal	35			East Hall					
				Antifreeze		10		East Hall					
				Floor Finish		10		East Hall					
Subtotals	0	4	20		124	43.5	5		124	55	15	1	6
TOTALS	0.0	4.0	20	**TOTALS**	124.0	43.5	5						

Total for Building	**72.0**	**10.0**	**40**		**528.0**	**75.5**	**44**		**286**	**97**	**32**	**4**	**12**

13.0 MOLD FINDINGS

13.1 VISUAL INSPECTION

The visual inspection included all accessible areas throughout each building on the subject property. The results of the visual inspection of each building are as follows:

Building A

The visual inspection of Building A began on the second floor. Some windows were open in the hallway during the visual inspection. Water damage, staining, visible mold growth, and standing water were observed throughout all areas of the second floor. Suspected mold growth was observed on the walls, floors, and ceilings throughout all areas of the second floor. The visual inspection proceeded throughout the first and ground floors of Building A. Additional water damage, staining, visible mold growth, and standing water were observed throughout all areas of the first and ground floors. Suspected mold growth was observed on the walls, floors, and ceilings throughout all areas of the first and ground floors. On all floors, significant damage was observed to the ceilings and floors, allowing water to easily flow from the roof through the floors of the building.

Building B

The visual inspection began in the basement, which included the lower boiler room, locker rooms, and pool. Suspected mold growth was observed on the walls and ceiling of the west locker room, locker room bathrooms, and in the lower boiler room on water main pipe runs in the basement. The visual inspection proceeded throughout the upper boiler room/gym floor, ground floor, and first, second, and third floors. The visual inspection ended in the attic of Building B. Water damage was observed on the ceiling of the auditorium located on the 1st Floor, but no other areas of water damage, staining, or suspected mold growth were observed in Building B.

Building C

The visual inspection began in the attic where no suspect mold was identified. The visual inspection proceeded to the second floor, where water damage was observed in Room 11 on the ceiling, with suspected mold growth observed inside a janitorial closet door in the main hallway. The visual inspection proceeded to the first floor, where suspected mold growth was observed on the walls and ceilings of the hallways and stairwells throughout the first floor, with leaking water from the ceiling observed in the stairwell. The visual inspection then proceeded to the ground floor, where suspected mold growth was also identified on the walls and ceilings of the stairwells and in the ISS Room (Room 19). Suspected mold growth was also observed on the walls, ceilings, and water main pipe runs in the boiler room and throughout the ground level.

Building D

The visual inspection began on the ground floor. Suspect mold growth was identified on the walls in the Transition Center Room. Suspected mold growth was also observed on the walls and ceiling throughout all floors and in the north stairwell of the building. The visual inspection proceeded to the first floor, where water damage was observed in Room 8 on the east wall and ceiling. The visual inspection proceeded to the second floor, where suspected mold growth was observed on the walls and ceilings of the hallways and throughout the second floor classrooms.

Annex

The visual inspection began on the second floor of the Annex and proceeded to the first floor. No water damage, staining, or suspected mold growth was observed in any parts of the building.

Table 5 summarizes visible mold observed during the visible inspection.

TABLE 5
SUMMARY OF VISIBLE MOLD
WEST HIGH COMPLEX

Area Observed	Comments
Building A Ground Floor	
Hallway Ceiling	White fluffy growth
South Classroom	Heavy black growth on walls and ceiling
Stairwell	Black growth observed
First Floor	
Hallway Ceiling	Light black growth observed
West Classroom	Green growth on floor; black growth on walls and ceiling
South Classroom	Heavy black growth on walls and ceiling
Stairwell	Black growth observed
Second Floor	
South Cafeteria Area	Moderate black growth on ceilings; heavy green growth on walls and ceiling
Stairwell	Black growth observed
Building B Basement (Pool, Locker Rooms and Lower Boiler Room)	
West Locker Rooms	Moderate black growth on walls and ceilings
Lower Boiler Room	Moderate black growth on walls and main water pipe runs
Upper Boiler Room and Gym Floors	
No visible mold observed	
Ground Floor (Lower Auditorium, Band Room, and 2nd Floor of Gyms)	
Hallway/Stairwell to Band Room	Moderate black growth on walls
First Floor	
No visible mold observed	

TABLE 5
SUMMARY OF VISIBLE MOLD
WEST HIGH COMPLEX

Area Observed	Comments
Second Floor	
No visible mold observed	
Third Floor	
No visible mold observed	
Attic	
No visible mold observed	
Building C **Ground Floor**	
Throughout	Heavy black growth on ceilings, walls, and pipe runs
Stairwell	Black growth observed
First Floor	
Throughout	Heavy black growth on ceilings and walls
Stairwell	Black growth observed
Second Floor	
Stairwell	Black growth observed
Hallway	Janitors closet door, light grey growth
Attic	
No visible mold observed	
Building D **Ground Floor**	
Transition Center	Moderate brown growth on walls
Stairwell	Black growth observed
First Floor	
Stairwell	Black growth observed
Second Floor	
Stairwell	Black growth observed
Throughout	Heavy black growth on walls and ceilings
Attic	
Not accessible	
Building Annex **First Floor**	
No visible mold observed	
Second Floor	
No visible mold observed	

13.2 AMBIENT FUNGAL BIOAEROSOL ANALYSIS

Samples were submitted to Quantem located in Oklahoma City, Oklahoma, which is certified by the American Industrial Hygiene Association (AIHA) for analysis by direct microscopy. Bioaerosol (mold) sampling was performed as a tool to measure and compare total bioaerosol concentrations in the accessible areas within the buildings with concentrations in the outdoor environment.

Table 6 below summarizes the results of the ambient fungal bioaerosol samples. The laboratory analytical data sheets and chain of custody records are included in Appendix E.

TABLE 6
SUMMARY OF MOLD LABORATORY ANALYSIS
WEST HIGH COMPLEX

Figure Key	Sample ID	Location	Relative Spore Counts (1)	Observations or Suspect Mold Issues	Maintenance and/or Water Intrusion Issues
TAPE-LIFT SAMPLES					
1	MD-A-3-CAF-1	Bldg A, 3rd Floor, Cafeteria	Multiple elevated spore counts	Heavy green growth on walls	Water intrusion and water damage
2	MD-A-2-SR-1	Bldg A, 2nd Floor, South Classroom	Multiple elevated spore counts	Heavy black growth on walls	Water intrusion and water damage
3	MD-A-2-SR-DUP	Bldg A, 2nd Floor, South Classroom	Multiple elevated spore counts	Heavy black growth on walls	Water intrusion and water damage
4	MD-A-1-HW-1	Bldg A, 1st Floor, Hallway Ceiling	Multiple elevated spore counts	Moderate white fluffy growth on ceiling	Water intrusion and water damage
5	MD-B-LR-1	Bldg B, Basement, West Locker Room	Multiple elevated spore counts	Moderate black growth on ceilings and walls	None
6	MD-B-G-BR-1	Bldg B, Basement, Lower Boiler Room	Multiple elevated spore counts	Heavy black growth on walls	None
7	MD-C-2-CL-1	Bldg C, 2nd Floor, Hallway Closet Door	Multiple elevated spore counts	Light grey growth on closet doors	None
8	MD-C-1-SW-1	Bldg C, 1st Floor, Stairwell	Multiple elevated spore counts	Heavy black growth on walls and ceiling	None
9	MD-C-G-19-1	Bldg C, Ground Floor, Room 19 (ISS)	Multiple elevated spore counts	Heavy black/grey growth on walls	None
10	MD-C-G-MECH-1	Bldg C, Ground Floor, Mechanical Room	Multiple elevated spore counts	Heavy black growth on ceilings and pipes	None
11	MD-D-G-TR-1	Bldg D, Ground Floor, Transition Room	Multiple elevated spore counts	Moderate brown growth on walls	Water intrusion observed on floor
12	MD-D-G-TR-DUP	Bldg D, Ground Floor, Transition Room	Multiple elevated spore counts	Moderate brown growth on walls	Water intrusion observed on floor

TABLE 6
SUMMARY OF MOLD LABORATORY ANALYSIS
WEST HIGH COMPLEX

Figure Key	Sample ID	Location	Relative Spore Counts (1)	Observations or Suspect Mold Issues	Maintenance and/or Water Intrusion Issues
13	MD-D-1-SW-1	Bldg D, 1st Floor, Stairwell	Multiple elevated spore counts	Moderate black growth on walls and ceilings	None
14	MD-D-2-SW-1	Bldg D, 2nd Floor, Stairwell and throughout entire floor on ceiling	Multiple elevated spore counts	Heavy black growth on walls and ceiling	Water intrusion and water damage
AIR SAMPLES					
15	MA-A-1-SW-1	Bldg A, 1st Floor Stairwell	Multiple elevated spore counts	Moderate black growth on the walls and ceiling	Water intrusion and water damage
16	MA-A-2-HW-1	Bldg A, 2nd Floor Hallway	Multiple elevated spore counts	Moderate black growth on the walls and ceiling	Water intrusion and water damage
17	MA-A-2-HW-1DUP	Bldg A, 2nd Floor Hallway	Multiple elevated spore counts	Moderate black growth on the walls and ceiling	Water intrusion and water damage
18	MA-A-3-CAF-1	Bldg A, 3rd Floor, Cafeteria	Multiple elevated spore counts	Heavy green growth on walls	Water intrusion and water damage
19	MA-B-LR-1	Bldg B, Basement, East Locker Room	Multiple elevated spore counts	Moderate black growth on ceilings and walls	None
20	MA-B-LBR-BR-1	Bldg B, Basement, Lower Boiler Room	Multiple elevated spore counts	Moderate black growth on pipes	None
21	MA-B-G-HW-1	Bldg B, Ground Floor, Hallway	Multiple elevated spore counts	None	None
22	MA-B-UBR-SW-1	Bldg B, Upper Boiler Room	Multiple elevated spore counts	None	None
23	MA-B-G-SE-1	Bldg B, Ground Floor, Southeast Room	Multiple elevated spore counts	None	None
24	MA-B-1-AUD-1	Bldg B, Ground Floor, Auditorium	Multiple elevated spore counts	None	Water intrusion and water damage
25	MA-B-1-HW-1	Bldg B, 1st Floor, Hallway	Multiple elevated spore counts	None	None
26	MA-B-2-HW-1	Bldg B, 2nd Floor, Hallway	Multiple elevated spore counts	None	None
27	MA-B-3-HW-1	Bldg B, 3rd Floor, Hallway	Multiple elevated spore counts	None	None
28	MA-B-A-1	Bldg B, Attic	Multiple elevated spore counts	None	None
29	MA-C-A-1	Bldg C, Attic	Multiple elevated spore counts	None	None
30	MA-C-2-HW-1	Bldg C, 2nd Floor, Hallway	Multiple elevated spore counts	None	None
31	MA-C-1-HW-1	Bldg C, 1st Floor, Hallway	Multiple elevated spore counts	None	None
32	MA-C-G-HW-1	Bldg C, Ground Floor, Hallway	Multiple elevated spore counts	None	None

TABLE 6
SUMMARY OF MOLD LABORATORY ANALYSIS
WEST HIGH COMPLEX

Figure Key	Sample ID	Location	Relative Spore Counts (1)	Observations or Suspect Mold Issues	Maintenance and/or Water Intrusion Issues
33	MA-D-G-TR-1	Bldg D, Ground Floor, Transition Room	Multiple elevated spore counts	Moderate brown growth on walls	Water intrusion observed on floor
34	MA-D-1-HW-1	Bldg D, 1st Floor, Hallway	Multiple elevated spore counts	None	None
35	MA-D-2-HW-1	Bldg D, 2nd Floor, Hallway	Multiple elevated spore counts	None	Water intrusion and water damage
36	MA-D-2-HW-1DUP	Bldg D, 2nd Floor, Hallway	Multiple elevated spore counts	None	Water intrusion and water damage
37	MA-X-2-HW-1	Bldg Annex, 2nd Floor, Hallway	Multiple elevated spore counts	None	None
38	MA-X-1-HW-1	Bldg Annex, 1st Floor, Hallway	Multiple elevated spore counts	None	None
39	MA-X-N-OUT-1	Bldg Annex, North Side Exterior	Exterior baseline reference sample	NA	NA
40	MA-X-E-OUT-1	Bldg Annex East Side, Exterior	Exterior baseline reference sample	NA	NA
41	MA-X-S-OUT-1	Bldg Annex South Side, Exterior	Exterior baseline reference sample	NA	NA
42	MA-X-W-OUT-1	Bldg Annex, West Side, Exterior	Exterior baseline reference sample	NA	NA
43	MA-B-E-OUT-1	Bldg B, East Side Exterior	Exterior baseline reference sample	NA	NA
44	MA-C-W-OUT-1	Bldg C, West Side, Exterior	Exterior baseline reference sample	NA	NA
45	MA-A-S-OUT-1	Bldg A, South Side, Exterior	Exterior baseline reference sample	NA	NA
46	MA-D-N-OUT-1	Bldg D, North Side, Exterior	Exterior baseline reference sample	NA	NA

Notes:

(1) Relative spore counts reported as elevated or not elevated with respect to exterior air sample collected within a 1- to 3-hour time period for the same building.

Bldg Building
DUP Duplicate
ID Identification
NA Not applicable

14.0 RECOMMENDATIONS

Based on survey observations and the sample analytical results, Tetra Tech recommends the actions summarized below before renovation of the buildings surveyed on the subject property.

14.1 ACM

Building A:

- Approximately 10,735 square feet of brown mastic associated with white 12 inch (in) x 12 in ceiling tiles on the ground, 1st, and 2nd floors of Building A and in the hallways. The mastic is represented by samples A-G-HW-CT1M-1, A-1-WCR-CT1M-1, and A-2-HW-CT1M-1. Laboratory results indicated that the mastic contained 4 percent chrysotile asbestos. Because of the asbestos in the mastic, the mastic should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the mastic. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the floor tile or mastic is not disturbed, it may remain in place.

- Approximately 2,535 square feet of orange 9 in x 9 in floor tile and associated mastic on the 1st floor in the west classroom of Building A. The floor tile and associated mastic is represented by sample A-1-WCR-FTO-1. Laboratory results indicated that the floor tile and associated mastic contained 9 percent chrysotile asbestos. Because of the asbestos in the floor tile and associated mastic, the floor tile and mastic should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the floor tile and associated mastic. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the floor tile or mastic is not disturbed, it may remain in place.

- Approximately 125 linear feet of brown cove base and associated mastic on the 1st floor in the west classroom of Building A. The cove base and associated mastic is represented by sample A-1-WCR-CBMBR-1. Laboratory results indicated that the cove base and associated mastic contained 9 and 12 percent chrysotile asbestos, respectively. Because of the asbestos in the cove base and associated mastic, the cove base and associated mastic should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the cove base and associated mastic. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the cove base or mastic is not disturbed, it may remain in place.

- Approximately 450 square feet of red 9 in x 9 in floor tile and associated mastic on the 2nd floor in the hallway of Building A. The floor tile and associated mastic is represented by sample A-2-HW-FTR-1. Laboratory results indicated that the floor tile and associated mastic contained 9 and 12 percent chrysotile asbestos, respectively. Because of the asbestos in the floor tile and associated mastic, the floor tile and mastic should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the floor tile and associated mastic. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the floor tile or mastic is not disturbed, it may remain in place.

- Approximately 5,100 square feet of mastic associated with blue 9 in x 9 in floor tile on the 2nd floor in the cafeteria of Building A. The floor tile and associated mastic is represented by sample A-2-CAF-FTB-1. Laboratory results indicated that the floor tile did not contain asbestos, but the associated mastic contained 9 percent chrysotile asbestos. Because of the asbestos in the mastic, the floor tile and mastic should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the floor tile and associated mastic. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the floor tile or mastic is not disturbed, it may remain in place.

- Approximately 1,100 linear feet of window caulking on the exterior of Building A. The window caulking is represented by sample A-EXT-WC-1. Laboratory results indicated that the window caulking contained 6 percent chrysotile asbestos. Because of the asbestos in the window caulking, the window caulking should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the window caulking. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the window caulking is not disturbed, it may remain in place.

- Approximately 1,100 linear feet of window glazing on the exterior of Building A. The window glazing is represented by sample A-EXT-WC-1. Laboratory results indicated that the window glazing contained 4 percent chrysotile asbestos. Because of the asbestos in the window glazing, the window glazing should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the window glazing. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the window glazing is not disturbed, it may remain in place.

Building B:

- Approximately 1,100 square feet of red 9 in x 9 in floor tile on the 1st floor of Building B in Room 108. The floor tile is represented by sample B-1-108-FTR-1. Laboratory results indicated that the floor tile contained 12 percent chrysotile asbestos. Because of the asbestos in the floor tile, the floor tile should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the floor tile. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the floor tile is not disturbed, it may remain in place.

- Approximately 1,100 square feet of black 9 in x 9 in floor tile on the 1st floor of Building B in Room 108. The floor tile is represented by sample B-1-108-FTBL-1. Laboratory results indicated that the floor tile contained 12 percent chrysotile asbestos. Because of the asbestos in the floor tile, the floor tile should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the floor tile. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the floor tile is not disturbed, it may remain in place.

- Approximately 3,350 square feet of tan 9 in x 9 in floor tile and associated mastic on the ground, 2nd, and 3rd floors, in the Band Room, Room 201, and Rooms 301 and 309 of Building B. The floor tile and associated mastic is represented by samples B-G-BAND-FTT-1, B-3-301-FTT-1, and B-3-309-FTT-1. Laboratory results indicated that the floor tile and associated mastic contained between 4 and 9 percent chrysotile asbestos. Because of the asbestos in the floor tile and associated mastic, the floor tile and mastic should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the floor tile and associated mastic. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the floor tile or mastic is not disturbed, it may remain in place. **Note: Samples B-3-301-FTT-1 and B-3-309-FTT-1 associated mastic did not contain asbestos; possibly a different batch of mastic had been used when this floor tile was installed.**

- Approximately 14 of black laboratory counter tops on the 2nd and 3rd floors in multiple classrooms of Building B. The counter tops are represented by sample B-2-206-LC-1. Laboratory results indicated that the counter tops contained 19 percent chrysotile asbestos. Because of the asbestos in the counter tops, the counter tops should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the counter tops. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the counter tops are not disturbed, they may remain in place.

- Approximately 1,900 square feet of dark brown 9 in x 9 in floor tile and associated mastic on the ground and 1st floor in the hallway and entire east set of offices under the carpet of Building B. The floor tile and associated mastic is represented by samples B-1-103-FTBR-1, B-1-104-FTBR-1, and B-G-HW-FTBR-1. Laboratory results indicated that the floor tile and associated mastic contained 9 percent chrysotile asbestos. Because of the asbestos in the floor tile and associated mastic, the floor tile and mastic should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the floor tile and associated mastic. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the floor tile or mastic is not disturbed, it may remain in place. **Note: Sample B-1-104-FTBR-1 associated mastic did not contain asbestos; possibly a different batch of mastic had been used when this floor tile was installed.**

- Approximately 460 square feet of green 9 in x 9 in floor tile and associated mastic in Room 107 on the 1st floor, east classroom on 2nd floor, in the ladies bathroom, and in the gym offices of the upper boiler/gym floors of Building B. The floor tile and associated mastic is represented by samples B-1-109-FTG2-1, B-2-ECR-FTG2-1, and B-2-ECR-FTG2-2. Laboratory results indicated that the floor tile and associated mastic contained 4 to 12 percent chrysotile asbestos. Because of the asbestos in the floor tile and associated mastic, the floor tile and mastic should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the floor tile and associated mastic. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the floor tile or mastic is not disturbed, it may remain in place. **Note: Sample B-1-109-FTG2-1 associated mastic did not contain asbestos; possibly a different batch of mastic had been used when this floor tile was installed.**

- Approximately 2 square feet of gray sink undercoat on the 3rd floor in Room 302 of Building B. The sink undercoat is represented by sample B-3-302-SU-1. Laboratory results indicated that the sink undercoat contained 19 percent chrysotile asbestos. Because of the asbestos in the sink undercoat, the sink undercoat should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the sink undercoat. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the sink undercoat is not disturbed, it may remain in place.

- Approximately 1,300 square feet of blue 9 in x 9 in floor tile and associated mastic on the 3rd floor in Room 302 of Building B. The floor tile and associated mastic is represented by samples B-3-302-FTB-1, -2, and -3. Laboratory results indicated that the floor tile and associated mastic contained 4 to 12 percent chrysotile asbestos. Because of the asbestos in the floor tile and associated mastic, the floor tile and mastic should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the floor tile and associated mastic. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the floor tile or mastic is not disturbed, it may remain in place.

- Approximately 10 linear feet of gray interior window glaze in the attic of Building B. The window caulk is represented by sample B-A-A-WG-1. Laboratory results indicated that the window caulk contained 6 percent chrysotile asbestos. Because of the asbestos in the window caulk, the caulk should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the window caulk. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the caulking is not disturbed, it may remain in place.

- Approximately 2,370 linear feet of window caulking on the exterior of Building B. The window caulking is represented by samples B-EXT-WC-1, -2, and -3. Laboratory results indicated that the window caulking contained 6 percent chrysotile asbestos. Because of the asbestos in the window caulking, the window caulking should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the window caulking. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the window caulking is not disturbed, it may remain in place.

- Approximately 3,400 linear feet of window glazing on the exterior of Building B. The window glazing is represented by samples B-EXT-WG-1, -2 and -3. Laboratory results indicated that the window glazing contained 2 percent chrysotile asbestos. Because of the asbestos in the window glazing, the window glazing should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the window glazing. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the window glazing is not disturbed, it may remain in place.

- Approximately 180 linear feet of door caulking on the exterior of Building B. The door caulking is represented by samples B-EXT-DC-1, -2, and -3. Laboratory results indicated that the door caulking contained 2 percent chrysotile asbestos. Because of the asbestos in the door caulking, the door caulking should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the door caulking. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the door caulking is not disturbed, it may remain in place.

Building C:

- Approximately 50 square feet of brown 9 in x 9 in floor tile and associated mastic on the ground floor in the ISS Room (Room 19) of Building C. The floor tile and associated mastic is represented by samples C-G-ISS-FTB-1 and C-G-ISS-FTB-1-DUP. Laboratory results indicated that the floor tile and associated mastic contained 9 to 12 percent chrysotile asbestos. Because of the asbestos in the floor tile and associated mastic, the floor tile and mastic should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the floor tile and associated mastic. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the floor tile or mastic is not disturbed, it may remain in place.

- Approximately 200 square feet of yellow carpet adhesive on the ground floor in the ISS Room (Room 19) of Building C. The carpet adhesive is represented by sample C-G-ISS-CA-1. Laboratory results indicated that the carpet adhesive contained 9 percent chrysotile asbestos. Because of the asbestos in the carpet adhesive, the carpet adhesive should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the carpet adhesive. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the carpet adhesive is not disturbed, it may remain in place.

- Approximately 800 square feet of green 9 in x 9 in floor tile on the 1st floor in Room 2 of Building C. The floor tile is represented by sample C-1-2-FTG-1 and C-1-2-FTG-1-DUP. Laboratory results indicated that the floor tile contained 12 percent chrysotile asbestos. Because of the asbestos in the floor tile, the floor tile should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the floor tile. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the floor tile is not disturbed, it may remain in place.

- Approximately 720 linear feet of window caulking on the exterior of Building C. The window caulking is represented by sample C-EXT-WC-1. Laboratory results indicated that the window caulking contained 2 percent chrysotile asbestos. Because of the asbestos in the window caulking, the window caulking should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the window caulking. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the window caulking is not disturbed, it may remain in place.

Building D:

- Approximately 850 square feet of tan 9 in x 9 in floor tile and associated mastic on the 2nd floor in Room 5 of Building D. The floor tile and associated mastic is represented by samples D-2-5-FTT-1 and D-2-5-FTT-1-DUP. Laboratory results indicated that the floor tile and associated mastic contained 9 percent chrysotile asbestos. Because of the asbestos in the floor tile and associated mastic, the floor tile and mastic should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the floor tile and associated mastic. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the floor tile or mastic is not disturbed, it may remain in place.

- Approximately 1,100 linear feet of window caulking on the exterior of Building D. The window caulking is represented by sample D-EXT-WC-1. Laboratory results indicated that the window caulking contained 2 percent chrysotile asbestos. Because of the asbestos in the window caulking, the window caulking should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the window caulking. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the window caulking is not disturbed, it may remain in place.

- Approximately 190 linear feet of door caulking on the exterior of Building D. The door caulking is represented by sample D-EXT-DC-1. Laboratory results indicated that the door caulking contained 2 percent chrysotile asbestos. Because of the asbestos in the door caulking, the door caulking should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the door caulking. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the door caulking is not disturbed, it may remain in place.

Annex:

- Approximately 1,800 square feet of brown mastic associated with beige 12 in x 12 in floor tile on the 1st floor of Annex in Rooms 102-104. The mastic is represented by samples X-1-104-FTB-1 and X-1-104-FTB-1-DUP. Laboratory results indicated that the mastic contained 12 percent chrysotile asbestos. Because of the asbestos in the mastic, the mastic should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the mastic. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the floor tile or mastic is not disturbed, it may remain in place.

- Approximately 3,200 square feet of orange 9 in x 9 in floor tile and associated mastic on the 2nd floor in the hallway of the Annex. The floor tile and associated mastic is represented by sample X-2-H-FTO-1. Laboratory results indicated that the floor tile and associated mastic contained 4 to 12 percent chrysotile asbestos. Because of the asbestos in the floor tile and associated mastic, the floor tile and mastic should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the floor tile and associated mastic. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the floor tile or mastic is not disturbed, it may remain in place.

- Approximately 100 square feet of brown 9 in x 9 in floor tile and associated mastic on the 2nd floor in Room 209 of the Annex. The floor tile and associated mastic is represented by sample X-2-209-FTBR-1. Laboratory results indicated that the floor tile and associated mastic contained 4 to 9 percent chrysotile asbestos. Because of the asbestos in the floor tile and associated mastic, the floor tile and mastic should be removed by a licensed asbestos abatement contractor before any renovation work disturbs the floor tile and associated mastic. The removed waste must be transported to a disposal site able to accept non-friable ACM. If the building is renovated and the floor tile or mastic is not disturbed, it may remain in place.

- White joint compound was sampled on the 2nd floor in the cafeteria of the Annex. The joint compound is represented by samples X-2-CAF-JC-1, -2 and -3. Laboratory results indicated that the joint compound contained <0.25 percent chrysotile asbestos. Because the asbestos content is less than 1 percent, the material is not regulated for disposal purposes. If the material is disturbed during renovation activities, proper personal protective equipment should be provided for workers following all OSHA regulations.

As discussed in the Section 15.0, some suspect ACM was not sampled due to limitations on access to parts of the building. Therefore, prior to any renovation activities, any suspect ACM not tested and discussed in Section 15.0 that would be disturbed should either be tested or assumed positive for ACM and removed.

All recommendations above assume some type of disturbance will occur to the ACM in buildings. If the ACM is not disturbed during the renovation process, the ACM may be left in place.

14.2 LBP

Of the 200 XRF readings obtained of suspected LBP from painted surfaces and lead containing materials, 82 indicated reportable lead concentrations exceeding 1.0 mg/cm^2. The following is a list of recommendations based on the LBP samples collected.

Building A:

- Red paint on cinder block walls in the hallway on the second floor tested positive for LBP with the XRF. XRF results indicated a level of >1.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of *Code of Federal Regulations* (CFR), Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building A prior to demolition or remodeling.

- Multi-colored paint on metal walls on the exterior of the building tested positive for LBP with the XRF. XRF results indicated a level of >5.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building A prior to demolition or remodeling.

- Cream paint on metal handrails on the east side of the building on the exterior tested positive for LBP with the XRF. XRF results indicated a level of 2.46 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on this handrail on the exterior of Building A prior to demolition or remodeling.

Building B:

- Black paint on concrete stairs leading up to the attic tested positive for LBP with the XRF. XRF results indicated a level of >1.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these stairs in Building B prior to demolition or remodeling.

- Cream paint on plaster walls in the stairwell leading up to the attic tested positive for LBP with the XRF. XRF results indicated a level of >5.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building B prior to demolition or remodeling.

- Cream paint in the following locations tested positive for LBP with the XRF: all hallways and all classroom plaster walls and ceilings on the 1st, 2nd, and 3rd floors; plaster walls in offices on the 1st floor; plaster walls in the east side hallway on the ground floor; east and west locker room plaster walls; upper and main auditorium plaster walls and concrete beams, bathroom plaster walls and ceilings on the 1st, 2nd, and 3rd floors; plaster walls in the pool area on the ground floor; plaster walls in the west and east gym floors; and hallway plaster walls on the upper and lower gym floors. XRF results indicated a level between >1.0 and >5.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces in these areas of Building B prior to demolition or remodeling.

- Purple, red, and orange paint on concrete baseboard in the hallways on the 3rd floor tested positive for LBP with the XRF. XRF results indicated a level of >1.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these baseboards in Building B prior to demolition or remodeling.

- Gray paint on lower plaster walls in Room 305 and Property Room on the 3rd floor tested positive for LBP with the XRF. XRF results indicated a level of >4.19 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building B prior to demolition or remodeling.

- Yellow paint on concrete baseboards in the stairwell on the 3rd floor tested positive for LBP with the XRF. XRF results indicated a level of 3.27 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these baseboards in Building B prior to demolition or remodeling.

- Black paint on plaster walls in the entryway on the east side of the building on the 1st floor tested positive for LBP with the XRF. XRF results indicated a level of >5.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building B prior to demolition or remodeling.

- White paint on plaster ceilings in the auditorium on the 1st floor tested positive for LBP with the XRF. XRF results indicated a level of 1.92 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on this ceiling in Building B prior to demolition or remodeling.

- White paint on plaster ceiling in Room 108 on the 1st floor tested positive for LBP with the XRF. XRF results indicated a level of >5.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on this ceiling in Building B prior to demolition or remodeling.

- Yellow paint on plaster walls in the bathrooms in Room 108 on the 1st floor tested positive for LBP with the XRF. XRF results indicated a level of 1.91 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building B prior to demolition or remodeling.

- Light green paint on plaster walls in the office closet on the 1st floor tested positive for LBP with the XRF. XRF results indicated a level of >5.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building B prior to demolition or remodeling.

- Green paint on plaster walls in the east side stairwell on the ground floor tested positive for LBP with the XRF. XRF results indicated a level of 4.12 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building B prior to demolition or remodeling.

- Black paint on wood doors in the east side stairwell and in the east locker room on the ground floor tested positive for LBP with the XRF. XRF results indicated a level of >4.0 to >4.32 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these doors in Building B prior to demolition or remodeling.

- Red paint on plaster walls under the east side stairwell on the ground floor tested positive for LBP with the XRF. XRF results indicated a level of >5.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building B prior to demolition or remodeling.

- Gray paint on plaster walls, boiler and metal stairs in the lower boiler room and stairwell in the boiler room on the ground floor tested positive for LBP with the XRF. XRF results indicated a level of >1.00 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls, boiler and stairs in Building B prior to demolition or remodeling.

- Green paint on plaster walls in the stairwell of the east locker room on the ground floor tested positive for LBP with the XRF. XRF results indicated a level of >1.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building B prior to demolition or remodeling.

- Multiple colored paint on plaster walls in the hallway leading to the northwest exit on ground floor tested positive for LBP with the XRF. XRF results indicated a level of >5.00 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building B prior to demolition or remodeling.

- Blue paint on concrete baseboards in the north stairwell of the ground floor tested positive for LBP with the XRF. XRF results indicated a level of >1.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these baseboards in Building B prior to demolition or remodeling.

- Blue paint on plaster walls in the gym offices on the upper/lower gym floors tested positive for LBP with the XRF. XRF results indicated a level of >5.00 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building B prior to demolition or remodeling.

- Light green paint on plaster walls in gym offices on the upper/lower gym floors tested positive for LBP with the XRF. XRF results indicated a level of >5.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building B prior to demolition or remodeling.

- Tan paint on plaster walls in the gym office bathroom on the upper/lower gym floors tested positive for LBP with the XRF. XRF results indicated a level of >1.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building B prior to demolition or remodeling.

- White paint on wood porch on the west exterior side of the building tested positive for LBP with the XRF. XRF results indicated a level of >5.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on this porch in Building B prior to demolition or remodeling.

- Dark green paint on the wood loading dock on the south exterior side of the building tested positive for LBP with the XRF. XRF results indicated a level of >5.00 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on this loading dock in Building B prior to demolition or remodeling.

- Black paint on wood door frame on the east exterior side of the building tested positive for LBP with the XRF. XRF results indicated a level of >5.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these door frames in Building B prior to demolition or remodeling.

- Gray paint on window frames on the exterior of the building tested positive for LBP with the XRF. XRF results indicated a level of >1.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these window frames in Building B prior to demolition or remodeling.

Building C:

- Brown paint on plaster walls in the stairwell on the 2nd floor tested positive for LBP with the XRF. XRF results indicated a level of >5.00 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building C prior to demolition or remodeling.

- Blue paint on plaster walls in the hallway between buildings B and C on the 2nd floor tested positive for LBP with the XRF. XRF results indicated a level of between 2.81 and >5.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building C prior to demolition or remodeling.

- Cream paint on wood walls in the hallways on the 2nd floor and on plaster walls in the following areas tested positive for LBP with the XRF: north hallway on the 1st and 2nd floor; southwest rooms on the 1st floor; and on the bathroom walls on the ground floor. XRF results indicated a level of >1.00 to >5.00 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building C prior to demolition or remodeling.

- Green paint on plaster walls in the east side storage room on the 2nd floor tested positive for LBP with the XRF. XRF results indicated a level of >5.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building C prior to demolition or remodeling.

- Orange paint on plaster pillars in the north hallway on the 2nd floor tested positive for LBP with the XRF. XRF results indicated a level of 1.38 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these pillars in Building C prior to demolition or remodeling.

- Yellow paint on plaster walls in the north hallway on the 2nd floor tested positive for LBP with the XRF. XRF results indicated a level of 1.50 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building C prior to demolition or remodeling.

- Light blue paint on plaster walls in the north hallway on the 2nd floor tested positive for LBP with the XRF. XRF results indicated a level of 2.00 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building C prior to demolition or remodeling.

- Dark blue paint on plaster walls in the north hallway on the 2nd floor tested positive for LBP with the XRF. XRF results indicated a level of >5.00 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building C prior to demolition or remodeling.

- Yellow paint on plaster walls in the hallway on the 1st floor tested positive for LBP with the XRF. XRF results indicated a level of >5.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building C prior to demolition or remodeling.

- Orange paint on plaster walls in the east room and southwest room on the 1st floor tested positive for LBP with the XRF. XRF results indicated a level of >5.00 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building C prior to demolition or remodeling.

- Light gray paint on wood doors and door frames in the east room 1st floor tested positive for LBP with the XRF. XRF results indicated a level of >5.00 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these doors and door frames in Building C prior to demolition or remodeling.

- Purple paint on plaster walls in the west hallway on the 1st floor tested positive for LBP with the XRF. XRF results indicated a level of 2.83 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building C prior to demolition or remodeling.

- Blue paint on plaster, brick and cinderblock walls throughout the entire ground floor tested positive for LBP with the XRF. XRF results indicated a level of >5.00 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building C prior to demolition or remodeling.

- Light blue paint on plaster, brick, and cinderblock walls throughout the entire ground floor tested positive for LBP with the XRF. XRF results indicated a level of >5.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building C prior to demolition or remodeling.

- Light green paint on plaster, brick and cinderblock walls in the bathrooms on the ground floor tested positive for LBP with the XRF. XRF results indicated a level of >5.00 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building C prior to demolition or remodeling.

- Dark green paint on plaster, brick, and cinderblock walls in the bathrooms on the ground floor tested positive for LBP with the XRF. XRF results indicated a level of >5.00 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building C prior to demolition or remodeling.

- Brown paint on plaster, brick and cinderblock walls in the bathrooms on the ground floor tested positive for LBP with the XRF. XRF results indicated a level of >5.00 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building C prior to demolition or remodeling.

Building D:

- Dark blue paint on plaster walls in the north stairwell on the ground floor tested positive for LBP with the XRF. XRF results indicated a level of >5.00 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building D prior to demolition or remodeling.

- Light blue paint on plaster walls in the north stairwell on the ground floor tested positive for LBP with the XRF. XRF results indicated a level of 1.5 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building D prior to demolition or remodeling.

- Cream paint on plaster walls and ceilings in the following areas tested positive for LBP with the XRF: north stairwell on the ground floor, and in the hallway on the 1st and 2nd floors. XRF results indicated a level of >5.00 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls and ceilings in Building D prior to demolition or remodeling.

- Blue paint on plaster walls in the bathrooms on the 1st floor tested positive for LBP with the XRF. XRF results indicated a level of >5.0 mg/cm^2. HUD considers LBP to be above 1.0 mg/cm^2. Tetra Tech recommends the painted surface be treated as containing LBP and, therefore, the contractor performing the demolition or renovation work must comply with the OSHA Lead in Construction Standard, Title 29 of CFR, Part 1926.62. The demolition or renovation contractor must also remove peeling and chipping paint from any damaged LBP surfaces on these walls in Building D prior to demolition or remodeling.

Annex:

No XRF readings indicated the presence of lead on any painted surfaces in Building Annex.

As discussed in the Section 15.0, some suspect LBP was not sampled due to limitations on access. Therefore, prior to any renovation activities, any painted surfaces not tested that are damaged (peeling or chipping), that will be disturbed, and that are discussed in Section 15.0 should either be tested or assumed positive for LBP and removed. If these materials are completely removed rather than re-painted, a sample should be collected from the debris pile for a Toxicity Characteristic Leaching Procedure (TCLP) analysis (40 CFR 261.24). This will determine the proper method of disposal of the materials.

14.3 PCBS

Building A:

PCBs were identified in the caulking on interior windows throughout Building A. The caulking is represented by sample AP-3-HW-WC-1. Laboratory results indicated that the caulking contained 284 ppm PCBs. Because of the PCBs in the caulking, the remaining windows in the building should be sampled based on 40 CFR 761 Subpart N or assumed to contain PCBs.

Building B:

Laboratory results indicated that no sampled building materials contained PCBs above 50 ppm.

Building C:

Laboratory results indicated that no sampled building materials contained PCBs above 50 ppm.

Building D:

PCBs were identified in the caulking on exterior windows of Building B. The caulking is represented by sample DP-EXT-WC-1. Laboratory results indicated that the caulking contained 260 ppm PCBs. Because of the PCBs in the caulking, the remaining windows in the building should be sampled based on 40 CFR 761 Subpart N or assumed to contain PCBs.

Annex:

Laboratory results indicated that no sampled building materials contained PCBs above 50 ppm.

Prior to any renovation activities, any suspect materials not tested and discussed in Section 9.0 that would be disturbed should either be tested or assumed positive for PCBs, removed, and disposed of following all regulations that apply.

14.4 HOUSEHOLD HAZARDOUS WASTE AND HAZARDOUS WASTE INVENTORY

Based on the household hazardous waste and hazardous waste inventory conducted, Tetra Tech recommends the actions summarized below before renovation of the buildings surveyed at the subject property.

All Buildings:

Multiple containers of hazardous materials and household hazardous materials were identified during the survey. Tetra Tech recommends proper disposal of the materials based on their characteristics. Some identified materials were not labeled, and these materials should be properly characterized prior to disposal.

14.5 MOLD

Based on survey observations and the comparison of indoor versus exterior (baseline) sample analytical results, Tetra Tech recommends the actions summarized below regarding mold before renovation of the buildings surveyed at the subject property. For the purposes of this report, the terms mold and fungi are used interchangeably.

Building A:

Suspected mold growth was observed on the walls and ceilings throughout the building. Water damage, standing water, and water intrusion were observed throughout the building as well. Elevated total fungi spore in air counts were detected in the air samples analyzed, specifically *Stachybotrys* and *Aspergillus/Penicillium* in all four air samples collected from Building A. These levels are above exterior total spore baseline measurements for this building. High growth of *Stachybotrys* was present in surface (tape) samples MD-A-2-SR-1 and MD-A-2-SR-1DUP collected from the 2nd floor south classroom.

Where applicable, Tetra Tech recommends removing all visible molds from the building, treating the substrate with an industrial strength biocide / fungicide according to manufacturer's specifications, and repainting as needed. All molded debris should be properly wrapped in poly-sheeting and disposed of in a landfill certified to accept this waste stream. These actions should be performed by a contractor licensed to conduct mold remediation in Missouri. Tetra Tech recommends repairing/closing the windows that are currently open and addressing all areas where water intrusion is occurring.

Building B:

Suspected mold growth was observed on the walls in the basement in the locker rooms, and on pipes and walls in the lower boiler room of the basement. Water intrusion and water damage were observed in the auditorium. Elevated total fungi spore in air counts were detected in the air samples analyzed, specifically *Stachybotrys* in samples MA-B-LR-1, MA-B-G-SE-1, MA-B-1-HW-1, and MA-B-2-HW-1; and *Aspergillus/Penicillium* in samples MA-B-G-HW-1, MA-B-UBR-SW-1, MA-B-G-SE-1, MA-B-1-AUD-1, MA-B-1-HW-1, MA-B-2-HW-1, and MA-B-3-HW-1. These levels are above exterior total spore baseline measurements for this building.

Where applicable, Tetra Tech recommends removing all visible molds from the building, treating the substrate with an industrial strength biocide / fungicide according to manufacturer's specifications, and repainting as needed. All molded debris should be properly wrapped in poly-sheeting and disposed of in a landfill certified to accept this waste stream. These actions should be performed by a contractor licensed to conduct mold remediation in Missouri. Tetra Tech recommends repairing/closing the windows that are currently open and addressing all areas where water intrusion is occurring.

Building C:

Suspected mold growth was observed on a hallway closet door on 2nd floor, walls and ceilings in the stairwells, ISS Room (Room 19), and the Mechanical room on the Ground Floor. Elevated total fungi spore in air counts were detected in the air samples analyzed, specifically *Stachybotrys* in sample MA-C-G-HW-1 and *Aspergillus/Penicillium* in samples MA-C-A-1, MA-C-2-HW-1, MA-C-1-HW-1, and MA-C-G-HW-1. These levels are above exterior total spore baseline measurements for this building. High growth of *Stachybotrys* was present in surface (tape) sample MD-C-G-MECH-1 collected from the Ground Floor Mechanical Room. High growth of *Aspergillus/Penicillium* was present in surface (tape) sample MD-C-G-19-1 collected from the Ground Floor ISS Room (Room 19).

Where applicable, Tetra Tech recommends removing all visible molds from the building, treating the substrate with an industrial strength biocide / fungicide according to manufacturer's specifications, and repainting as needed. All molded debris should be properly wrapped in poly-sheeting and disposed of in a landfill certified to accept this waste stream. These actions should be performed by a contractor licensed to conduct mold remediation in Missouri.

Building D:

Suspected mold growth was observed on the walls on the ground floor in the Transition Room, throughout all floors in the stairwells on the walls and ceilings, and throughout all classrooms on the walls and ceilings on the 2nd floor. Water intrusion on the floor was observed in the Transition Room on the Ground Floor. Water damage and water intrusion were observed on the entire 2nd floor and throughout all floors in the stairwells. Elevated total fungi spore in air counts were detected in the air samples analyzed, specifically *Stachybotrys* in samples MA-D-G-TR-1, MA-D-2-HW-1, and MA-D-2-HW-1DUP; and *Aspergillus/Penicillium* in samples MA-D-G-TR-1, MA-D-1-HW-1, MA-D-2-HW-1, and MA-D-2-HW-1DUP. These levels are above exterior total spore baseline measurements for this building.

Where applicable, Tetra Tech recommends removing all visible molds from the building, treating the substrate with an industrial strength biocide / fungicide according to manufacturer's specifications, and repainting as needed. All molded debris should be properly wrapped in poly-sheeting and disposed of in a landfill certified to accept this waste stream. These actions should be performed by a contractor licensed to conduct mold remediation in Missouri. Tetra Tech recommends repairing/closing the windows that are currently open and addressing all areas where water intrusion is occurring.

Annex:

Suspected mold growth was not observed. However, elevated total fungi spore in air counts were detected in the air samples analyzed, specifically *Aspergillus/Penicillium* in samples MA-X-2-HW-1 and MA-X-1-HW-1. These levels are above exterior total spore baseline measurements for this building. No surface samples were collected because no mold growth was visible. Tetra Tech recommends repairing/closing the windows that are currently open.

Conclusions

Not all visible suspected mold growth identified during the visual inspection was sampled. This abundance of sampling is unnecessary and not cost effective. The surface sampling performed during this inspection indicated in detail that suspected mold growth is indeed mold/fungi. This finding should be assumed for all visible suspected mold growth identified in this report. All visible mold growth should be removed from the buildings.

15.0 ASSUMPTIONS AND DEVIATIONS

Building A:

The entire building was visually surveyed for suspect ACM, LBP, and mold. An inventory of all household hazardous waste and other potentially hazardous waste was taken, and a screening was conducted to identify the presence of PCBs in window and door caulking along with caulking in masonry joints. The building is no longer in use. The building previously had been used for media storage, classroom space, and a cafeteria. Gaskets possibly containing asbestos were observed on piping throughout the building; these gaskets were not accessible and therefore were not sampled. Suspect electrical wiring wrap was evident throughout the building, but was not sampled due to safety issues. Suspect asbestos-containing fire doors were present throughout the building but were not sampled to maintain their integrity. On the east side of the building, an inaccessible freight elevator may contain suspect ACM—specifically elevator brake pads, fire proofing, or other suspect materials—as well as mold and LBP. The roof was also not accessible and may contain suspect ACM. All other areas were accessible and inspected.

Building B:

The entire building was visually surveyed for suspect ACM, LBP, and mold. An inventory of all household hazardous and hazardous waste was taken, and a screening was conducted to identify the presence of PCBs in window and door caulking along with caulking in masonry joints. The building is no longer in use. The building previously had been used as a school with classroom space, administrative offices, auditorium, pool, and gymnasiums. A vibration joint possibly containing asbestos was identified in the attic but was not sampled to maintain the integrity of the material. Gaskets possibly containing asbestos were observed on piping throughout the building but were not accessible and therefore were not sampled. Suspect electrical wiring wrap was evident throughout the building but was not sampled due to safety issues. Suspect asbestos-containing fire doors were present throughout the building but were not sampled to maintain their integrity. Potentially asbestos containing asphalt roof shingles, roofing felt, and roofing caulk were identified, but the materials were not sampled to maintain the integrity of the roof. On the north side of the building, an inaccessible freight elevator may contain suspect ACM—specifically elevator brake pads, fire proofing, or other suspect materials—as well as mold and LBP. A large, inaccessible, walk-in safe in the offices on the first floor may also contain suspect ACM, as well as mold and LBP. All other areas were accessible and inspected.

Building C:

The entire building was visually surveyed for suspect ACM, LBP, and mold. An inventory of all household hazardous waste and other potentially hazardous waste was taken, and a screening was conducted to identify the presence of PCBs in window and door caulking along with caulking in masonry joints. The building is no longer in use. The building previously had been used as a school with classroom space and administrative offices. Gaskets possibly containing asbestos were observed on piping throughout the building, but were not accessible and therefore were not sampled. Suspect electrical wiring wrap was evident throughout the building but was not sampled due to safety issues. On the west side of the building on the ground floor, an inaccessible storage closet may contain suspect ACM, as well as mold and LBP. A large, inaccessible, walk-in safe in the offices on the first floor may also contain suspect ACM, as well as mold and LBP. The roof was not accessible, but appeared to be covered with slate tiles with potentially asbestos containing mortar and roofing felt. All other areas were accessible and inspected.

Building D:

The entire building was visually surveyed for suspect ACM, LBP, and mold. An inventory of all household hazardous waste and other potentially hazardous waste was taken, and a screening was conducted to identify the presence of PCBs in window and door caulking along with caulking in masonry joints. The building is no longer in use. The building previously had been used as a school with classroom space. A vibration joint possibly containing asbestos was identified in the Transition Room on the ground floor but was not sampled to maintain the integrity of the material. Gaskets possibly containing asbestos were observed on piping throughout the building but were not accessible and therefore were not sampled. Suspect electrical wiring wrap was evident throughout the building but was not sampled due to safety issues. The entire Attic was not accessible and may contain suspect ACM, as well as mold and LBP. The roof was not accessible and may contain suspect ACM. All other areas were accessible and inspected.

Annex:

The entire building was visually surveyed for suspect ACM, LBP, and mold. An inventory of all household hazardous waste and other potentially hazardous waste was taken, and a screening was conducted to identify the presence of PCBs in window and door caulking along with caulking in masonry joints. The building is no longer in use. The building previously had been used as a head start school with classroom space. A vibration joint possibly containing asbestos was identified in the mechanical room on the first floor but was not sampled to maintain the integrity of the material. Suspect asbestos-containing fire doors were present throughout the building but were not sampled to maintain their integrity. Gaskets possibly containing asbestos were observed on piping throughout the building but were not accessible and therefore were not sampled. Suspect electrical wiring wrap was evident throughout the building but was not sampled due to safety issues. Possible asbestos containing roofing felt was observed but not sampled to maintain the integrity of the roof. A storage closet on the west side of the cafeteria on the second floor was not accessible; nor was a work room on the first floor accessible—both may contain suspect ACM, as well as mold and LBP. All other areas were accessible and inspected.

16.0 REFERENCES

American Conference of Governmental Industrial Hygienists (ACGIH). 1999. *Bioaerosals Assessment and Control.*

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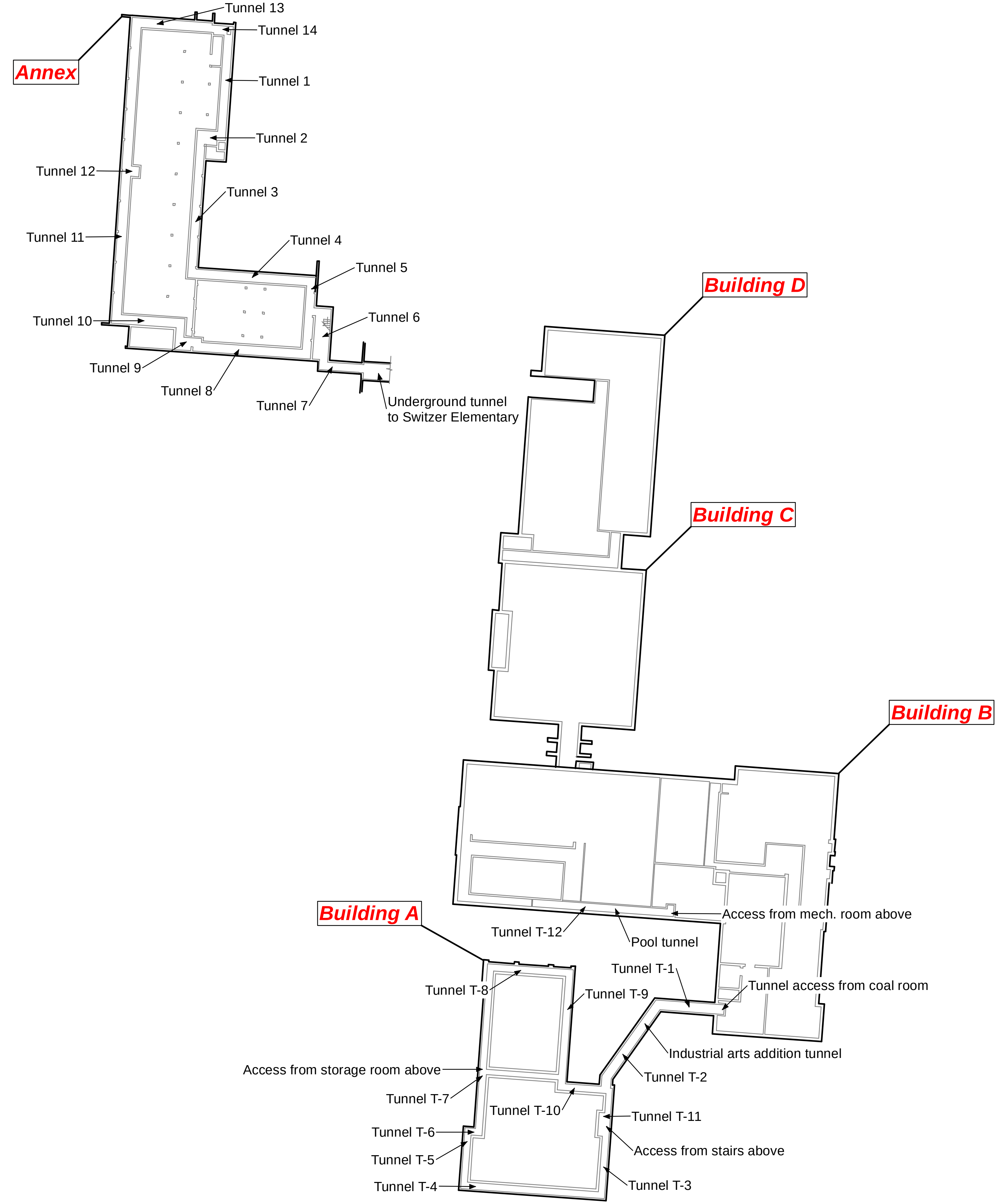
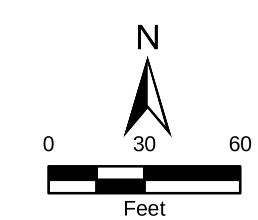
Tetra Tech. 2009. "Phase I Environmental Site Assessment, 1810 and 1829 Madison Avenue." November 23.

U.S. Department of Housing and Urban Development (HUD). 1997. *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing.*

APPENDIX A

FIGURES





Source: Modified from Switzer/West Complex, 1992.

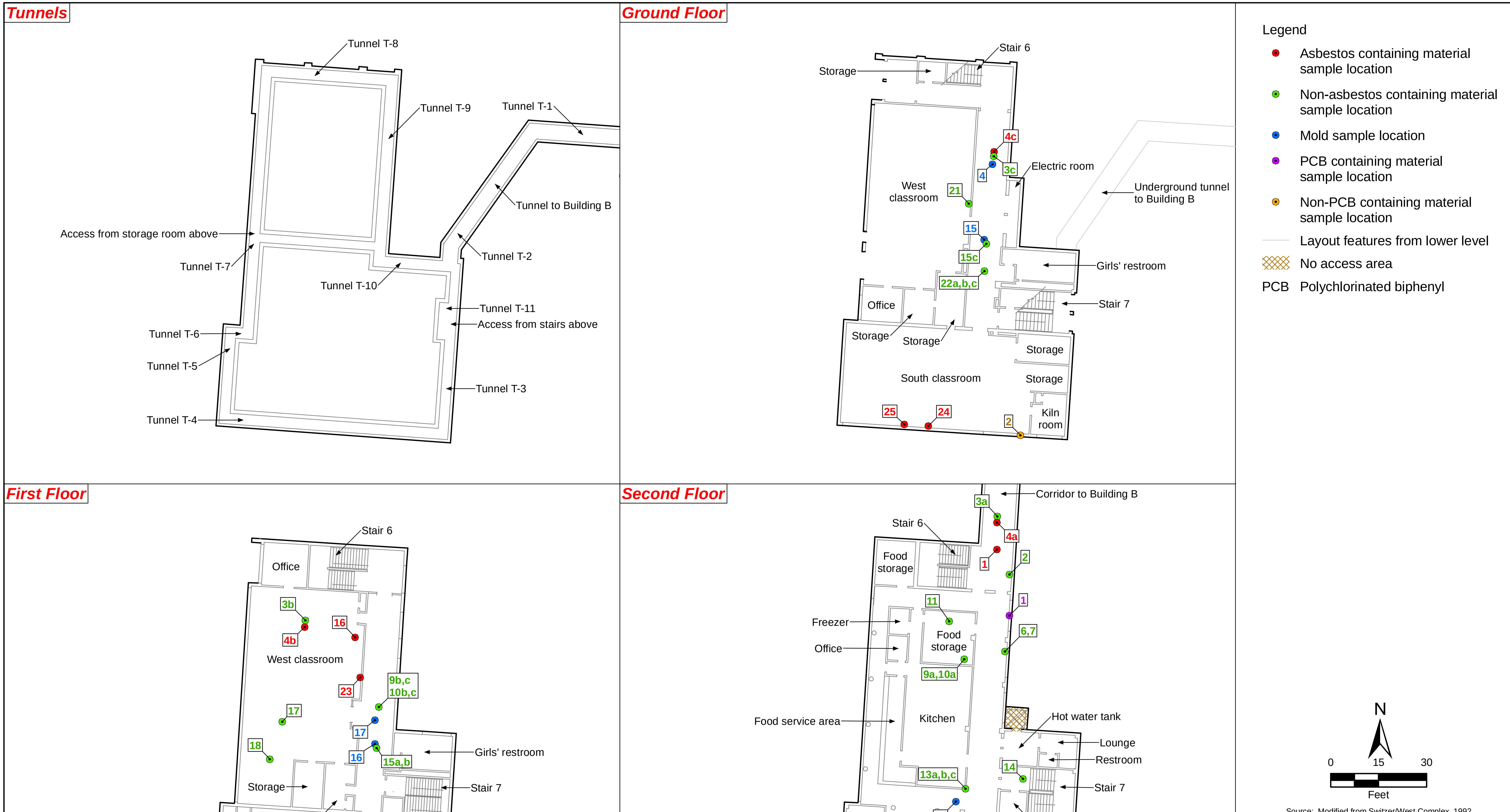
West High Complex and West High Annex
Hazardous Materials Survey
18th and Madison Avenue
Kansas City, Missouri

Figure 1

Building Layout Map

TETRA TECH EM INC.

Date: 12/03/09 | Drawn By: Ingrid Tobar | Project No: X.9004.L.09.0163.001



Source: Modified from Switzer/West Complex, 1992.

West High Complex and West High Annex
Hazardous Materials Survey
18th and Madison Avenue
Kansas City, Missouri

Figure 2
Building A Sample Location Map

TETRA TECH EM INC.

Date: 12/03/09 Drawn By: Ingrid Tobar Project No: X.9004.L.09.0163.001

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Source: Modified from Switzer/West Complex, 1992.

West High Complex and West High Annex
Hazardous Materials Survey
18th and Madison Avenue
Kansas City, Missouri

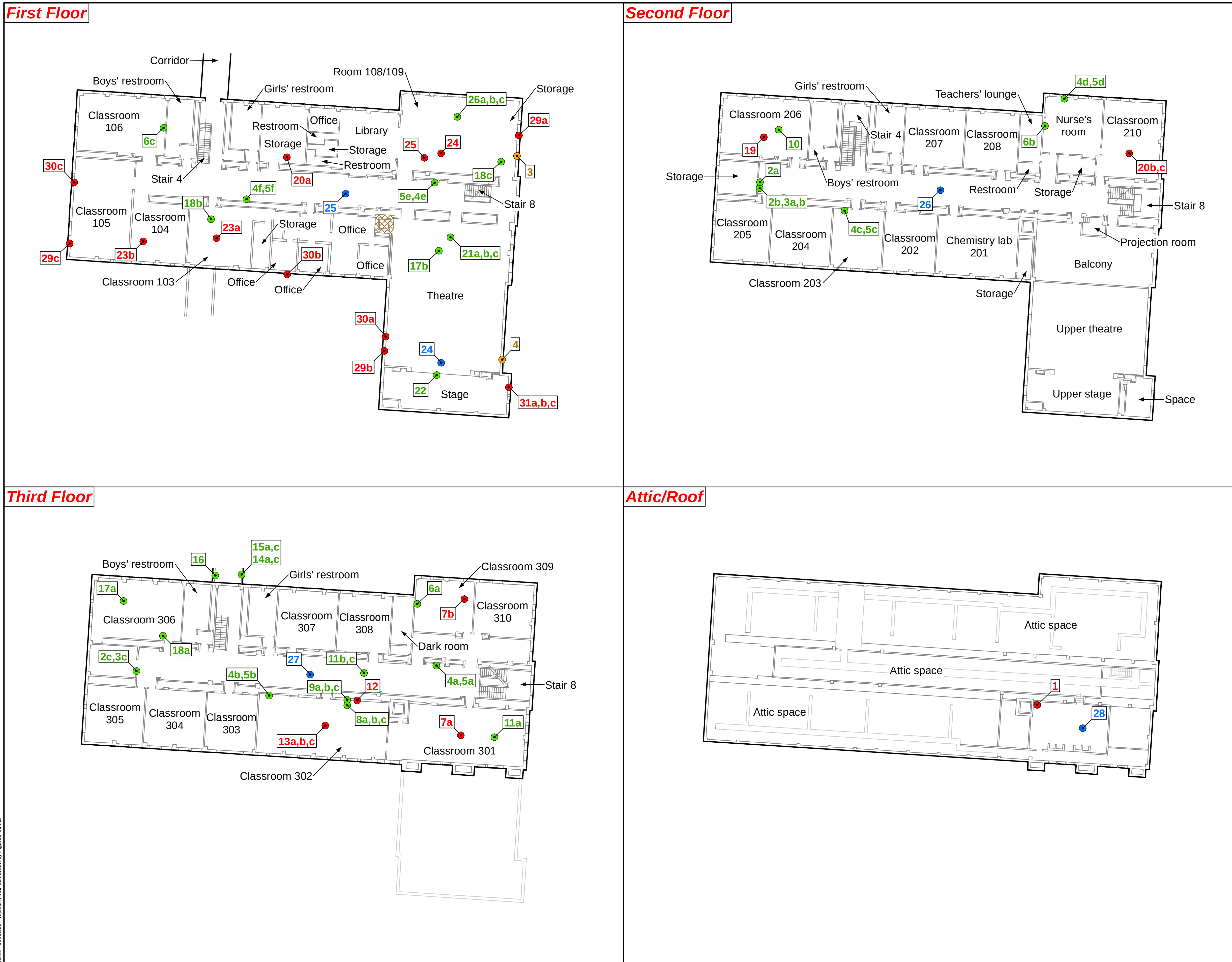
Figure 3-1

Building B Sample Location Map

TETRA TECH EM INC.

Date: 12/08/09 Drawn By: Ingrid Tobar Project No: X.9004.L.09.0163.001

X:\G9004\0163000\Projects\mxd\HazMatSurvey\Figure3-1.mxd



Legend

- Asbestos containing material sample location
- Non-asbestos containing material sample location
- Mold sample location
- Non-PCB containing material sample location
- Layout features from lower level
- No access area

PCB Polychlorinated biphenyl

N

0 20 40

Feet

Source: Modified from Switzer/West Complex, 1992.

West High Complex and West High Annex
Hazardous Materials Survey
18th and Madison Avenue
Kansas City, Missouri

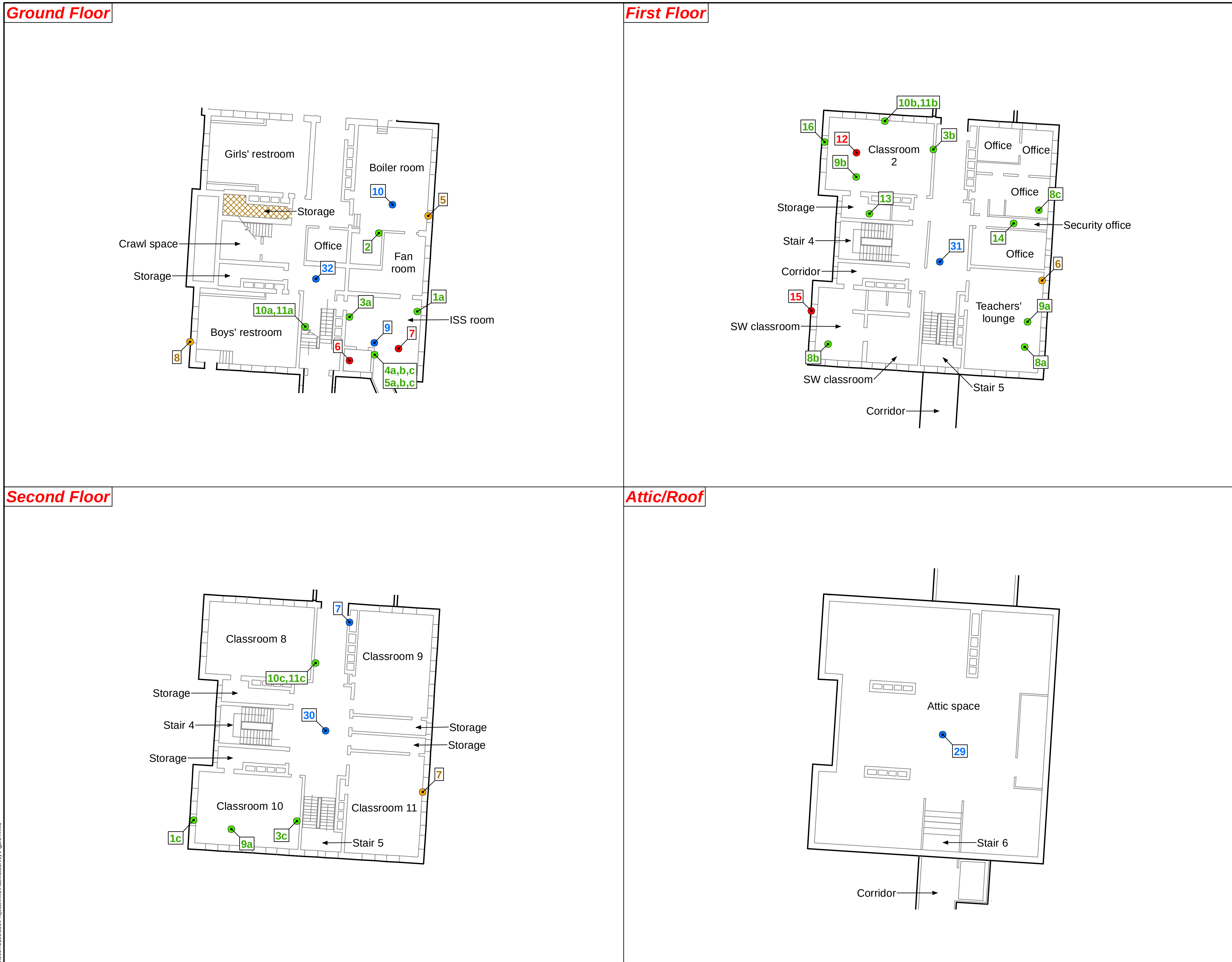
Figure 3-2

Building B Sample Location Map

TETRA TECH EM INC.

Date: 12/08/09 Drawn By: Ingrid Tobar Project No: X.9004.L.09.0163.001

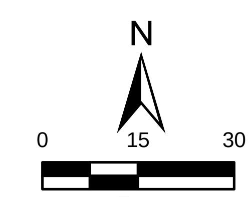
X:\G9004\0163\000\Projects\mxd\HazMatSurvey\Figure3-2.mxd



Legend

- Asbestos containing material sample location
- Non-asbestos containing material sample location
- Mold sample location
- Non-PCB containing material sample location
- Layout features from lower level
- No access area

PCB Polychlorinated biphenyl



Source: Modified from Switzer/West Complex, 1992.

West High Complex and West High Annex
Hazardous Materials Survey
18th and Madison Avenue
Kansas City, Missouri

Figure 4
Building C Sample Location Map

TETRA TECH EM INC.

Date: 12/08/09 | Drawn By: Ingrid Tobar | Project No: X.9004.L.09.0163.001

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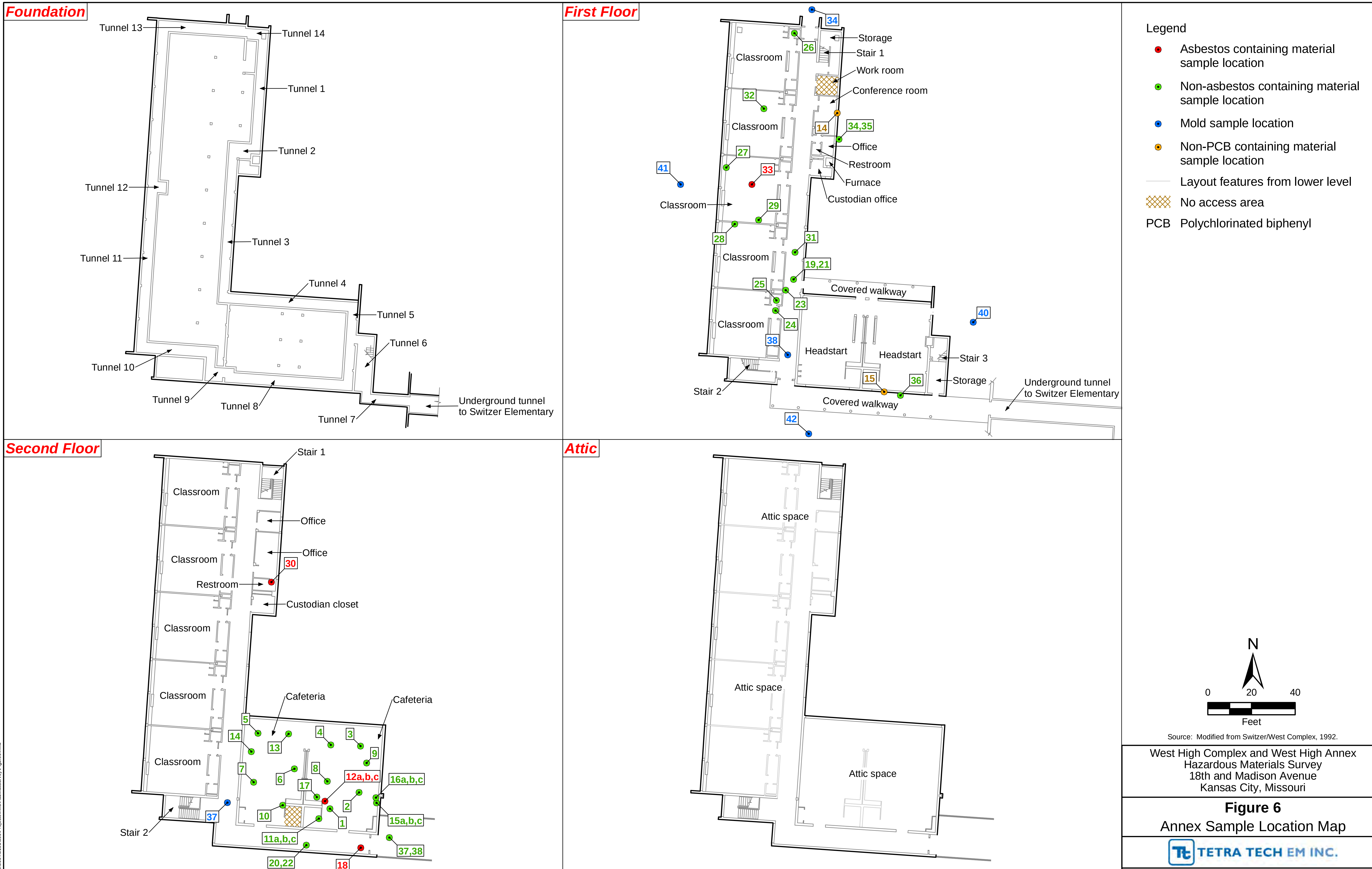
West High Complex and West High Annex
Hazardous Materials Survey
18th and Madison Avenue
Kansas City, Missouri

Figure 5
Building D Sample Location Map

TETRA TECH EM INC.

Date: 12/08/09 Drawn By: Ingrid Tobar Project No: X.9004.L.09.0163.001



West High Complex and West High Annex
Hazardous Materials Survey
18th and Madison Avenue
Kansas City, Missouri

Figure 6
Annex Sample Location Map

TETRA TECH EM INC.

Date: 12/03/09 Drawn By: Ingrid Tobar Project No: X.9004.L.09.0163.001

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APPENDIX B

LABORATORY REPORTS AND CHAIN-OF-CUSTODY FORMS FOR ACM SAMPLES

EMSL Analytical, Inc.
3029 S. Jefferson, Saint Louis, MO 63118
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Attn: **Jeffrey Mitchell**
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Fax: (816) 410-1748 Phone: (816) 412-1741
Project: **103DI9004L090163003.000 Building A**

Customer ID: TETRA77
Customer PO:
Received: 12/09/09 9:15 AM
EMSL Order: 390906877
EMSL Proj:
Analysis Date: 12/17/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
A-2-CAF-CRM-1-Ceramic Tile *390906877-0001*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
A-2-CAF-CRM-1-Grout *390906877-0001A*		Gray Non-Fibrous Heterogeneous			61% 39%	Non-fibrous (other) Quartz	**None Detected**
A-2-CAF-CRM-2-Ceramic Tile *390906877-0002*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
A-2-CAF-CRM-2-Grout *390906877-0002A*		Gray Non-Fibrous Heterogeneous			61% 39%	Non-fibrous (other) Quartz	**None Detected**
A-2-CAF-CRM-3-Ceramic Tile *390906877-0003*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
A-2-CAF-CRM-3-Grout *390906877-0003A*		Gray Non-Fibrous Heterogeneous			61% 39%	Non-fibrous (other) Quartz	**None Detected**

Analyst(s)

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
A-G-WCR-SBMR-1-Cove Base *390906877-0004*		Blue Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
A-G-WCR-SBMR-1-Adhesive *390906877-0004A*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
A-2-HW-CBM-1-Cove Base *390906877-0005*		Brown Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
A-2-HW-CBM-1-Adhesive *390906877-0005A*		Various Non-Fibrous Heterogeneous			96% 4%	Non-fibrous (other) Quartz	**None Detected**
A-1-WCR-CMBMR-1-Floor Tile *390906877-0006*		Brown Non-Fibrous Heterogeneous			89% 2%	Non-fibrous (other) Quartz	**9% Chrysotile**
A-1-WCR-CMBMR-1-Adhesive *390906877-0006A*		Black Non-Fibrous Heterogeneous			88%	Non-fibrous (other)	**12% Chrysotile**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
A-2-HW-CBM-1-DUP-Cove Base *390906877-0007*		Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
A-2-HW-CBM-1-DUP-Adhesive *390906877-0007A*		Brown Non-Fibrous Heterogeneous		98% Non-fibrous (other) 2% Quartz	**None Detected**
A-2-HW-CT1-1 *390906877-0008*		Various Fibrous Heterogeneous	85% Cellulose	15% Non-fibrous (other)	**None Detected**
A-1-WCE-CT1-1 *390906877-0009*		Various Fibrous Heterogeneous	85% Cellulose	15% Non-fibrous (other)	**None Detected**
A-G-HHW-CT1-1 *390906877-0010*		Various Fibrous Heterogeneous	85% Cellulose	15% Non-fibrous (other)	**None Detected**
A-2-CAF-CT2-1 *390906877-0011*		Various Fibrous Heterogeneous	28% Cellulose 37% Min. Wool	7% Non-fibrous (other) 28% Perlite	**None Detected**
A-2-CAF-CT2-1-DUP *390906877-0012*		Various Fibrous Heterogeneous	28% Cellulose 37% Min. Wool	7% Non-fibrous (other) 28% Perlite	**None Detected**

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
A-2-HW-CTM-1 *390906877-0013*		Brown Non-Fibrous Heterogeneous			94% 2%	Non-fibrous (other) Quartz	**4% Chrysotile**
A-1-WCR-CTM-1 *390906877-0014*		Brown Non-Fibrous Heterogeneous			94% 2%	Non-fibrous (other) Quartz	**4% Chrysotile**
A-G-HW-CTM-1 *390906877-0015*		Brown Non-Fibrous Heterogeneous			94% 2%	Non-fibrous (other) Quartz	**4% Chrysotile**
A-1-WCR-CT3-1 *390906877-0016*		Various Fibrous Heterogeneous	28% 37%	Cellulose Min. Wool	7% 28%	Non-fibrous (other) Perlite	**None Detected**
A-1-WCR-CT4-1 *390906877-0017*		Various Fibrous Heterogeneous	28% 37%	Cellulose Min. Wool	7% 28%	Non-fibrous (other) Perlite	**None Detected**
A-G-HW-DW-1 *390906877-0018*		Various Non-Fibrous Heterogeneous	22%	Cellulose	78%	Non-fibrous (other)	**None Detected**
A-G-HW-DW-2 *390906877-0019*		Various Non-Fibrous Heterogeneous	22%	Cellulose	78%	Non-fibrous (other)	**None Detected**

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Sample	Description	Appearance	Non-Asbestos %	Fibrous	%	Non-Fibrous	Asbestos % Type
A-1-SCR-DW-1 *390906877-0020*		Various Non-Fibrous Heterogeneous	13%	Cellulose	87%	Non-fibrous (other)	**None Detected**
A-1-SCR-DW-2 *390906877-0021*		Various Non-Fibrous Heterogeneous	13%	Cellulose	87%	Non-fibrous (other)	**None Detected**
A-1-SCR-DW-3 *390906877-0022*		White Non-Fibrous Heterogeneous	4%	Cellulose	96%	Non-fibrous (other)	**None Detected**
A-G-HW-DW-3 *390906877-0023*		Various Non-Fibrous Heterogeneous	22%	Cellulose	78%	Non-fibrous (other)	**None Detected**
A-2-HW-FTR-1-Floor Tile *390906877-0024*		Brown/Red Non-Fibrous Heterogeneous			89% 2%	Non-fibrous (other) Quartz	**9% Chrysotile**
A-2-HW-FTR-1-Adhesive *390906877-0024A*		Black Non-Fibrous Heterogeneous			88%	Non-fibrous (other)	**12% Chrysotile**
A-2-SW-FTG-1-Floor Tile *390906877-0025*		Gray/Blue Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
A-2-SW-FTG-1-Adhesive *390906877-0025A*		Brown Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
A-1-WCR-FTO-1-Floor Tile *390906877-0026*		Brown Non-Fibrous Heterogeneous			89% 2%	Non-fibrous (other) Quartz	**9% Chrysotile**
A-1-WCR-FTO-1-Adhesive *390906877-0026A*		Black Non-Fibrous Heterogeneous	2%	Min. Wool	89%	Non-fibrous (other)	**9% Chrysotile**
A-2-CAF-FT8-1-Floor Tile *390906877-0027*		Gray/Blue Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
A-2-CAF-FT8-1-Adhesive *390906877-0027A*		Black Non-Fibrous Heterogeneous			91%	Non-fibrous (other)	**9% Chrysotile**
A-1-HW-FTW-1-Floor Tile *390906877-0028*		Gray Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**

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Received: 12/09/09 9:15 AM
EMSL Order: 390906877
EMSL Proj:
Analysis Date: 12/17/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos %	Fibrous	%	Non-Fibrous	Asbestos % Type
A-1-HW-FTW-1-Adhesive *390906877-0028A*		Black Non-Fibrous Heterogeneous	2%	Cellulose	98%	Non-fibrous (other)	**None Detected**
A-1-HW-FTW-2-Floor Tile *390906877-0029*		Gray Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
A-1-HW-FTW-2-Adhesive *390906877-0029A*		Black Non-Fibrous Heterogeneous	2%	Cellulose	98%	Non-fibrous (other)	**None Detected**
A-G-HW-FTW-1-Floor Tile *390906877-0030*		Gray Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
A-G-HW-FTW-1-Adhesive *390906877-0030A*		Black Non-Fibrous Heterogeneous	2%	Cellulose	98%	Non-fibrous (other)	**None Detected**
A-1-SCR-JC-1 *390906877-0031*		White Non-Fibrous Heterogeneous			96% 4%	Non-fibrous (other) Mica	**None Detected**

Analyst(s)

Sue Ferrario (58)

Jeff Siria, Laboratory Manager
or other approved signatory

EMSL Analytical, Inc.
3029 S. Jefferson, Saint Louis, MO 63118
Phone: (314) 577-0150 Fax: (314) 776-3313 Email: saintlouislab@emsl.com

Attn: **Jeffrey Mitchell**
Tetra Tech EM, Inc.
415 Oak Street
Kansas City, MO 64106

Fax: (816) 410-1748 Phone: (816) 412-1741
Project: **103DI9004L090163003.000 Building A**

Customer ID: TETRA77
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
A-1-SCR-JC-2 *390906877-0032*		White Non-Fibrous Heterogeneous		96% Non-fibrous (other) 4% Mica	None Detected
A-1-SCR-JC-3 *390906877-0033*		White Non-Fibrous Heterogeneous		96% Non-fibrous (other) 4% Mica	None Detected
A-2-CAF-PL-1 *390906877-0034*		Various Non-Fibrous Heterogeneous		71% Non-fibrous (other) 29% Quartz	None Detected
A-1-HW-PL-1 *390906877-0035*		Various Non-Fibrous Heterogeneous		71% Non-fibrous (other) 29% Quartz	None Detected
A-1-HW-PL-2 *390906877-0036*		Various Non-Fibrous Heterogeneous		71% Non-fibrous (other) 29% Quartz	None Detected
A-2-CAF-PLSC-1 *390906877-0037*		White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
A-1-HW-PLSC-1 *390906877-0038*		White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

Analyst(s)

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
A-1-HW-PLSC-2 *390906877-0039*		White Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
A-2-HW-WG-1 *390906877-0040*		Gray Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
A-2-HW-WG-1 *390906877-0041*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
A-EXT-WG-1 *390906877-0042*		Various Non-Fibrous Heterogeneous			96%	Non-fibrous (other)	**4% Chrysotile**
A-EXT-WC-1 *390906877-0043*		Various Non-Fibrous Heterogeneous			94%	Non-fibrous (other)	**6% Chrysotile**
A-2-CAF-VJ-1 *390906877-0044*		Brown Non-Fibrous Heterogeneous	89%	Fibrous (other)	11%	Non-fibrous (other)	**None Detected**

Analyst(s)

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Jeff Siria, Laboratory Manager
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390906877

Asbestos Lab Services Chain of Custody

EMSL Order Number *(Lab Use Only)*: Building A

EMSL ANALYTICAL, INC.

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Company: Tetra Tech EMI	**EMSL-Bill to:** ☑ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 415 Oak Street	
City/State/Zip: KANSAS CITY, MO 64106	
Report To (Name): Jeffrey mitchell	**Fax:** 816-410-1748
Telephone: 816-412-1773	**Email Address:** jeffrey.mitchell@tetratech.com
Project Name/Number:	

Please Provide Results: Email | **Purchase Order:** | **State Samples Taken:** MO

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hours ☐ 6 Hours ☐ 24 Hrs ☐ 48 Hrs ☐ 3 Days ☐ 4 Days ☒ 5 Days ☐ 10 Days

**For TEM Air 3 hours/6 hours, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PCM - Air
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☒ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ EPA Protocol (Semi-Quantitative)
- ☐ EPA Protocol (Quantitative)

Other:
- ☐

☑ **Check For Positive Stop – Clearly Identify Homogenous Group**

Samplers Name: Jeffrey Mitchell **Samplers Signature:** Jeffrey Mitchell

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
A-2-caf-crm-1	Brown tile mastic	NA	12/8/09
2	"		
3	"		
A-G-WCR-CBMB-1	Blue cove based mastic		
A-2-HW-CBM-1	Black cove based mastic		
A-1-WCR-CBMBR-1	Brown cove based mastic		
A-2-HW-CBM-1-Dup	Black cove based mastic		
A-2-HW-CT-1	white ceiling tile.		

Client Sample # (s): **Total # of Samples:**

Relinquished (Client): Jeffrey Mitchell **Date:** 12/8/09 **Time:** 4pm

Received (Lab): [signature] **Date:** 12/9 **Time:** 915A FX

Comments/Special Instructions:

103DI9004L09016300 3.000

Controlled Document – Asbestos Lab Services COC – A1.0 – 11/23/2009

6877

EMSL
EMSL ANALYTICAL, INC.

Asbestos Lab Services Chain of Custody

EMSL Order Number*(Lab Use Only)*:

Building A

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
A-1-WCR-CT1-1	White ceiling tile	NA	12/8/09
A-G-HW-CT1-1	"		
A-2-Caf-CT2-1	"		
A-2-Caf-CT2-1-Dup	"		
A-2-HW-CT1M-1	" mastic		
A-1-WCR-CT1M-1	" mastic		
A-G-HW-CT1M-1	" mastic		
A-1-WCR-CT3-1	"		
A-1-WCR-CT4-1	"		
A-G-HW-DW-1	White drywall		
A-G-HW-DW-2	"		
A-1-SCR-DW-1	"		
A-1-SCR-DW-2	"		
A-1-SCR-DW-3	"		
A-G-HW-DW-3	"		
A-2-HW-FTR-1	Red floor tile		

Comments/Special Instructions:

103DI9004L090163003.000

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

EMSL ANALYTICAL, INC.

Asbestos Lab Services Chain of Custody

EMSL Order Number *(Lab Use Only)*: Building A

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
A-2-SW-FTG-1	Gray-Blue floor tile	NA	12/8/09
A-MWCR-FTO-1	Orange floor tile		
A-2-Caf-FTB-1	Blue floor tile		
A-1-HW-FTW-1	White floor tile		
A-1-HW-FTW-2	"		
A-G-HW-FTW-1	"		
A-1-SCR-JC-1	White joint comp.		
" 2	"		
" 3	"		
A-2-Caf-pl-1	plaster		
A-1-HW-pl-1	"		
" 2	"		
A-2-caf-plsc-1	plaster skim coat		
A-1HW-plsc-1	"		
" 2	"		
A-2-HW-WG-1	Window glaze		

Comments/Special Instructions:

103DI90042090163003.000

6877

EMSL ANALYTICAL, INC.

Asbestos Lab Services Chain of Custody

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Building A

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
A-2-HW-WG-1	Window caulk	NA	12/8/09
A-ext-WG-1	window glaze	|	|
A-ext-WC-1	Window caulk	|	|
A-2-caf-VJ-1	Vibration joint	|	|

Comments/Special Instructions:

103DI9004L090163.003.000

Controlled Document – Asbestos Lab Services COC – A1.0 – 11/23/2009

Page 4 **of** 4 **Pages**

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Attn: **Jeffrey Mitchell**
Tetra Tech EM, Inc.
415 Oak Street
Kansas City, MO 64106

Fax: (816) 410-1748 Phone: (816) 412-1741
Project: **103DI9004L090163003.000 Building B**

Customer ID: TETRA77
Customer PO:
Received: 12/10/09 9:00 AM
EMSL Order: 390906905

EMSL Proj:
Analysis Date: 12/18/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
B-1-108-CSC-1 *390906905-0001*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
B-1-108-CSC-2 *390906905-0002*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
B-1-108-CSC-3 *390906905-0003*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
B-3-ELE-CBM-1-Cove Base *390906905-0004*		Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
B-3-ELE-CBM-1-Adhesive *390906905-0004A*		Yellow Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
B-1-106-CB-1 *390906905-0005*		Various Non-Fibrous Heterogeneous	89%	Cellulose	11%	Non-fibrous (other)	**None Detected**
B-2-209-CB-1 *390906905-0006*		Black Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**

Analyst(s)

Sue Ferrario (104)

Jeff Siria, Laboratory Manager
or other approved signatory

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
B-3-309-CB-1 *390906905-0007*		Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
B-1-103-CA-1 *390906905-0008*		Tan Non-Fibrous Heterogeneous	2% Cellulose	96% Non-fibrous (other) 2% Quartz	**None Detected**
B-1-109-CA-1 *390906905-0009*		Tan Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
B-3-306-CA-1 *390906905-0010*		Tan Non-Fibrous Heterogeneous	2% Cellulose	96% Non-fibrous (other) 2% Quartz	**None Detected**
B-3-301-CT2-1 *390906905-0011*		Various Fibrous Heterogeneous	28% Cellulose 37% Min. Wool	7% Non-fibrous (other) 28% Perlite	**None Detected**
B-3-HW-CT2-1 *390906905-0012*		Various Fibrous Heterogeneous	28% Cellulose 37% Min. Wool	7% Non-fibrous (other) 28% Perlite	**None Detected**
B-3-HW-CT2-2 *390906905-0013*		Various Fibrous Heterogeneous	28% Cellulose 37% Min. Wool	7% Non-fibrous (other) 28% Perlite	**None Detected**

Analyst(s)

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
B-3-306-CT3-1 *390906905-0014*		Various Fibrous Heterogeneous	85%	Cellulose	15%	Non-fibrous (other)	**None Detected**
B-B-P00L-CT3-1 *390906905-0015*		Various Fibrous Heterogeneous	85%	Cellulose	15%	Non-fibrous (other)	**None Detected**
B-G-AND-CT3-1 *390906905-0016*		Various Fibrous Heterogeneous	85%	Cellulose	15%	Non-fibrous (other)	**None Detected**
B-G-AND-CT3M-1 *390906905-0017*		Brown Non-Fibrous Heterogeneous	4%	Fibrous (other)	96%	Non-fibrous (other)	**None Detected**
B-G-AND-CT3M-2 *390906905-0018*		Brown Non-Fibrous Heterogeneous	4%	Fibrous (other)	96%	Non-fibrous (other)	**None Detected**
B-G-AND-CT3M-3 *390906905-0019*		Brown Non-Fibrous Heterogeneous	4%	Fibrous (other)	96%	Non-fibrous (other)	**None Detected**
B-EXT-DC-1 *390906905-0020*		Gray Non-Fibrous Heterogeneous			98%	Non-fibrous (other)	**2% Chrysotile**

Analyst(s)

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
B-EXT-DC-2 *390906905-0021*		Gray Non-Fibrous Heterogeneous		98% Non-fibrous (other)	**2% Chrysotile**
B-EXT-DC-3 *390906905-0022*		Gray Non-Fibrous Heterogeneous		98% Non-fibrous (other)	**2% Chrysotile**
B-2-AO-DW-1 *390906905-0023*		Various Non-Fibrous Heterogeneous	2% Cellulose 19% Glass	75% Non-fibrous (other) 4% Mica	**None Detected**
B-2-AO-DW-2 *390906905-0024*		Various Non-Fibrous Heterogeneous	4% Cellulose 18% Glass	74% Non-fibrous (other) 4% Mica	**None Detected**
B-3-AO-DW-1 *390906905-0025*		Various Non-Fibrous Heterogeneous	4% Cellulose 18% Glass	74% Non-fibrous (other) 4% Mica	**None Detected**
B-3-ELE-DW-1 *390906905-0026*		White Non-Fibrous Heterogeneous	19% Glass	77% Non-fibrous (other) 4% Mica	**None Detected**
B-3-ELE-DW-2 *390906905-0027*		Various Non-Fibrous Heterogeneous	9% Cellulose 17% Glass	70% Non-fibrous (other) 4% Mica	**None Detected**

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
B-3-ELE-DW-3 *390906905-0028*		Various Non-Fibrous Heterogeneous	2% 19%	Cellulose Glass	75% 4%	Non-fibrous (other) Mica	**None Detected**
B-UB-EG-DW-1 *390906905-0029*		White Non-Fibrous Heterogeneous	19%	Glass	77% 4%	Non-fibrous (other) Mica	**None Detected**
B-UB-EG-DW-2 *390906905-0030*		Various Non-Fibrous Heterogeneous	9% 19%	Cellulose Glass	68% 4%	Non-fibrous (other) Mica	**None Detected**
B-UB-EG-DW-3 *390906905-0031*		Various Non-Fibrous Heterogeneous	4% 18%	Cellulose Glass	74% 4%	Non-fibrous (other) Mica	**None Detected**
B-3-302-DW-1 *390906905-0032*		Various Non-Fibrous Heterogeneous	9% 17%	Cellulose Glass	70% 4%	Non-fibrous (other) Mica	**None Detected**
B-3-302-DW-2 *390906905-0033*		Various Non-Fibrous Heterogeneous	2% 19%	Cellulose Glass	75% 4%	Non-fibrous (other) Mica	**None Detected**
B-3-302-DW-3 *390906905-0034*		Various Non-Fibrous Heterogeneous	9% 17%	Cellulose Glass	70% 4%	Non-fibrous (other) Mica	**None Detected**

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
B-UB-EG-JC-1 *390906905-0035*		White Non-Fibrous Heterogeneous			67% 4% 29%	Non-fibrous (other) Mica Perlite	**None Detected**
B-UB-EG-JC-2 *390906905-0036*		White Non-Fibrous Heterogeneous			67% 4% 29%	Non-fibrous (other) Mica Perlite	**None Detected**
B-UB-EG-JC-3 *390906905-0037*		White Non-Fibrous Heterogeneous			67% 4% 29%	Non-fibrous (other) Mica Perlite	**None Detected**
B-3-302-JC-1 *390906905-0038*		White Non-Fibrous Heterogeneous			94% 4%	Non-fibrous (other) Mica	**2% Chrysotile**
B-3-302-JC-2 *390906905-0039*		White Non-Fibrous Heterogeneous			94% 4%	Non-fibrous (other) Mica	**2% Chrysotile**
B-3-302-JC-3 *390906905-0040*		White Non-Fibrous Heterogeneous			94% 4%	Non-fibrous (other) Mica	**2% Chrysotile**

Analyst(s)

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
B-2-AO-JC-1 *390906905-0041*		White Non-Fibrous Heterogeneous		94% Non-fibrous (other) 4% Mica	**2% Chrysotile**
B-2-AO-JC-2 *390906905-0042*		White Non-Fibrous Heterogeneous		67% Non-fibrous (other) 4% Mica 29% Perlite	**None Detected**
B-3-AO-JC-1 *390906905-0043*		White Non-Fibrous Heterogeneous		67% Non-fibrous (other) 4% Mica 29% Perlite	**None Detected**
B-2-206-FTG-1-Floor Tile *390906905-0044*		Green Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
B-2-206-FTG-1-Adhesive *390906905-0044A*		Tan Non-Fibrous Heterogeneous	2% Cellulose	98% Non-fibrous (other)	**None Detected**
B-1-109-FTG2-1-Floor Tile *390906905-0045*		Non-Fibrous Heterogeneous		96% Non-fibrous (other)	**4% Chrysotile**

Analyst(s)

Sue Ferrario (104)

Jeff Siria, Laboratory Manager
or other approved signatory

EMSL Analytical, Inc.
3029 S. Jefferson, Saint Louis, MO 63118
Phone: (314) 577-0150 Fax: (314) 776-3313 Email: saintlouislab@emsl.com

Attn: **Jeffrey Mitchell**
Tetra Tech EM, Inc.
415 Oak Street
Kansas City, MO 64106

Fax: (816) 410-1748 Phone: (816) 412-1741
Project: **103DI9004L090163003.000 Building B**

Customer ID: TETRA77
Customer PO:
Received: 12/10/09 9:00 AM
EMSL Order: 390906905

EMSL Proj:
Analysis Date: 12/18/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
B-1-109-FTG2-1-Adhesive *390906905-0045A*		Various Non-Fibrous Heterogeneous	2% Cellulose	98% Non-fibrous (other)	**None Detected**
B-2-ECR-FTG2-1-Floor Tile *390906905-0046*		Green Non-Fibrous Heterogeneous		96% Non-fibrous (other)	**4% Chrysotile**
B-2-ECR-FTG2-1-Adhesive *390906905-0046A*		Black Non-Fibrous Heterogeneous		88% Non-fibrous (other)	**12% Chrysotile**
B-2-ECR-FTG2-2-Floor Tile *390906905-0047*		Various Non-Fibrous Heterogeneous		96% Non-fibrous (other)	**4% Chrysotile**
B-2-ECR-FTG2-2-Adhesive *390906905-0047A*		Black Non-Fibrous Heterogeneous		88% Non-fibrous (other)	**12% Chrysotile**
B-1-104-FTBR-1-Floor Tile *390906905-0048*		Brown Non-Fibrous Heterogeneous		91% Non-fibrous (other)	**9% Chrysotile**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
B-1-104-FTBR-1-Adhesive *390906905-0048A*		Various Non-Fibrous Heterogeneous	2%	Cellulose	98%	Non-fibrous (other)	**None Detected**
B-1-103-FTBR-1-Floor Tile *390906905-0049*		Various Non-Fibrous Heterogeneous			91%	Non-fibrous (other)	**9% Chrysotile**
B-1-103-FTBR-1-Adhesive *390906905-0049A*		Black Non-Fibrous Heterogeneous			91%	Non-fibrous (other)	**9% Chrysotile**
B-G-HW-FTBR-1-Floor Tile *390906905-0050*		Various Non-Fibrous Heterogeneous			91%	Non-fibrous (other)	**9% Chrysotile**
B-G-HW-FTBR-1-Adhesive *390906905-0050A*		Black Non-Fibrous Heterogeneous			91%	Non-fibrous (other)	**9% Chrysotile**
B-1-108-FTR-1-Floor Tile *390906905-0051*		Brown Non-Fibrous Heterogeneous			88%	Non-fibrous (other)	**12% Chrysotile**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**% Non-Fibrous**	**% Type**
B-1-108-FTR-1-Adhesive *390906905-0051A*		Black Non-Fibrous Heterogeneous			96% Non-fibrous (other) 4% Quartz	**None Detected**
B-1-108-FTBL-1-Floor Tile *390906905-0052*		Black Non-Fibrous Heterogeneous			86% Non-fibrous (other) 2% Quartz	**12% Chrysotile**
B-1-108-FTBL-1-Adhesive *390906905-0052A*		Black Non-Fibrous Heterogeneous			100% Non-fibrous (other)	**None Detected**
B-3-302-FTB-1-Floor Tile *390906905-0053*		Blue/Green Non-Fibrous Heterogeneous			96% Non-fibrous (other)	**4% Chrysotile**
B-3-302-FTB-1-Adhesive *390906905-0053A*		Black Non-Fibrous Heterogeneous	2%	Cellulose	89% Non-fibrous (other)	**9% Chrysotile**
B-3-302-FTB-2-Floor Tile *390906905-0054*		Blue/Green Non-Fibrous Heterogeneous			96% Non-fibrous (other)	**4% Chrysotile**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
B-3-302-FTB-2-Adhesive *390906905-0054A*		Black Non-Fibrous Heterogeneous		91% Non-fibrous (other)	**9% Chrysotile**
B-3-302-FTB-3-Floor Tile *390906905-0055*		Blue/Green Non-Fibrous Heterogeneous		96% Non-fibrous (other)	**4% Chrysotile**
B-3-302-FTB-3-Adhesive *390906905-0055A*		Black Non-Fibrous Heterogeneous	2% Cellulose	89% Non-fibrous (other)	**9% Chrysotile**
B-G-BAND-FTT-1-Floor Tile *390906905-0056*		Tan Non-Fibrous Heterogeneous		91% Non-fibrous (other)	**9% Chrysotile**
B-G-BAND-FTT-1-Adhesive *390906905-0056A*		Black Non-Fibrous Heterogeneous		89% Non-fibrous (other) 2% Quartz	**9% Chrysotile**
B-3-301-FTT-1-Floor Tile *390906905-0057*		Tan Non-Fibrous Heterogeneous		91% Non-fibrous (other)	**9% Chrysotile**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
B-3-301-FTT-1-Adhesive *390906905-0057A*		Black Non-Fibrous Heterogeneous	2% Cellulose	98% Non-fibrous (other)	**None Detected**
B-3-309-FTT-1-Floor Tile *390906905-0058*		Tan Non-Fibrous Heterogeneous		96% Non-fibrous (other)	**4% Chrysotile**
B-3-309-FTT-1-Adhesive *390906905-0058A*		Black Non-Fibrous Heterogeneous		91% Non-fibrous (other)	**9% Chrysotile**
B-G-AND-FC-1 *390906905-0059*		Various Fibrous Heterogeneous	98% Synthetic	2% Non-fibrous (other)	**None Detected**
B-2-206-LC-1 *390906905-0060*		Black Non-Fibrous Heterogeneous		77% Non-fibrous (other) 4% Quartz	**19% Chrysotile**
B-1-HW-PL-1 *390906905-0061*		Various Non-Fibrous Heterogeneous		71% Non-fibrous (other) 29% Quartz	**None Detected**

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
B-1-HW-PL-2 *390906905-0062*		Various Non-Fibrous Heterogeneous			71% 29%	Non-fibrous (other) Quartz	**None Detected**
B-2-203-PL1 *390906905-0063*		Various Non-Fibrous Heterogeneous			71% 29%	Non-fibrous (other) Quartz	**None Detected**
B-2-209-PL-2 *390906905-0064*		Various Non-Fibrous Heterogeneous			71% 29%	Non-fibrous (other) Quartz	**None Detected**
B-3-HW-PL-1 *390906905-0065*		Various Non-Fibrous Heterogeneous			71% 29%	Non-fibrous (other) Quartz	**None Detected**
B-3-302-PL-2 *390906905-0065A*		Various Non-Fibrous Heterogeneous			71% 29%	Non-fibrous (other) Quartz	**None Detected**
B-G-BAND-PL-1 *390906905-0066*		Various Non-Fibrous Heterogeneous			71% 29%	Non-fibrous (other) Quartz	**None Detected**
B-B-P-PL-1 *390906905-0067*		Various Non-Fibrous Heterogeneous			71% 29%	Non-fibrous (other) Quartz	**None Detected**

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			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**% Type**
B-UB-HW-PL-1 *390906905-0068*		Various Non-Fibrous Heterogeneous			71% Non-fibrous (other) 29% Quartz	**None Detected**
B-1-HW-PLSC-1 *390906905-0069*		Various Non-Fibrous Heterogeneous			61% Non-fibrous (other) 39% Quartz	**None Detected**
B-1-HW-PLSC-2 *390906905-0070*		Various Non-Fibrous Heterogeneous			61% Non-fibrous (other) 39% Quartz	**None Detected**
B-2-209-PLSC-1 *390906905-0071*		Various Non-Fibrous Heterogeneous			61% Non-fibrous (other) 39% Quartz	**None Detected**
B-2-203-PLSC-2 *390906905-0072*		Various Non-Fibrous Heterogeneous			61% Non-fibrous (other) 39% Quartz	**None Detected**
B-3-HW-PLSC-1 *390906905-0073*		Various Non-Fibrous Heterogeneous			61% Non-fibrous (other) 39% Quartz	**None Detected**
B-3-302-PLSC-2 *390906905-0074*		Various Non-Fibrous Heterogeneous			61% Non-fibrous (other) 39% Quartz	**None Detected**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
B-B-P-PLSC-1 *390906905-0075*		Various Non-Fibrous Heterogeneous		61% Non-fibrous (other) 39% Quartz	**None Detected**
B-UB-HW-PLSC-1 *390906905-0076*		Non-Fibrous Heterogeneous		61% Non-fibrous (other) 39% Quartz	**None Detected**
B-2-ELE-SC-2 *390906905-0077*		Non-Fibrous Heterogeneous		61% Non-fibrous (other) 39% Quartz	**None Detected**
B-3-ELE-SC-1 *390906905-0078*		White Non-Fibrous Heterogeneous		61% Non-fibrous (other) 39% Quartz	**None Detected**
B-3-ELE-SC-3 *390906905-0079*		White Non-Fibrous Heterogeneous		61% Non-fibrous (other) 39% Quartz	**None Detected**
B-3-302-SU-3 *390906905-0080*		Gray Non-Fibrous Heterogeneous		94% Non-fibrous (other)	**6% Chrysotile**
B-A-A-WG-1 *390906905-0081*		Gray Non-Fibrous Heterogeneous		94% Non-fibrous (other)	**6% Chrysotile**

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			Non-Asbestos			Asbestos
Sample	Description	Appearance	% Fibrous		% Non-Fibrous	% Type
B-EXT-WC-1 *390906905-0082*		Gray Non-Fibrous Heterogeneous			94% Non-fibrous (other)	**6% Chrysotile**
B-EXT-WC-2 *390906905-0083*		Gray Non-Fibrous Heterogeneous			94% Non-fibrous (other)	**6% Chrysotile**
B-EXT-WC-3 *390906905-0084*		Gray Non-Fibrous Heterogeneous			94% Non-fibrous (other)	**6% Chrysotile**
B-EXT-WG-1 *390906905-0085*		Gray Non-Fibrous Heterogeneous			98% Non-fibrous (other)	**2% Chrysotile**
B-EXT-WG-2 *390906905-0086*		Gray Non-Fibrous Heterogeneous			98% Non-fibrous (other)	**2% Chrysotile**
B-EXT-WG-3 *390906905-0087*		Gray Non-Fibrous Heterogeneous			98% Non-fibrous (other)	**2% Chrysotile**

Analyst(s)

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390906905

Asbestos Lab Services Chain of Custody

EMSL Order Number *(Lab Use Only)*: 390906905

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Company: Tetra Tech EMI	**EMSL-Bill to:** ☑ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 415 Oak Street	
City/State/Zip: KANSAS CITY, MO 64106	
Report To (Name): Jeffrey mitchell	**Fax:** 816-410-1748
Telephone: 816-412-1773	**Email Address:** jeffrey.mitchell@tetratech.com
Project Name/Number:	

Please Provide Results: Email | **Purchase Order:** | **State Samples Taken:** MO

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hours ☐ 6 Hours ☐ 24 Hrs ☐ 48 Hrs ☐ 3 Days ☐ 4 Days ☒ 5 Days ☐ 10 Days

**For TEM Air 3 hours/6 hours, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PCM - Air	TEM - Air	TEM- Dust
☐ NIOSH 7400	☐ AHERA 40 CFR, Part 763	☐ Microvac - ASTM D 5755
☐ w/ OSHA 8hr. TWA	☐ NIOSH 7402	☐ Wipe - ASTM D6480
PLM - Bulk (reporting limit)	☐ EPA Level II	☐ Carpet Sonication (EPA 600/J-93/167)
☒ PLM EPA 600/R-93/116 (<1%)	☐ ISO 10312	**Soil/Rock/Vermiculite**
☐ PLM EPA NOB (<1%)	**TEM - Bulk**	☐ PLM CARB 435 - A (0.25% sensitivity)
Point Count	☐ TEM EPA NOB	☐ PLM CARB 435 - B (0.1% sensitivity)
☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ NYS NOB 198.4 (non-friable-NY)	☐ TEM CARB 435 - B (0.1% sensitivity)
Point Count w/Gravimetric	☐ Chatfield SOP	☐ TEM CARB 435 - C (0.01% sensitivity)
☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ TEM Mass Analysis-EPA 600 sec. 2.5	☐ EPA Protocol (Semi-Quantitative)
☐ NYS 198.1 (friable in NY)	**TEM – Water:** EPA 100.2	☐ EPA Protocol (Quantitative)
☐ NYS 198.6 NOB (non-friable-NY)	Fibers >10µm ☐ Waste ☐ Drinking	**Other:**
☐ NIOSH 9002 (<1%)	All Fiber Sizes ☐ Waste ☐ Drinking	☐

☑ **Check For Positive Stop – Clearly Identify Homogenous Group**

Samplers Name: Jeffrey Mitchell **Samplers Signature:** Jeffrey Mitchell

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
B-1-108-CSC-1	White skim coat	NA	12/9/09
" 2	"		
" 3	"		
B-3-ele-CBM-1	Black cove based mastic		
B-1-106-CB-1	Black chalk board		
B-2-209-CB-1	"		
B-3-309-CB-1	"		
B-1-103-CA-1	Brown carpet adhesive		

Client Sample # (s): - **Total # of Samples:**

Relinquished (Client): Jeffrey Mitchell **Date:** 12/9/09 **Time:** 4pm

Received (Lab): [signature] **Date:** 12/10 **Time:** 855A FX

Comments/Special Instructions:

103DI90042090163003.000 Building B

Controlled Document – Asbestos Lab Services COC – A1.0 – 11/23/2009

6905

Asbestos Lab Services Chain of Custody

EMSL Order Number *(Lab Use Only)*:

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
B-1-109-CA-1	Brown carpet adhesive	NA	12/9/09
B-3-306-CA-1	"		
B-3-301-CT2-1	White ceiling tile		
B-3-HW-CT2-1	"		
B-3-HW-CT2-2	"		
B-3-306-CT3-1	"		
B-B-Pool-CT3-1	"		
B-G-Aud-CT3-1	"		
B-G-aud-CT3m-1	Mastic		
" 2			
" 3			
B-ext-DC-1	Door caulk		
" .2	"		
" 3	"		
B-2-AO-DW-1	Drywall		
B-2-AO-DW-2	"		

Comments/Special Instructions:

103DI9004L090163003.000 Building B

Controlled Document – Asbestos Lab Services COC – A1.0 – 11/23/2009

Page 2 **of** 6 **Pages**

6905

Asbestos Lab Services Chain of Custody

EMSL Order Number*(Lab Use Only)***:**

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
B-3-AO-DW-1	Drywall	NA	12/9/09
B-3-ele-DW-1	↓	↓	↓
" 2			
" 3			
B-UB-EG-DW-1			
" 2			
" 3			
B-3-302-DW-1			
" 2			
" 3			
B-UB-EG-JC-1	joint compound		
" 2	↓		
" 3			
B-3-302-JC-1			
" 2			
" 3			

Comments/Special Instructions:

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PHONE: (314)-577-0150
FAX: (314)-776-3313

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
B-2-AD-JC-1	joint compound	NA	12/9/09
2	"		
B-3-AD-JC-1	"		
B-2-206-FTG-1	green floortile		
B-1-109-FTG-1	"		
B-2-ECR-FTG-1	"		
" 2	"		
B-1-104-FTBR-1	Brown floortile		
B-1-103-FTBR-1	"		
B-G-HW-FTBR-1	"		
B-1-108-FTR-1	Red		
B-1-108-FTBL-1	Black		
B-3-302-FTB-1	Blue		
B-3-302-FTB-2	"		
" 3	"		
B-G-Band-FTT-1	Tan		

Comments/Special Instructions:

1030I9004L090163003.000 Bldg B

Controlled Document – Asbestos Lab Services COC – A1.0 – 11/23/2009

Page 4 **of** 6 **Pages**

6905

EMSL ANALYTICAL, INC.

Asbestos Lab Services Chain of Custody

EMSL Order Number*(Lab Use Only)***:**

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
B-3-301-FTT-1	Tan floor tile	NA	12/9/09
B-3-309-FTT-2	"		
B-G-Aud-FC-1	fire curtain		
B-2-206-LC-1	Lab counter		
B-1-Hw-PL-1	plaster		
B-1-Hw-PL-2			
B-2-203-Pl-1			
B-2-209-Pl-2			
B-3-Hw-pl-1			
B-3-302-pl-2			
B-G-Band-pl-1			
B-B-p-pl-1			
B-LB-Hw-pl-1			
B-1-Hw-plsc-1	plaster skim coat		
B-1-Hw-plsc-2			
B-2-209-plsc-1			

Comments/Special Instructions:

103DI9004L09 0163003.000 Bldg B

Controlled Document – Asbestos Lab Services COC – A1.0 – 11/23/2009

6905

EMSL
EMSL ANALYTICAL, INC.

Asbestos Lab Services Chain of Custody

EMSL Order Number*(Lab Use Only):*

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
B-2-203-plsc-2	plaster skim coat	NA	12/9/09
B-3-Hw-plsc-1			
B-3-302-plsc-2			
B-B-P-plsc-1			
B-G-Band-plsc-1			
B-UB-HW-plsc-1			
B-2-ele-sc-2			
B-3-ele-sc-1			
B-3-ele-sc-3			
B-3-302-su-1	gray sink undercoat		
B-AA WG-1	window glaze		
B-ext-WC-1	window caulk		
" 2			
" 3.			
B-ext-WG-1	window glaze		
" 2 " 3	"		

Comments/Special Instructions:

103DI9004209016300 3.000 Bldg. B

Controlled Document – Asbestos Lab Services COC – A1.0 – 11/23/2009

EMSL Analytical, Inc.
3029 S. Jefferson, Saint Louis, MO 63118
Phone: (314) 577-0150 Fax: (314) 776-3313 Email: saintlouislab@emsl.com

Attn: **Jeffrey Mitchell**
Tetra Tech EM, Inc.
415 Oak Street
Kansas City, MO 64106

Fax: (816) 410-1748 Phone: (816) 412-1741
Project: **103DI9004L090163003.000 Building C**

Customer ID: TETRA77
Customer PO:
Received: 12/11/09 8:50 AM
EMSL Order: 390906944
EMSL Proj:
Analysis Date: 12/18/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
C-G-ISS-WC-1 *390906944-0001*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
C-1-2-WC-2 *390906944-0002*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
C-2-10-WC-3 *390906944-0003*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
C-G-BR-VJ-1 *390906944-0004*		Various Fibrous Heterogeneous	79%	Fibrous (other)	21%	Non-fibrous (other)	**None Detected**
C-G-BR-VJ-1-DUP *390906944-0005*		Brown Fibrous Heterogeneous	89%	Fibrous (other)	11%	Non-fibrous (other)	**None Detected**
C-G-ISS-CH-1 *390906944-0006*		Various Fibrous Heterogeneous	96%	Cellulose	4%	Non-fibrous (other)	**None Detected**
C-G-ISS-CH-1-DUP *390906944-0007*		Various Fibrous Heterogeneous	96%	Cellulose	4%	Non-fibrous (other)	**None Detected**

Analyst(s)

Sue Ferrario (45)

Jeff Siria, Laboratory Manager
or other approved signatory

EMSL Analytical, Inc.
3029 S. Jefferson, Saint Louis, MO 63118
Phone: (314) 577-0150 Fax: (314) 776-3313 Email: saintlouislab@emsl.com

Attn: **Jeffrey Mitchell**
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Customer ID: TETRA77
Customer PO:
Received: 12/11/09 8:50 AM
EMSL Order: 390906944

EMSL Proj:
Analysis Date: 12/18/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
C-1-2-CH-2 *390906944-0008*		Various Fibrous Heterogeneous	96%	Cellulose	4%	Non-fibrous (other)	**None Detected**
C-2-10-CH-3 *390906944-0009*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
C-G-ISS-DW-1 *390906944-0010*		Various Non-Fibrous Heterogeneous	4%	Cellulose	96%	Non-fibrous (other)	**None Detected**
C-G-ISS-DW-2 *390906944-0011*		White Non-Fibrous Heterogeneous	4%	Cellulose	96%	Non-fibrous (other)	**None Detected**
C-G-ISS-DW-3 *390906944-0012*		Various Non-Fibrous Heterogeneous	9%	Cellulose	91%	Non-fibrous (other)	**None Detected**
C-G-ISS-JC-1 *390906944-0013*		White Non-Fibrous Heterogeneous			67% 4% 29%	Non-fibrous (other) Mica Perlite	**None Detected**
C-G-ISS-JC-2 *390906944-0014*		White Non-Fibrous Heterogeneous			67% 4% 29%	Non-fibrous (other) Mica Perlite	**None Detected**

Analyst(s)

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Customer ID: TETRA77
Customer PO:
Received: 12/11/09 8:50 AM
EMSL Order: 390906944
EMSL Proj:
Analysis Date: 12/18/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
C-G-ISS-JC-3 *390906944-0015*		White Non-Fibrous Heterogeneous		67% Non-fibrous (other) 4% Mica 29% Perlite	**None Detected**
C-G-ISS-CA-1 *390906944-0016*		Various Non-Fibrous Heterogeneous		87% Non-fibrous (other) 4% Quartz	**9% Chrysotile**
C-1-1-FTW-1-Floor Tile *390906944-0017*		Various Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
C-1-1-FTW-1-Adhesive *390906944-0017A*		Black/Yellow Non-Fibrous Heterogeneous	2% Cellulose	98% Non-fibrous (other)	**None Detected**
C-1-SLRM-FTW-2-Floor Tile *390906944-0018*		Various Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
C-1-SLRM-FTW-2-Adhesive *390906944-0018A*		Yellow Non-Fibrous Heterogeneous	2% Cellulose	98% Non-fibrous (other)	**None Detected**

Analyst(s)

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EMSL Proj:
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
C-1-EO-FTW-3-Floor Tile *390906944-0019*		Various Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
C-1-EO-FTW-3-Adhesive *390906944-0019A*		Yellow Non-Fibrous Heterogeneous	2% Cellulose	98% Non-fibrous (other)	**None Detected**
C-1-1-CT-1 *390906944-0020*		Various Fibrous Heterogeneous	94% Cellulose	6% Non-fibrous (other)	**None Detected**
C-1-2-CT-2 *390906944-0021*		Various Fibrous Heterogeneous	94% Cellulose	6% Non-fibrous (other)	**None Detected**
C-2-10-CT-3 *390906944-0022*		Various Fibrous Heterogeneous	94% Cellulose	6% Non-fibrous (other)	**None Detected**
C-2-10-CT-3-DUP *390906944-0023*		Various Fibrous Heterogeneous	94% Cellulose	6% Non-fibrous (other)	**None Detected**
C-G-ST-PL-1 *390906944-0024*		Various Non-Fibrous Heterogeneous		71% Non-fibrous (other) 29% Quartz	**None Detected**

Analyst(s)

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Project: **103DI9004L090163003.000 Building C**

Customer ID: TETRA77
Customer PO:
Received: 12/11/09 8:50 AM
EMSL Order: 390906944
EMSL Proj:
Analysis Date: 12/18/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
C-1-2-PL-2 *390906944-0025*		Various Non-Fibrous Heterogeneous		71% Non-fibrous (other) 29% Quartz	**None Detected**
C-2-HW-PL-3 *390906944-0026*		Various Non-Fibrous Heterogeneous		71% Non-fibrous (other) 29% Quartz	**None Detected**
C-G-ISS-FTB-1-Floor Tile *390906944-0027*		Brown Non-Fibrous Heterogeneous		88% Non-fibrous (other)	**12% Chrysotile**
C-G-ISS-FTB-1-Adhesive *390906944-0027A*		Black Non-Fibrous Heterogeneous		91% Non-fibrous (other)	**9% Chrysotile**
C-G-ISS-FTB-1-DUP-Floor Tile *390906944-0028*		Brown Non-Fibrous Heterogeneous		88% Non-fibrous (other)	**12% Chrysotile**
C-G-ISS-FTB-1-DUP-Adhesive *390906944-0028A*		Black Non-Fibrous Heterogeneous		91% Non-fibrous (other)	**9% Chrysotile**

Analyst(s)

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Project: **103DI9004L090163003.000 Building C**

Customer ID: TETRA77
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Received: 12/11/09 8:50 AM
EMSL Order: 390906944
EMSL Proj:
Analysis Date: 12/18/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
C-G-ST-PLSC-1 *390906944-0029*		Various Non-Fibrous Heterogeneous		61% Non-fibrous (other) 39% Quartz	**None Detected**
C-2-HW-PLSC-2 *390906944-0030*		Various Non-Fibrous Heterogeneous		61% Non-fibrous (other) 39% Quartz	**None Detected**
C-2-GW-PLSC-3 *390906944-0031*		Various Non-Fibrous Heterogeneous		61% Non-fibrous (other) 39% Quartz	**None Detected**
C-1-2-FTG-1-Floor Tile *390906944-0032*		Various Non-Fibrous Heterogeneous		88% Non-fibrous (other)	**12% Chrysotile**
C-1-2-FTG-1-Adhesive *390906944-0032A*		Black Non-Fibrous Heterogeneous	2% Cellulose	98% Non-fibrous (other)	**None Detected**
C-1-2-FTG-1-DUP-Floor Tile *390906944-0033*		Various Non-Fibrous Heterogeneous		88% Non-fibrous (other)	**12% Chrysotile**

Analyst(s)

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EMSL Analytical, Inc.
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415 Oak Street
Kansas City, MO 64106

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Project: **103DI9004L090163003.000 Building C**

Customer ID: TETRA77
Customer PO:
Received: 12/11/09 8:50 AM
EMSL Order: 390906944

EMSL Proj:
Analysis Date: 12/18/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
C-1-2-FTG-1-DUP-Adhesive *390906944-0033A*		Black Non-Fibrous Heterogeneous	2%	Cellulose	98%	Non-fibrous (other)	**None Detected**
C-1-2-FTG2-1-Floor Tile *390906944-0034*		Green Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
C-1-2-FTG2-1-Adhesive *390906944-0034A*		Tan Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
C-1-SO-CT2-1 *390906944-0035*		Various Fibrous Heterogeneous	28% 37%	Cellulose Min. Wool	7% 28%	Non-fibrous (other) Perlite	**None Detected**
C-1-SO-CT2-1-DUP *390906944-0036*		Various Fibrous Heterogeneous	28% 37%	Cellulose Min. Wool	7% 28%	Non-fibrous (other) Perlite	**None Detected**
C-EXT-WC-1 *390906944-0037*		Brown Non-Fibrous Heterogeneous			98%	Non-fibrous (other)	**2% Chrysotile**

Analyst(s)

Sue Ferrario (45)

Jeff Siria, Laboratory Manager
or other approved signatory

39090694 4

Asbestos Lab Services Chain of Custody

EMSL Order Number*(Lab Use Only)*:

Bldg C.

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Company: Tetra Tech EMI	**EMSL-Bill to:** ☑ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 415 Oak Street	
City/State/Zip: KANSAS CITY, MO 64106	
Report To (Name): Jeffrey mitchell	**Fax:** 816-410-1748
Telephone: 816-412-1773	**Email Address:** jeffrey.mitchell@tetratech.com
Project Name/Number:	

Please Provide Results: Email | **Purchase Order:** | **State Samples Taken:** MO

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hours ☐ 6 Hours ☐ 24 Hrs ☐ 48 Hrs ☐ 3 Days ☐ 4 Days ☒ 5 Days ☐ 10 Days

**For TEM Air 3 hours/6 hours, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PCM - Air	TEM - Air	TEM- Dust
☐ NIOSH 7400	☐ AHERA 40 CFR, Part 763	☐ Microvac - ASTM D 5755
☐ w/ OSHA 8hr. TWA	☐ NIOSH 7402	☐ Wipe - ASTM D6480
PLM - Bulk (reporting limit)	☐ EPA Level II	☐ Carpet Sonication (EPA 600/J-93/167)
☒ PLM EPA 600/R-93/116 (<1%)	☐ ISO 10312	**Soil/Rock/Vermiculite**
☐ PLM EPA NOB (<1%)	**TEM - Bulk**	☐ PLM CARB 435 - A (0.25% sensitivity)
Point Count	☐ TEM EPA NOB	☐ PLM CARB 435 - B (0.1% sensitivity)
☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ NYS NOB 198.4 (non-friable-NY)	☐ TEM CARB 435 - B (0.1% sensitivity)
Point Count w/Gravimetric	☐ Chatfield SOP	☐ TEM CARB 435 - C (0.01% sensitivity)
☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ TEM Mass Analysis-EPA 600 sec. 2.5	☐ EPA Protocol (Semi-Quantitative)
☐ NYS 198.1 (friable in NY)	**TEM – Water:** EPA 100.2	☐ EPA Protocol (Quantitative)
☐ NYS 198.6 NOB (non-friable-NY)	Fibers >10µm ☐ Waste ☐ Drinking	**Other:**
☐ NIOSH 9002 (<1%)	All Fiber Sizes ☐ Waste ☐ Drinking	☐

☑ **Check For Positive Stop – Clearly Identify Homogenous Group**

Samplers Name: Jeffrey Mitchell **Samplers Signature:** Jeffrey Mitchell

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
C-G-ISS-WC-1	Window Caulking	NA	12-10-09
C-1-2-WC-2	" "		
C-2-10-WC-3	" "		
C-G-BR-VJ-1	Vibration Joint		
C-G-BR-VJ-1-DUP	" "		
C-G-ISS-CH-1	Chalkboard		
C-G-ISS-CH-1-DUP	" "		
C-1-2-CH-2	" "		

Client Sample # (s): - **Total # of Samples:**

Relinquished (Client): Jeffrey Mitchell **Date:** **Time:** 4pm.

Received (Lab): [signature] **Date:** 12/11 **Time:** 850A

Comments/Special Instructions:

103DI9004L090163003.000 Bldg C

4

6944

EMSL ANALYTICAL, INC.

Asbestos Lab Services Chain of Custody

EMSL Order Number*(Lab Use Only)*:

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
C-2-10-CH-3	Chalkboard	NA	12-10-09
C-G-ISS-DW-1	Drywall		
" " -2	" "		
" " -3	" "		
C-G-ISS-JC-1	Joint Compound		
" " -2	" "		
" " -3	" "		
C-G-ISS-FTB-1	Floortile "Brown"		
" " -1-Dup	" "		
C-G-ISS-CA-1	Carpet Adhesive		
C-1-1-FTW-1	Floortile - white		
C-1-SWRM-FTW-2	" "		
C-1-EO-FTW-3	" "		
C-1-1-CT-1	Ceiling tile		
C-1-2-CT-2	" "		
C-2-10-~~CH~~ CT-3	" "	NA	12-10-09

Comments/Special Instructions:

Controlled Document – Asbestos Lab Services COC – A1.0 – 11/23/2009

Page 2 **of** 3 **Pages**

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6944

EMSL ANALYTICAL, INC.

Asbestos Lab Services Chain of Custody

EMSL Order Number*(Lab Use Only)***:**

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
C-2-10-CT-3-DUP	Ceiling Tile	NA	12-10-09
C-G-ST-PL-1	Plaster		
C-1-2-PL-2	" "		
C-2-HW-PL-3	" "		
C-G-ST-PLSC-1	Plaster Skim coat		
C-1-2-PLSC-2	" "		
C-2-HW-PLSC-3	" "		
C-1-2-FTG-1	Floor tile - green		
" "-1-Dup	" "		
C-1-2-FTG2-1	Floor tile - light green		
C-1-SD-CT2-1	Ceiling tile		
" "-1-Dup	" "		
C-EXT-WC-1	Exterior Window Caulking		
		NA	

Comments/Special Instructions:

13

EMSL Analytical, Inc.
3029 S. Jefferson, Saint Louis, MO 63118
Phone: (314) 577-0150 Fax: (314) 776-3313 Email: saintlouislab@emsl.com

Attn: **Jeffrey Mitchell**
Tetra Tech EM, Inc.
415 Oak Street
Kansas City, MO 64106

Fax: (816) 410-1748 Phone: (816) 412-1741

Project: **103DI9004L090163003.000 Building D**

Customer ID: TETRA77
Customer PO:
Received: 12/11/09 8:50 AM
EMSL Order: 390906947
EMSL Proj:
Analysis Date: 12/18/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
D-G-TR-CT-1 *390906947-0001*		Tan Fibrous Heterogeneous	89% Cellulose	11% Non-fibrous (other)	**None Detected**
D-G-TR-CT-1-DUP *390906947-0002*		Tan Fibrous Heterogeneous	89% Cellulose	11% Non-fibrous (other)	**None Detected**
D-1-8-CT-2 *390906947-0003*		Tan Fibrous Heterogeneous	89% Cellulose	11% Non-fibrous (other)	**None Detected**
D-2-5-CT-3 *390906947-0004*		Tan Fibrous Heterogeneous	89% Cellulose	11% Non-fibrous (other)	**None Detected**
D-2-1-CBM-1-Cove Base *390906947-0005*		Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
D-2-1-CBM-1-Adhesive *390906947-0005A*		White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
D-2-C-CBM-1-DUP-Cove Base *390906947-0006*		Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Sue Ferrario (48)

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or other approved signatory

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Phone: (314) 577-0150 Fax: (314) 776-3313 Email: saintlouislab@emsl.com

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415 Oak Street
Kansas City, MO 64106

Fax: (816) 410-1748 Phone: (816) 412-1741
Project: **103DI9004L090163003.000 Building D**

Customer ID: TETRA77
Customer PO:
Received: 12/11/09 8:50 AM
EMSL Order: 390906947

EMSL Proj:
Analysis Date: 12/18/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
D-2-C-CBM-1-DUP-Adhesive *390906947-0006A*		White Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
D-G-ST-PL-1 *390906947-0007*		Various Non-Fibrous Heterogeneous			71% 29%	Non-fibrous (other) Quartz	**None Detected**
D-G-4-PL-2 *390906947-0008*		Various Non-Fibrous Heterogeneous			71% 29%	Non-fibrous (other) Quartz	**None Detected**
D-G-7-PL-3 *390906947-0009*		Various Non-Fibrous Heterogeneous			71% 29%	Non-fibrous (other) Quartz	**None Detected**
D-G-ST-PLSC-1 *390906947-0010*		Cream Non-Fibrous Heterogeneous			61% 39%	Non-fibrous (other) Quartz	**None Detected**
D-2-4-PLSC-2 *390906947-0011*		Cream Non-Fibrous Heterogeneous			61% 39%	Non-fibrous (other) Quartz	**None Detected**
D-2-7-PLSC-3 *390906947-0012*		Cream Non-Fibrous Heterogeneous			61% 39%	Non-fibrous (other) Quartz	**None Detected**

Analyst(s)

Sue Ferrario (48)

Jeff Siria, Laboratory Manager
or other approved signatory

EMSL Analytical, Inc.
3029 S. Jefferson, Saint Louis, MO 63118
Phone: (314) 577-0150 Fax: (314) 776-3313 Email: saintlouislab@emsl.com

Attn: **Jeffrey Mitchell**
Tetra Tech EM, Inc.
415 Oak Street
Kansas City, MO 64106

Fax: (816) 410-1748 Phone: (816) 412-1741
Project: **103DI9004L090163003.000 Building D**

Customer ID: TETRA77
Customer PO:
Received: 12/11/09 8:50 AM
EMSL Order: 390906947
EMSL Proj:
Analysis Date: 12/18/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	Description	Appearance	%	Fibrous	%	Non-Fibrous	% Type
D-G-TR-WC-1 *390906947-0013*		Gray Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
D-1-G-WC-2 *390906947-0014*		Gray Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
D-2-2-WC-3 *390906947-0015*		Gray Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
D-2-BR-DW-1 *390906947-0016*		Various Non-Fibrous Heterogeneous	9%	Cellulose	91%	Non-fibrous (other)	**None Detected**
D-2-BR-DW-2 *390906947-0017*		Various Non-Fibrous Heterogeneous	9%	Cellulose	91%	Non-fibrous (other)	**None Detected**
D-2-BR-DW-3 *390906947-0018*		Various Non-Fibrous Heterogeneous	9%	Cellulose	91%	Non-fibrous (other)	**None Detected**
D-2-BR-JC-1 *390906947-0019*		White Non-Fibrous Heterogeneous			96% 4%	Non-fibrous (other) Mica	**None Detected**

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
D-2-BR-JC-1-DUP *390906947-0020*		White Non-Fibrous Heterogeneous			96% 4%	Non-fibrous (other) Mica	**None Detected**
D-2-BR-JC-2 *390906947-0021*		White Non-Fibrous Heterogeneous			96% 4%	Non-fibrous (other) Mica	**None Detected**
D-2-BR-JC-3 *390906947-0022*		White Non-Fibrous Heterogeneous			96% 4%	Non-fibrous (other) Mica	**None Detected**
D-2-BR-CBM-1-Cove Base *390906947-0023*		Gray Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
D-2-BR-CBM-1-Adhesive *390906947-0023A*		Tan Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
D-2-BR-CBM-1-DUP-Cove Base *390906947-0024*		Gray Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
D-2-BR-CBM-1-DUP-Adhesive *390906947-0024A*		Tan Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
D-G-TR-CH-1 *390906947-0025*		Various Fibrous Heterogeneous	96% Cellulose	4% Non-fibrous (other)	**None Detected**
D-G-CH-2 *390906947-0026*		Various Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
D-2-3-CH-3 *390906947-0027*		Various Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
D-2-S-FTT-1-Floor Tile *390906947-0028*		Tan Non-Fibrous Heterogeneous		91% Non-fibrous (other)	**9% Chrysotile**
D-2-S-FTT-1-Adhesive *390906947-0028A*		Black Non-Fibrous Heterogeneous		91% Non-fibrous (other)	**9% Chrysotile**

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Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.
Samples analyzed by EMSL Analytical, Inc. Saint Louis 3029 S. Jefferson, Saint Louis MO NVLAP Lab Code 200742-0, AIHA IHLAP 102636

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
D-2-S-FTT-1-DUP-Floor Tile *390906947-0029*		Tan Non-Fibrous Heterogeneous		91% Non-fibrous (other)	**9% Chrysotile**
D-2-S-FTT-1-DUP-Adhesive *390906947-0029A*		Black Non-Fibrous Heterogeneous		91% Non-fibrous (other)	**9% Chrysotile**
D-G-HW-PL-1 *390906947-0030*		Various Non-Fibrous Heterogeneous		71% Non-fibrous (other) 29% Quartz	**None Detected**
D-G-HW-PL-3 *390906947-0031*		Various Non-Fibrous Heterogeneous		71% Non-fibrous (other) 29% Quartz	**None Detected**
D-G-HW-PL-3 *390906947-0032*		Various Non-Fibrous Heterogeneous		71% Non-fibrous (other) 29% Quartz	**None Detected**
D-G-HW-PLSC-1 *390906947-0033*		Various Non-Fibrous Heterogeneous		61% Non-fibrous (other) 39% Quartz	**None Detected**
D-1-HW-PLSC-2 *390906947-0034*		Various Non-Fibrous Heterogeneous		61% Non-fibrous (other) 39% Quartz	**None Detected**

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
D-2-HW-PLSC-3 *390906947-0035*		Various Non-Fibrous Heterogeneous			61% 39%	Non-fibrous (other) Quartz	**None Detected**
D-1-HW-WC-1 *390906947-0036*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
D-1-HW-WC-1-DUP *390906947-0037*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
D-1-4-CA-1 *390906947-0038*		Tan Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
D-2-5-FTF-1 *390906947-0039*		Brown Fibrous Heterogeneous	49%	Cellulose	51%	Non-fibrous (other)	**None Detected**
D-EXT-DC-1 *390906947-0040*		Various Non-Fibrous Heterogeneous			98%	Non-fibrous (other)	**2% Chrysotile**
D-EXT-WC-1 *390906947-0041*		Various Non-Fibrous Heterogeneous			98%	Non-fibrous (other)	**2% Chrysotile**

Analyst(s)
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Project: **103DI9004L090163003.000 Building D**

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
D-G-TR-CTM-1 *390906947-0042*		Tan Non-Fibrous Heterogeneous		98% Non-fibrous (other) 2% Quartz	**None Detected**

Analyst(s)

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390906947

Asbestos Lab Services Chain of Custody

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

EMSL ANALYTICAL, INC.

EMSL Order Number *(Lab Use Only)*: Bldg D

EMSL-Bill to: ☑ Same ☐ Different
If Bill to is Different note instructions in Comments**
Third Party Billing requires written authorization from third party

Company: Tetra Tech EMI
Street: 415 Oak Street
City/State/Zip: KANSAS CITY, MO 64106
Report To (Name): Jeffrey mitchell
Fax: 816-410-1748
Telephone: 816-412-1773
Email Address: jeffrey.mitchell@tetratech.com
Project Name/Number:
Please Provide Results: Email
Purchase Order:
State Samples Taken: MO

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hours ☐ 6 Hours ☐ 24 Hrs ☐ 48 Hrs ☐ 3 Days ☐ 4 Days ☒ 5 Days ☐ 10 Days

*For TEM Air 3 hours/6 hours, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

PCM - Air
☐ NIOSH 7400
☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
☒ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
Point Count
☐ 400 (<0.25%) ☐ 1000 (<0.1%)
Point Count w/Gravimetric
☐ 400 (<0.25%) ☐ 1000 (<0.1%)
☐ NYS 198.1 (friable in NY)
☐ NYS 198.6 NOB (non-friable-NY)
☐ NIOSH 9002 (<1%)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☐ ISO 10312

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (non-friable-NY)
☐ Chatfield SOP
☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
Fibers >10µm ☐ Waste ☐ Drinking
All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
☐ Microvac - ASTM D 5755
☐ Wipe - ASTM D6480
☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
☐ PLM CARB 435 - A (0.25% sensitivity)
☐ PLM CARB 435 - B (0.1% sensitivity)
☐ TEM CARB 435 - B (0.1% sensitivity)
☐ TEM CARB 435 - C (0.01% sensitivity)
☐ EPA Protocol (Semi-Quantitative)
☐ EPA Protocol (Quantitative)

Other:
☐

☑ **Check For Positive Stop – Clearly Identify Homogenous Group**

Samplers Name: Jeffrey Mitchell
Samplers Signature: Jeffrey Mitchell

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
D-G-TR-CT-1	Ceiling tile	NA	12-10-09
" "-1-DUP	" "	↓	↓
D-1-8-CT-2	" "		
D-2-S-CT-3	" "		
D-2-1-CBM-1	Cove base mastic		
" " -1-DUP	" "		
D-G-ST-PL-1	Plaster		
D-G-4-PL-2	" "	↓	↓

Client Sample # (s): -
Total # of Samples:

Relinquished (Client): [signature] **Date:** **Time:**
Received (Lab): [signature] **Date:** 12/11 **Time:** 850 A FX

Comments/Special Instructions:
103DI9004L090163003.000
Bldg D

6947

EMSL ANALYTICAL, INC.

Asbestos Lab Services Chain of Custody

EMSL Order Number*(Lab Use Only)***:**

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
D-~~G~~2-7-PL-3	Plaster	NA	12-10-09
D-G-ST-PLSC-1	Plaster Skim Coat		
D-G-4-PLSC-2	" "		
D-2-7-PLSC-3	" "		
D-G-TR-WC-1	Window caulk		
D-1-6-WC-2	" "		
D-2-2-WC-3	" "		
D-2-BR-DW-1	~~Attic~~ Drywall		
" " -2	" "		
" " -3	" "		
D-2-BR-JC-1	Joint compound		
" " -1-DUP	" "		
" " -2	" "		
" " -3	" "		
D-2-BR-CBM-1	Cove Base Mastic		
" " -1-DUP	" "		

Comments/Special Instructions:

390906947

6947

Asbestos Lab Services Chain of Custody

EMSL Order Number*(Lab Use Only)***:**

EMSL ANALYTICAL, INC.

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
D-G-TR-CH-1	Chalkboard	NA	12-10-09
D-1-6-CH-2	" "		
D-2-3-CH-3	" "		
D-2-5-FTT-1	Floor tile - tan		
" " -1-DUP	" "		
D-G-HW-PL-1	Plaster		
D-1-HW-PL-2	" "		
D-2-HW-PL-3	" "		
D-G-HW-PLSC-1	Plaster skim coat		
D-1-HW-~~PL-2~~ PLSC-2	" "		
D-2-HW-PLSC-3	" "		
D-1-HW-WC-1	Window caulking		
" " -1-DUP	" "		
D-1-4-CA-1	Carpet adhesive		
D-2-5-FTF-1	Floor tile - felt		
D-EXT-DC-1	Exterior door caulking		

Comments/Special Instructions:

6941

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Lab Services Chain of Custody

EMSL Order Number *(Lab Use Only)*:

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
D-EXT-WC-1	Exterior Window caulking	NA	12-10-09
D-G-TR-CTM-1	Mastic	" "	" "

Comments/Special Instructions:

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Fax: (816) 410-1748 Phone: (816) 412-1741
Project: **West High Compl**

Customer ID: TETRA77
Customer PO:
Received: 12/08/09 9:10 AM
EMSL Order: 390906840
EMSL Proj:
Analysis Date: 12/15/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos %	Fibrous	%	Non-Fibrous	Asbestos % Type
X-2-CAF-FTC-1-Floor Tile *390906840-0001*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
X-2-CAF-FTC-1-Adhesive *390906840-0001A*		Yellow Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
X-2-CAF-FTG-1-Floor Tile *390906840-0002*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
X-2-CAF-FTG-1-Adhesive *390906840-0002A*		Black Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
X-2-CAF-FTGR-1-Floor Tile *390906840-0003*		Black Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
X-2-CAF-FTGR-1-Adhesive *390906840-0003A*		Black Non-Fibrous Heterogeneous	2%	Cellulose	98%	Non-fibrous (other)	**None Detected**

Analyst(s)

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
X-2-CAF-FTRG-1-Floor Tile *390906840-0004*		Blue Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-2-CAF-FTRG-1-Adhesive *390906840-0004A*		Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-2-CAF-FTT-1-Floor Tile *390906840-0005*		Blue/Green Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-2-CAF-FTT-1-Adhesive *390906840-0005A*		Black Non-Fibrous Heterogeneous		98% Non-fibrous (other) 2% Quartz	**None Detected**
X-2-CAF-FTR-1-Floor Tile *390906840-0006*		Red Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-2-CAF-FTR-1-Adhesive *390906840-0006A*		Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
X-2-CAF-FTP-1-Floor Tile *390906840-0007*		Pink Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-2-CAF-FTP-1-Adhesive *390906840-0007A*		Black Non-Fibrous Heterogeneous		96% Non-fibrous (other) 4% Quartz	**None Detected**
X-2-CAF-FTDDG-1-Floor Tile *390906840-0008*		Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-2-CAF-FTDDG-1-Adhesive *390906840-0008A*		Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-2-CAF-FTB-1-Floor Tile *390906840-0009*		Blue Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-2-CAF-FTB-1-Adhesive *390906840-0009A*		Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
X-2-CAF-FTD-1-DUP-Floor Tile *390906840-0010*		Blue Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-2-CAF-FTD-1-DUP-Adhesive *390906840-0010A*		Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-2-CAF-CMB-1-Cove Base *390906840-0011*		Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-2-CAF-CMB-1-Adhesive *390906840-0011A*		Cream Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-2-CAF-DW-1 *390906840-0012*		Various Non-Fibrous Heterogeneous	13% Cellulose	87% Non-fibrous (other)	**None Detected**
X-2-CAF-DW-2 *390906840-0013*		Various Non-Fibrous Heterogeneous	13% Cellulose	87% Non-fibrous (other)	**None Detected**

Analyst(s)

Sue Ferrario (77)

Jeff Siria, Laboratory Manager
or other approved signatory

EMSL Analytical, Inc.
3029 S. Jefferson, Saint Louis, MO 63118
Phone: (314) 577-0150 Fax: (314) 776-3313 Email: saintlouislab@emsl.com

Attn: **Jeffrey Mitchell**
Tetra Tech EM, Inc.
415 Oak Street
Kansas City, MO 64106

Fax: (816) 410-1748 Phone: (816) 412-1741
Project: **West High Compl**

Customer ID: TETRA77
Customer PO:
Received: 12/08/09 9:10 AM
EMSL Order: 390906840
EMSL Proj:
Analysis Date: 12/15/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos %	Fibrous	%	Non-Fibrous	Asbestos % Type
X--2-CAF-DW-3 *390906840-0014*		Various Non-Fibrous Heterogeneous	13%	Cellulose	87%	Non-fibrous (other)	**None Detected**
X-2-CAF-JC-1 *390906840-0015*		Cream Non-Fibrous Heterogeneous			91% 9%	Non-fibrous (other) Mica	**<1% Chrysotile**
X-2-CAF-JC-2 *390906840-0016*		Cream Non-Fibrous Heterogeneous			91% 9%	Non-fibrous (other) Mica	**<1% Chrysotile**
X-2-CAF-JC-3 *390906840-0017*		Cream Non-Fibrous Heterogeneous			91% 9%	Non-fibrous (other) Mica	**<1% Chrysotile**
X-2-CAF-FRG-1-Floor Tile *390906840-0018*		Green Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
X-2-CAF-FRG-1-Adhesive *390906840-0018A*		Black Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
X-2-CAF-FTPI-1-Floor Tile *390906840-0019*		Various Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
X-2-CAF-FTPI-1-Adhesive *390906840-0019A*		Black Non-Fibrous Heterogeneous		96% Non-fibrous (other) 4% Quartz	**None Detected**
X-2-CAF-PL-1 *390906840-0020*		Cream Non-Fibrous Heterogeneous		71% Non-fibrous (other) 29% Perlite	**None Detected**
X-2-CAF-PL-2 *390906840-0021*		Cream Non-Fibrous Heterogeneous		71% Non-fibrous (other) 29% Perlite	**None Detected**
X-2-CAF-PL-3 *390906840-0022*		Cream Non-Fibrous Heterogeneous		71% Non-fibrous (other) 29% Perlite	**None Detected**
X-2-CAF-PLSC-1 *390906840-0023*		Various Non-Fibrous Heterogeneous		61% Non-fibrous (other) 39% Quartz	**None Detected**
X-2-CAF-PLSC-2 *390906840-0024*		Various Non-Fibrous Heterogeneous		61% Non-fibrous (other) 39% Quartz	**None Detected**
X-2-CAF-PLSC-3 *390906840-0025*		Various Non-Fibrous Heterogeneous		61% Non-fibrous (other) 39% Quartz	**None Detected**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
X-2-CAF-CT-1 *390906840-0026*		Various Fibrous Heterogeneous	28% Cellulose 37% Min. Wool	7% Non-fibrous (other) 28% Perlite	**None Detected**
X-2-HW-CT-1-DUP *390906840-0027*		Various Fibrous Heterogeneous	28% Cellulose 37% Min. Wool	7% Non-fibrous (other) 28% Perlite	**None Detected**
X-2-H-FT0-1-Floor Tile *390906840-0028*		Brown/Red Non-Fibrous Heterogeneous		96% Non-fibrous (other)	**4% Chrysotile**
X-2-H-FT0-1-Adhesive *390906840-0028A*		Black Non-Fibrous Heterogeneous		88% Non-fibrous (other)	**12% Chrysotile**
X-1-HW-CTB-1 *390906840-0029*		Various Fibrous Heterogeneous	85% Cellulose	15% Non-fibrous (other)	**None Detected**
X-1-HW-CTS-1 *390906840-0030*		Various Fibrous Heterogeneous	85% Cellulose	15% Non-fibrous (other)	**None Detected**
X-1-HW-CTAB-1 *390906840-0031*		Brown Non-Fibrous Heterogeneous		98% Non-fibrous (other) 2% Quartz	**None Detected**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
X-2-HW-CTAS-1 *390906840-0032*		Brown Non-Fibrous Heterogeneous		98% Non-fibrous (other) 2% Quartz	**None Detected**
X-1-HW-CBM-1-Cove Base *390906840-0033*		Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-1-HW-CBM-1-Adhesive *390906840-0033A*		Brown Non-Fibrous Heterogeneous		98% Non-fibrous (other) 2% Quartz	**None Detected**
X-1-102-CBM-1-Cove Base *390906840-0034*		Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-1-102-CBM-1-Adhesive *390906840-0034A*		Brown Non-Fibrous Heterogeneous		98% Non-fibrous (other) 2% Quartz	**None Detected**
X-1-102-LIN-T-Linoleum *390906840-0035*		Gray Non-Fibrous Heterogeneous	8% Cellulose 6% Glass	80% Non-fibrous (other) 6% Mica	**None Detected**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
X-1-102-LIN-T-Adhesive *390906840-0035A*		Cream Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-1-102-LIN-I-DUP-Linoleum *390906840-0036*		Gray Non-Fibrous Heterogeneous	8% Cellulose 6% Glass	80% Non-fibrous (other) 6% Mica	**None Detected**
X-1-102-LIN-I-DUP-Adhesive *390906840-0036A*		Various Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-1-106-CBMB-1-Cove Base *390906840-0037*		Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-1-106-CBMB-1-Adhesive *390906840-0037A*		Cream Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-1-104-GA-1 *390906840-0038*		Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

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Customer PO:
Received: 12/08/09 9:10 AM
EMSL Order: 390906840
EMSL Proj:
Analysis Date: 12/15/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
X-1-103-CH-1 *390906840-0039*		Various Fibrous Heterogeneous	94% Cellulose	6% Non-fibrous (other)	**None Detected**
X-1-103-CH-1 *390906840-0040*		Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-2-209-FTBR-1-Floor Tile *390906840-0041*		Various Non-Fibrous Heterogeneous		96% Non-fibrous (other)	**4% Chrysotile**
X-2-209-FTBR-1-Adhesive *390906840-0041A*		Black Non-Fibrous Heterogeneous		89% Non-fibrous (other) 2% Quartz	**9% Chrysotile**
X-1-HW-FTRO-1-Floor Tile *390906840-0042*		Brown/Red Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-1-HW-FTRO-1-Adhesive *390906840-0042A*		Black Non-Fibrous Heterogeneous		96% Non-fibrous (other) 4% Quartz	**None Detected**

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EMSL Proj:
Analysis Date: 12/15/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
X-1-105-FTT-1-Floor Tile *390906840-0043*		Tan Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-1-105-FTT-1-Adhesive *390906840-0043A*		Various Non-Fibrous Heterogeneous		96% Non-fibrous (other) 4% Quartz	**None Detected**
X-1-104-FTB-1-Floor Tile *390906840-0044*		Various Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-1-104-FTB-1-Adhesive *390906840-0044A*		Black Non-Fibrous Heterogeneous		88% Non-fibrous (other)	**12% Chrysotile**
X-1-104-FTB-1-DUP-Floor Tile *390906840-0045*		Various Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-1-104-FTB-1-DUP-Adhesive *390906840-0045A*		Black Non-Fibrous Heterogeneous		88% Non-fibrous (other)	**12% Chrysotile**

Analyst(s)

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Customer ID: TETRA77
Customer PO:
Received: 12/08/09 9:10 AM
EMSL Order: 390906840
EMSL Proj:
Analysis Date: 12/15/2009

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
X-EXT-WG-1 *390906840-0046*		Various Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-EXT-WC-1 *390906840-0047*		Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-EXT-WC-1-1 *390906840-0048*		Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
X-EXT-RS-1 *390906840-0049*		Various Non-Fibrous Heterogeneous	19% Synthetic	81% Non-fibrous (other)	**None Detected**
X-EXT-RC-1 *390906840-0050*		Various Non-Fibrous Heterogeneous	4% Cellulose	96% Non-fibrous (other)	**None Detected**
X-1-100-SU-1 *390906840-0051*		Gray Non-Fibrous Heterogeneous	19% Cellulose	77% Non-fibrous (other) 4% Mica	**None Detected**
X-2-CAF-CBMT-DUP-Cove Base *390906840-0052*		Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

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EMSL Proj:
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
X-2-CAF-CBMT-DUP-Adhesive *390906840-0052A*		Cream Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)
Sue Ferrario (77)

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Attn: **Jeffrey Mitchell**
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415 Oak Street
Kansas City, MO 64106

Fax: (816) 410-1748 Phone: (816) 412-1741
Project: **West High Comp Order # 390906840**

Customer ID: TETRA77
Customer PO:
Received: 12/16/09 9:15 AM
EMSL Order: 390907030

EMSL Proj:
Analysis Date: 12/23/2009

Test Report: Asbestos Analysis of Bulk Material via EPA 600/R-93/116. Quantitation using 400 Point Count Procedure.

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
X-2-CAF-JC1 *390907030-0001*		Cream Non-Fibrous Heterogeneous		99.75% Non-fibrous (other)	**0.25% Chrysotile**
X-2-CAF-JC-2 *390907030-0002*		Cream Non-Fibrous Heterogeneous		99.75% Non-fibrous (other)	**0.25% Chrysotile**
X-2-CAF-JC-3 *390907030-0003*		Cream Non-Fibrous Heterogeneous		99.75% Non-fibrous (other)	**0.25% Chrysotile**

Analyst(s)
Sue Ferrario (3)

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390906840

EMSL ANALYTICAL, INC.

Asbestos Lab Services Chain of Custody

EMSL Order Number*(Lab Use Only)*:

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Company: Tetra Tech EMI	**EMSL-Bill to:** ☑ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 415 Oak Street	
City/State/Zip: KANSAS CITY, MO 64106	
Report To (Name): Jeffrey mitchell	**Fax:** 816-410-1748
Telephone: 816-412-1773	**Email Address:** jeffrey.mitchell@tetratech.com
Project Name/Number: West High Compl	

Please Provide Results: Email | **Purchase Order:** | **State Samples Taken:** MO

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hours ☐ 6 Hours ☐ 24 Hrs ☐ 48 Hrs ☐ 3 Days ☐ 4 Days ☒ 5 Days ☐ 10 Days

**For TEM Air 3 hours/6 hours, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PCM - Air	TEM - Air	TEM- Dust
☐ NIOSH 7400	☐ AHERA 40 CFR, Part 763	☐ Microvac - ASTM D 5755
☐ w/ OSHA 8hr. TWA	☐ NIOSH 7402	☐ Wipe - ASTM D6480
PLM - Bulk (reporting limit)	☐ EPA Level II	☐ Carpet Sonication (EPA 600/J-93/167)
☒ PLM EPA 600/R-93/116 (<1%)	☐ ISO 10312	**Soil/Rock/Vermiculite**
☐ PLM EPA NOB (<1%)	**TEM - Bulk**	☐ PLM CARB 435 - A (0.25% sensitivity)
Point Count	☐ TEM EPA NOB	☐ PLM CARB 435 - B (0.1% sensitivity)
☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ NYS NOB 198.4 (non-friable-NY)	☐ TEM CARB 435 - B (0.1% sensitivity)
Point Count w/Gravimetric	☐ Chatfield SOP	☐ TEM CARB 435 - C (0.01% sensitivity)
☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ TEM Mass Analysis-EPA 600 sec. 2.5	☐ EPA Protocol (Semi-Quantitative)
☐ NYS 198.1 (friable in NY)	**TEM – Water:** EPA 100.2	☐ EPA Protocol (Quantitative)
☐ NYS 198.6 NOB (non-friable-NY)	Fibers >10µm ☐ Waste ☐ Drinking	**Other:**
☐ NIOSH 9002 (<1%)	All Fiber Sizes ☐ Waste ☐ Drinking	☐

☑ **Check For Positive Stop – Clearly Identify Homogenous Group**

Samplers Name: Jeffrey Mitchell **Samplers Signature:** Jeffrey Mitchell

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
X-2-CAF-FTC-1	Floor Tile; Cream	N/A	12/7/09
X-2-CAF-FTG-1	Floor Tile; Gray		
X-2-CAF-FTGR-1	Floor tile; Green		
X-2-CAF-FTDGR-1	Floor tile; Dark Gray		
X-2-CAF-FTT-1	Floor tile; Teal		
X-2-CAF-FTR-1	Floor tile; ~~[illegible]~~ Red		
X-2-CAF-FTP-1	Floor tile; Purple		
X-2-CAF-FTDDG-1	Floor tile; Really dark gray		

Client Sample # (s): **Total # of Samples:**

Relinquished (Client): Jeffrey Mitchell **Date:** 12/7/09 **Time:** 4pm

Received (Lab): [signature] **Date:** 12/8 **Time:** 910A

Comments/Special Instructions:

PO #1030I9004L090163.003.000

6840

Asbestos Lab Services Chain of Custody

EMSL Order Number*(Lab Use Only)***:**

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
X-2-CAF-FTB-1	Floor tile; Blue	NA	12-7-09
X-2-CAF-FTD-1-DUP	" " Duplicate		
X-2-CAF-CBM-1	Cove Base Mastic		
X-2-CAF-DW-1	Dry wall; White		
X-2-CAF-DW-2	" "		
X-2-CAF-DW-3	" "		
X-2-CAF-JC-1	Joint compound; White		
X-2-CAF-JC-2	" "		
X-2-CAF-JC-3	" "		
X-2-CAF-FTLG-1	Floortile; light green		
X-2-CAF-FTPI-1	Floor tile; Pink		
X-2-CAF-PL-1	Plaster; White		
X-2-CAF-PL-2	" "		
X-2-CAF-PL-3	" "		
X-2-CAF-PLSC-1	Plaster; ~~Skin C~~ Skin Coat		
X-2-CAF-PLSC-2	" "		

Comments/Special Instructions:

Controlled Document – Asbestos Lab Services COC – A1.0 – 11/23/2009

Page 2 of 4 Pages

6840

Asbestos Lab Services Chain of Custody

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Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
X2-CAF-PLSC-5	Plaster Skim coat	N/A	12-7-09
X-2-CAF-CT-1	Ceiling tile; white		
X-2-CAF-CT-1-DUP	" "		
X-2-H-FTO-1	Floortile; Orange		
X-1-HW-CTB-1	Ceiling tile; large holes		
X-2-HW-CTS-1	Ceiling tile; Small holes		
X-1-HW-CTAB-1	Ceiling tile adhesive; large holes		
X-2-HW-CTAS-1	Ceiling tile adhesive; small holes		
X-1-HW-CBM-1	Cove Base Mastic; hallway		
X-1-102-CBM-1	Cove Base Mastic; Brown		
X-1-102-LIN-T	Gray Linoleum; RM 102 Bathrooms		
X-1-102-LIN-1-Dup	" " "		
X-1-106-CBMB-1	Cove Base Mastic; Black		
X-1-104-GA-T	Glaze		
X-1-103-CH-T	Chalkboard		
X-1-104-SU-1	Sink undercoat; black		

Comments/Special Instructions:

6840

6840

Asbestos Lab Services Chain of Custody

EMSL Order Number*(Lab Use Only)***:**

EMSL ANALYTICAL, INC.

St. Louis, MO
3025-3029 S. Jefferson
St. Louis, MO 63118
PHONE: (314)-577-0150
FAX: (314)-776-3313

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
X-2-209-FTBR-1	Floor tile; Brown	NA	12-7-09
X-1-HW-FTRED-1	Floor tile; Red		
X-1-105-FTT-1	Floor tile; tan		
X-1-104-FTB-1	Floor tile; Beige		
X-1-104-FTB-1-DUP	" "		
X-EXT-WG-1	Exterior Window Glaze		
X-EXT-WC-1	Window caulk; East Side		
X-EXT-WC1-1	Window Caulk; South Side		
X-EXT-RS-1	Roof Shingle (Roll)		
X-EXT-RC-1	Roof Caulk		
X-1-100-SU-1	Sink Undercoat; Gray		
X-2-CAF-CBM-Dup	Cove Base Mastic		

Comments/Special Instructions:

APPENDIX C

LABORATORY REPORTS AND CHAIN-OF-CUSTODY FORMS FOR LBP SAMPLES

QuanTEM® LABORATORIES

2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Tetra Tech EM, Inc.
415 Oak Street
Kansas City, MO 64106

Re: QuanTEM ID 177626

QuanTEM appreciates the opportunity to provide analytical testing services to you. Attached are your reports and other supporting documentation for the above referenced project.

Thank you for making QuanTEM your lab of choice. If you have any question concerning this or other reports please feel free to contact us at 800-822-1650.

We continually work to improve our service. Help us out by providing feed back on your experience at www.QuanTEM.com. Click on Service Survey and fill out the form. We look forward to hearing from you.

Respectfully,
QuanTEM Laboratories, LLC.

LABORATORIES

2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Environmental Chemistry Analysis Report

QuanTEM Set ID:	177626	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/18/09		
Received By:	Barbara Holder		
Date Sampled:			
Time Sampled:		**Acct. No.:**	B229
Analyst:	EC	**Project:**	West High Complex
Date of Report:	11/23/2009	**Location:**	1810-1829 Madison, KCMO
		Project No.:	103D19004L090163005

AIHA ID: 101352

QuanTEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
001	LB-A-1-S-1	Paint	Lead	0.206	0.007	mg/cm²	11/23/09 14:10	EPA 7420
002	LB-A-2-ST-1	Paint	Lead	0.021	0.003	mg/cm²	11/23/09 14:10	EPA 7420
003	LB-A-3-KIT-1	Paint	Lead	<0.004	0.004	mg/cm²	11/23/09 14:10	EPA 7420
004	LB-B-EXT-1-1	Paint	Lead	7.047	0.009	mg/cm²	11/23/09 14:10	EPA 7420
005	LB-B-LBG-HW-1	Paint	Lead	0.273	0.009	mg/cm²	11/23/09 14:10	EPA 7420
006	LB-B-G-BAL-1	Paint	Lead	0.158	0.005	mg/cm²	11/23/09 14:10	EPA 7420
007	LB-B-POOL-1	Paint	Lead	5.593	0.011	mg/cm²	11/23/09 14:10	EPA 7420
008	LB-B-NS-1	Paint	Lead	3.036	0.018	mg/cm²	11/23/09 14:10	EPA 7420
009	LB-B-1-HW-1	Paint	Lead	5.480	0.014	mg/cm²	11/23/09 14:10	EPA 7420
010	LB-B-1-AUD-1	Paint	Lead	5.870	0.012	mg/cm²	11/23/09 14:10	EPA 7420
011	LB-B-2-HW-1	Paint	Lead	3.142	0.015	mg/cm²	11/23/09 14:10	EPA 7420
012	LB-B-3-310-1	Paint	Lead	6.523	0.010	mg/cm²	11/23/09 14:10	EPA 7420

Note: Sample results have not been corrected for blank values.

This report applies only to the standards or procedures indicated and to the specific samples tested. It is not indicative of the qualities of apparently identical or similar products or procedures, nor does it represent an ongoing assurance program unless so noted. These reports are for the exclusive use of the client and are not to be reproduced without specific written permission.

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

Wipe materials must meet ASTM E1792 criteria. Method detection limits and resultant reporting limits may not be valid for non-ASTM E1792 wipe material.

LABORATORIES

2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Environmental Chemistry Analysis Report

QuanTEM Set ID: 177626
Date Received: 11/18/09
Received By: Barbara Holder
Date Sampled:
Time Sampled:
Analyst: EC
Date of Report: 11/23/2009

AIHA ID: 101352

Client: Tetra Tech EM, Inc.
415 Oak Street
Kansas City, MO 64106

Acct. No.: B229

Project: West High Complex
Location: 1810-1829 Madison, KCMO
Project No.: 103D19004L090163005

QuanTEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
013	LB-C-1-1-1	Paint	Lead	0.064	0.014	mg/cm²	11/23/09 14:10	EPA 7420
014	LB-C-2-HW-1	Paint	Lead	24.733	0.021	mg/cm²	11/23/09 14:10	EPA 7420
015	LB-C-2-10-1	Paint	Lead	0.254	0.006	mg/cm²	11/23/09 14:10	EPA 7420
016	LB-D-G-SW-1	Paint	Lead	29.256	0.010	mg/cm²	11/23/09 14:10	EPA 7420
017	LB-D-2-5-1	Paint	Lead	0.200	0.012	mg/cm²	11/23/09 14:10	EPA 7420
018	LB-D-2-7-1	Paint	Lead	0.253	0.009	mg/cm²	11/23/09 14:10	EPA 7420
019	LB-D-1-8-1	Paint	Lead	0.243	0.018	mg/cm²	11/23/09 14:10	EPA 7420
020	LB-X-2-CAF-1	Paint	Lead	0.013	0.006	mg/cm²	11/23/09 14:10	EPA 7420

Authorized Signature:

Eric Caves, Analyst

Note: Sample results have not been corrected for blank values.

This report applies only to the standards or procedures indicated and to the specific samples tested. It is not indicative of the qualities of apparently identical or similar products or procedures, nor does it represent an ongoing assurance program unless so noted. These reports are for the exclusive use of the client and are not to be reproduced without specific written permission.

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

Wipe materials must meet ASTM E1792 criteria. Method detection limits and resultant reporting limits may not be valid for non-ASTM E1792 wipe material.

Supplemental Report
QAQC Results

QA ID: 7197
Test: Lead

Date: 11/23/2009
Matrix: Paint

Lab Number: 177626
Approved By: Eric Caves
Date Approved: 11/23/2009

Notes:

Blank Data:

Type of Blank	Blank Value
Initial	0
Continuing	0
Final	0

Standards Data:

Standard	Low Limit	Obtained	High Limit
CCV	0.225	0.249	0.275
FCV	0.225	0.248	0.275
ICV	0.0225	0.0264	0.0275
RLVS	0.0096	0.0114	0.0144

Duplicate Data:

Sample Number	Result	Duplicate	% RPD
177626-020	0.013	0.014	1.3
177711-002	0.000	0.000	#Num!

Recovery Data:

Sample Number	Result	Spike Level	Result + Spike	% Recovery	Dup. Result + Spike	% Dup. Recovery	% Spike RPD
LCSLCSP 1	0.000	0.035	0.034	97.4	0.036	102.6	5.1
LCSLCSP 2	0.000	0.035	0.036	104.0	0.034	96.6	7.4
177626-020	0.013	0.045	0.061	104.1			
177711-002	0.000	0.097	0.096	98.4			

Authorized Signature: ______________________

Eric Caves, Analyst

Page 1 of 2

QUANTEM LABORATORIES

Lead Chain-of-Custody

2033 Heritage Park Drive, Oklahoma City, OK 73120-7502
(800) 822-1650 (405) 755-7272 Fax: (405) 755-2058
www.quantem.com

This Box for Lab Use Only
Lab No. 177626
Accept Reject

Company Name: Tetra Tech, Inc Acct.#:
Project Name: West High Complex
Project Location: 1810-1829 Madison, KCMO
Project Number: 103D19004L09016 3005

	Sample Number	Sample Description	Volume of Area	Sample Matrix	Analysis: Pb	PPM	Wt %	mg / kg	mg / l	ug / sq. ft.	ug / cu M.	mg / cm²
1	LB-A-1-S-1	cream paint	4in²	B	X							X
2	LB-A-2-ST-1	blue paint										
3	LB-A-3-KIT-1	White paint										
4	LB-B-Ext-1-1	Gray paint										
5	LB-B-LBG-HW-1	Cream/yellow paint										
6	LB-B-G-BAL-1	White paint										
7	LB-B-Pool-1	Gray paint										
8	LB-B-NS-1	Blue paint										
9	LB-B-1-HW-1	Cream paint										
10	LB-B-1-AUD-1	Cream/white paint										
11	LB-B-2-HW-1	gray paint										
12	LB-B-3-310-1	Cream paint										
13	LB-C-1-1-1	pink paint										
14	LB-C-2-HW-1	Blue paint										
15	LB-C-2-10-1	Orange/green										

Sample Matrix Codes
- A - Soil
- B - Paint Chips
- C - Surface / Dust Wipes
- D - Bulk Miscellaneous
- E - Air Cassette
- F - Other (SPECIFY)

LEGAL DOCUMENT
Please Print Legibly

TURNAROUND TIME
- Same Day
- 24 Hour
- 3-Day
- X 5-day

CONTACT INFORMATION
Name: J. Mitchell
Phone: 8164121773.
Report Results VIA (CHOOSE ONE):
- FAX:
- X QuanTEM WebSite
- E-Mail:

Relinquished By	Date/Time	VIA	Received By	Date/Time	Date Sampled	Sampled By
[signature]	11-17-09	FedEx	[signature] 10^{00}	11-18-09	11-16-09	J. Mitchell
Relinquished By	Date/Time	VIA	Received By	Date/Time		

Saturday FedEx Shipping - CALL TO SCHEDULE
Use this address for **Saturday FedEx only:** 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517
Mark Package **'HOLD FOR SATURDAY PICKUP'**

Revision: May 2008

QUANTEM LABORATORIES

Lead Chain-of-Custody

2033 Heritage Park Drive, Oklahoma City, OK 73120-7502
(800) 822-1650 (405) 755-7272 Fax: (405) 755-2058
www.quantem.com

This Box for Lab Use Only
Lab No. 177426
Accept Reject

Company Name: Tetra Tech Inc. Acct.#: ______ Project Name: West High Complex

Project Location: 1810-1829 Madison, KCMO Project Number: 103D1900YL090163005

	Sample Number	Sample Description	Volume of Area	Sample Matrix	Pb				PPM	Wt %	mg / kg	mg / l	ug / sq. ft.	ug / cu. M.	mg / cm²
16	LB-D-G-SW-1	yellow paint	4 in²	B	X										X
17	LB-D-2-5-1	blue paint													
18	LB-D-2-7-1	cream paint													
19	LB-D-1-8-1	pink paint													
20	LB-X-2-CAF-1	white paint													

R. Norton job is complete 11/17/09

Sample Matrix Codes
- A - Soil
- B - Paint Chips
- C - Surface / Dust Wipes
- D - Bulk Miscellaneous
- E - Air Cassette
- F - Other (SPECIFY)

LEGAL DOCUMENT
Please Print Legibly

TURNAROUND TIME
- [ ] Same Day
- [ ] 24 Hour
- [ ] 3-Day
- [x] 5-day

CONTACT INFORMATION
Name: J. Mitchell.
Phone:
Report Results VIA (CHOOSE ONE)
- [ ] FAX:
- [x] QuanTEM WebSite
- [ ] E-Mail

Relinquished By	Date/Time	VIA	Received By	Date/Time	Date Sampled	Sampled By
R Norton	11-17-09	FedEx	[illegible] 10	11-18-09	11-16-09	J. Mitchell
Relinquished By	Date/Time	VIA	Received By	Date/Time		

Saturday FedEx Shipping - CALL TO SCHEDULE
Use this address for **Saturday FedEx only:** 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517
Mark Package **'HOLD FOR SATURDAY PICKUP'**

Revision: May 2006

APPENDIX D

LABORATORY REPORTS AND CHAIN-OF-CUSTODY FORMS FOR PCB SAMPLES

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

December 21, 2009 6:16:10PM

Client: Tetra Tech EMI (8164)
415 Oak
Kansas City, MO 64106
Attn: Jeffrey Mitchell

Work Order: NSL1547
Project Name: West High Complex
Project Nbr: [none]
P/O Nbr: 103DI9004L090163003.000
Date Received: 12/14/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
AP-3-HW-WC-1	NSL1547-01	12/10/09 00:01
AP-EXT-WC-1	NSL1547-02	12/10/09 00:01
BP-EXT-WC-1	NSL1547-03	12/10/09 00:01
BP-EXT-DC-1	NSL1547-04	12/10/09 00:01
CP-G-BR-WC-1	NSL1547-05	12/10/09 00:01
CP-1-1-WC-2	NSL1547-06	12/10/09 00:01
CP-2-11-WC-3	NSL1547-07	12/10/09 00:01
CP-EXT-WC-1	NSL1547-08	12/10/09 00:01
DP-EXT-WC-1	NSL1547-09	12/10/09 00:01
DP-EXT-DC-1	NSL1547-10	12/10/09 00:01
DP-G-TR-WC-1	NSL1547-11	12/10/09 00:01
DP-1-6-WC-2	NSL1547-12	12/10/09 00:01
DP-2-4-WC-3	NSL1547-13	12/10/09 00:01
XP-EXT-WC-1	NSL1547-14	12/10/09 00:01
XP-EXT-WC1-1	NSL1547-15	12/10/09 00:01

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

Kansas Certification Number: E-10229

The Chain(s) of Custody, 3 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Lisa M. Headley

Lisa Headley

Senior Project Manager

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Tetra Tech EMI (8164)	Work Order:	NSL1547
	415 Oak	Project Name:	West High Complex
	Kansas City, MO 64106	Project Number:	[none]
Attn	Jeffrey Mitchell	Received:	12/14/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSL1547-01 (AP-3-HW-WC-1 - Misc. Solid) Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082								
PCB-1016	ND		mg/kg	18.5	50	12/21/09 15:07	SW846 8082	9123022
PCB-1221	ND		mg/kg	18.5	50	12/21/09 15:07	SW846 8082	9123022
PCB-1232	ND		mg/kg	18.5	50	12/21/09 15:07	SW846 8082	9123022
PCB-1242	ND		mg/kg	18.5	50	12/21/09 15:07	SW846 8082	9123022
PCB-1248	ND		mg/kg	18.5	50	12/21/09 15:07	SW846 8082	9123022
PCB-1254	ND		mg/kg	18.5	50	12/21/09 15:07	SW846 8082	9123022
PCB-1260	**284**		mg/kg	18.5	50	12/21/09 15:07	SW846 8082	9123022
Surr: Tetrachloro-meta-xylene (19-147%)	*100 %*					*12/21/09 15:07*	*SW846 8082*	*9123022*
Surr: Decachlorobiphenyl (20-150%)	*200 %*	*Z5*				*12/21/09 15:07*	*SW846 8082*	*9123022*
Sample ID: NSL1547-02 (AP-EXT-WC-1 - Misc. Solid) Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082								
PCB-1016	ND	RL1	mg/kg	2.04	10	12/21/09 13:03	SW846 8082	9123022
PCB-1221	ND	RL1	mg/kg	2.04	10	12/21/09 13:03	SW846 8082	9123022
PCB-1232	ND	RL1	mg/kg	2.04	10	12/21/09 13:03	SW846 8082	9123022
PCB-1242	ND	RL1	mg/kg	2.04	10	12/21/09 13:03	SW846 8082	9123022
PCB-1248	ND	RL1	mg/kg	2.04	10	12/21/09 13:03	SW846 8082	9123022
PCB-1254	ND	RL1	mg/kg	2.04	10	12/21/09 13:03	SW846 8082	9123022
PCB-1260	ND	RL1	mg/kg	2.04	10	12/21/09 13:03	SW846 8082	9123022
Surr: Tetrachloro-meta-xylene (19-147%)	*100 %*					*12/21/09 13:03*	*SW846 8082*	*9123022*
Surr: Decachlorobiphenyl (20-150%)	*80 %*					*12/21/09 13:03*	*SW846 8082*	*9123022*
Sample ID: NSL1547-03 (BP-EXT-WC-1 - Misc. Solid) Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082								
PCB-1016	ND		mg/kg	0.113	1	12/19/09 18:03	SW846 8082	9123022
PCB-1221	ND		mg/kg	0.113	1	12/19/09 18:03	SW846 8082	9123022
PCB-1232	ND		mg/kg	0.113	1	12/19/09 18:03	SW846 8082	9123022
PCB-1242	ND		mg/kg	0.113	1	12/19/09 18:03	SW846 8082	9123022
PCB-1248	ND		mg/kg	0.113	1	12/19/09 18:03	SW846 8082	9123022
PCB-1254	ND		mg/kg	0.113	1	12/19/09 18:03	SW846 8082	9123022
PCB-1260	ND		mg/kg	0.113	1	12/19/09 18:03	SW846 8082	9123022
Surr: Tetrachloro-meta-xylene (19-147%)	*98 %*					*12/19/09 18:03*	*SW846 8082*	*9123022*
Surr: Decachlorobiphenyl (20-150%)	*100 %*					*12/19/09 18:03*	*SW846 8082*	*9123022*
Sample ID: NSL1547-04 (BP-EXT-DC-1 - Misc. Solid) Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082								
PCB-1016	ND		mg/kg	0.0355	1	12/19/09 18:25	SW846 8082	9123022
PCB-1221	ND		mg/kg	0.0355	1	12/19/09 18:25	SW846 8082	9123022
PCB-1232	ND		mg/kg	0.0355	1	12/19/09 18:25	SW846 8082	9123022
PCB-1242	ND		mg/kg	0.0355	1	12/19/09 18:25	SW846 8082	9123022
PCB-1248	ND		mg/kg	0.0355	1	12/19/09 18:25	SW846 8082	9123022
PCB-1254	**0.139**		mg/kg	0.0355	1	12/19/09 18:25	SW846 8082	9123022
PCB-1260	ND		mg/kg	0.0355	1	12/19/09 18:25	SW846 8082	9123022
Surr: Tetrachloro-meta-xylene (19-147%)	*102 %*					*12/19/09 18:25*	*SW846 8082*	*9123022*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Tetra Tech EMI (8164)	Work Order:	NSL1547
	415 Oak	Project Name:	West High Complex
	Kansas City, MO 64106	Project Number:	[none]
Attn	Jeffrey Mitchell	Received:	12/14/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSL1547-04 (BP-EXT-DC-1 - Misc. Solid) - cont. Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082 - cont.								
Surr: Decachlorobiphenyl (20-150%)	*102 %*					*12/19/09 18:25*	*SW846 8082*	*9123022*
Sample ID: NSL1547-05 (CP-G-BR-WC-1 - Misc. Solid) Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082								
PCB-1016	ND		mg/kg	0.832	1	12/19/09 18:47	SW846 8082	9123022
PCB-1221	ND		mg/kg	0.832	1	12/19/09 18:47	SW846 8082	9123022
PCB-1232	ND		mg/kg	0.832	1	12/19/09 18:47	SW846 8082	9123022
PCB-1242	ND		mg/kg	0.832	1	12/19/09 18:47	SW846 8082	9123022
PCB-1248	ND		mg/kg	0.832	1	12/19/09 18:47	SW846 8082	9123022
PCB-1254	**2.10**		mg/kg	0.832	1	12/19/09 18:47	SW846 8082	9123022
PCB-1260	ND		mg/kg	0.832	1	12/19/09 18:47	SW846 8082	9123022
Surr: Tetrachloro-meta-xylene (19-147%)	*100 %*					*12/19/09 18:47*	*SW846 8082*	*9123022*
Surr: Decachlorobiphenyl (20-150%)	*90 %*					*12/19/09 18:47*	*SW846 8082*	*9123022*
Sample ID: NSL1547-06 (CP-1-1-WC-2 - Misc. Solid) Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082								
PCB-1016	ND		mg/kg	0.632	1	12/19/09 19:08	SW846 8082	9123022
PCB-1221	ND		mg/kg	0.632	1	12/19/09 19:08	SW846 8082	9123022
PCB-1232	ND		mg/kg	0.632	1	12/19/09 19:08	SW846 8082	9123022
PCB-1242	ND		mg/kg	0.632	1	12/19/09 19:08	SW846 8082	9123022
PCB-1248	ND		mg/kg	0.632	1	12/19/09 19:08	SW846 8082	9123022
PCB-1254	**2.28**		mg/kg	0.632	1	12/19/09 19:08	SW846 8082	9123022
PCB-1260	ND		mg/kg	0.632	1	12/19/09 19:08	SW846 8082	9123022
Surr: Tetrachloro-meta-xylene (19-147%)	*110 %*					*12/19/09 19:08*	*SW846 8082*	*9123022*
Surr: Decachlorobiphenyl (20-150%)	*98 %*					*12/19/09 19:08*	*SW846 8082*	*9123022*
Sample ID: NSL1547-07 (CP-2-11-WC-3 - Misc. Solid) Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082								
PCB-1016	ND		mg/kg	0.942	1	12/19/09 19:30	SW846 8082	9123022
PCB-1221	ND		mg/kg	0.942	1	12/19/09 19:30	SW846 8082	9123022
PCB-1232	ND		mg/kg	0.942	1	12/19/09 19:30	SW846 8082	9123022
PCB-1242	ND		mg/kg	0.942	1	12/19/09 19:30	SW846 8082	9123022
PCB-1248	ND		mg/kg	0.942	1	12/19/09 19:30	SW846 8082	9123022
PCB-1254	**2.03**		mg/kg	0.942	1	12/19/09 19:30	SW846 8082	9123022
PCB-1260	ND		mg/kg	0.942	1	12/19/09 19:30	SW846 8082	9123022
Surr: Tetrachloro-meta-xylene (19-147%)	*110 %*					*12/19/09 19:30*	*SW846 8082*	*9123022*
Surr: Decachlorobiphenyl (20-150%)	*100 %*					*12/19/09 19:30*	*SW846 8082*	*9123022*
Sample ID: NSL1547-08 (CP-EXT-WC-1 - Misc. Solid) Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082								
PCB-1016	ND		mg/kg	0.374	1	12/19/09 20:35	SW846 8082	9123022
PCB-1221	ND		mg/kg	0.374	1	12/19/09 20:35	SW846 8082	9123022
PCB-1232	ND		mg/kg	0.374	1	12/19/09 20:35	SW846 8082	9123022
PCB-1242	ND		mg/kg	0.374	1	12/19/09 20:35	SW846 8082	9123022

TestAmerica
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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Tetra Tech EMI (8164)	Work Order:	NSL1547
	415 Oak	Project Name:	West High Complex
	Kansas City, MO 64106	Project Number:	[none]
Attn	Jeffrey Mitchell	Received:	12/14/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSL1547-08 (CP-EXT-WC-1 - Misc. Solid) - cont. Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082 - cont.								
PCB-1248	ND		mg/kg	0.374	1	12/19/09 20:35	SW846 8082	9123022
PCB-1254	ND		mg/kg	0.374	1	12/19/09 20:35	SW846 8082	9123022
PCB-1260	ND		mg/kg	0.374	1	12/19/09 20:35	SW846 8082	9123022
Surr: Tetrachloro-meta-xylene (19-147%)	*90 %*					*12/19/09 20:35*	*SW846 8082*	*9123022*
Surr: Decachlorobiphenyl (20-150%)	*78 %*					*12/19/09 20:35*	*SW846 8082*	*9123022*
Sample ID: NSL1547-09 (DP-EXT-WC-1 - Misc. Solid) Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082								
PCB-1016	ND	RL1	mg/kg	236	250	12/21/09 14:05	SW846 8082	9123022
PCB-1221	ND	RL1	mg/kg	236	250	12/21/09 14:05	SW846 8082	9123022
PCB-1232	ND	RL1	mg/kg	236	250	12/21/09 14:05	SW846 8082	9123022
PCB-1242	ND	RL1	mg/kg	236	250	12/21/09 14:05	SW846 8082	9123022
PCB-1248	ND	RL1	mg/kg	236	250	12/21/09 14:05	SW846 8082	9123022
PCB-1254	ND	RL1	mg/kg	236	250	12/21/09 14:05	SW846 8082	9123022
PCB-1260	**245**	RL1	mg/kg	236	250	12/21/09 14:05	SW846 8082	9123022
Surr: Tetrachloro-meta-xylene (19-147%)	*	*Z3*				*12/21/09 14:05*	*SW846 8082*	*9123022*
Surr: Decachlorobiphenyl (20-150%)	*500 %*	*Z3*				*12/21/09 14:05*	*SW846 8082*	*9123022*
Sample ID: NSL1547-10 (DP-EXT-DC-1 - Misc. Solid) Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082								
PCB-1016	ND		mg/kg	0.780	1	12/19/09 21:18	SW846 8082	9123022
PCB-1221	ND		mg/kg	0.780	1	12/19/09 21:18	SW846 8082	9123022
PCB-1232	ND		mg/kg	0.780	1	12/19/09 21:18	SW846 8082	9123022
PCB-1242	ND		mg/kg	0.780	1	12/19/09 21:18	SW846 8082	9123022
PCB-1248	ND		mg/kg	0.780	1	12/19/09 21:18	SW846 8082	9123022
PCB-1254	ND		mg/kg	0.780	1	12/19/09 21:18	SW846 8082	9123022
PCB-1260	ND		mg/kg	0.780	1	12/19/09 21:18	SW846 8082	9123022
Surr: Tetrachloro-meta-xylene (19-147%)	*94 %*					*12/19/09 21:18*	*SW846 8082*	*9123022*
Surr: Decachlorobiphenyl (20-150%)	*82 %*					*12/19/09 21:18*	*SW846 8082*	*9123022*
Sample ID: NSL1547-11 (DP-G-TR-WC-1 - Misc. Solid) Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082								
PCB-1016	ND		mg/kg	1.15	1	12/19/09 21:40	SW846 8082	9123022
PCB-1221	ND		mg/kg	1.15	1	12/19/09 21:40	SW846 8082	9123022
PCB-1232	ND		mg/kg	1.15	1	12/19/09 21:40	SW846 8082	9123022
PCB-1242	ND		mg/kg	1.15	1	12/19/09 21:40	SW846 8082	9123022
PCB-1248	ND		mg/kg	1.15	1	12/19/09 21:40	SW846 8082	9123022
PCB-1254	ND		mg/kg	1.15	1	12/19/09 21:40	SW846 8082	9123022
PCB-1260	**6.34**		mg/kg	1.15	1	12/19/09 21:40	SW846 8082	9123022
Surr: Tetrachloro-meta-xylene (19-147%)	*104 %*					*12/19/09 21:40*	*SW846 8082*	*9123022*
Surr: Decachlorobiphenyl (20-150%)	*96 %*					*12/19/09 21:40*	*SW846 8082*	*9123022*

TestAmerica
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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Tetra Tech EMI (8164)	Work Order:	NSL1547
	415 Oak	Project Name:	West High Complex
	Kansas City, MO 64106	Project Number:	[none]
Attn	Jeffrey Mitchell	Received:	12/14/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSL1547-12 (DP-1-6-WC-2 - Misc. Solid) Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082								
PCB-1016	ND		mg/kg	1.16	1	12/19/09 22:02	SW846 8082	9123022
PCB-1221	ND		mg/kg	1.16	1	12/19/09 22:02	SW846 8082	9123022
PCB-1232	ND		mg/kg	1.16	1	12/19/09 22:02	SW846 8082	9123022
PCB-1242	ND		mg/kg	1.16	1	12/19/09 22:02	SW846 8082	9123022
PCB-1248	ND		mg/kg	1.16	1	12/19/09 22:02	SW846 8082	9123022
PCB-1254	ND		mg/kg	1.16	1	12/19/09 22:02	SW846 8082	9123022
PCB-1260	**6.62**		mg/kg	1.16	1	12/19/09 22:02	SW846 8082	9123022
Surr: Tetrachloro-meta-xylene (19-147%)	*108 %*					*12/19/09 22:02*	*SW846 8082*	*9123022*
Surr: Decachlorobiphenyl (20-150%)	*100 %*					*12/19/09 22:02*	*SW846 8082*	*9123022*
Sample ID: NSL1547-13 (DP-2-4-WC-3 - Misc. Solid) Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082								
PCB-1016	ND		mg/kg	2.08	1	12/19/09 22:23	SW846 8082	9123022
PCB-1221	ND		mg/kg	2.08	1	12/19/09 22:23	SW846 8082	9123022
PCB-1232	ND		mg/kg	2.08	1	12/19/09 22:23	SW846 8082	9123022
PCB-1242	ND		mg/kg	2.08	1	12/19/09 22:23	SW846 8082	9123022
PCB-1248	ND		mg/kg	2.08	1	12/19/09 22:23	SW846 8082	9123022
PCB-1254	ND		mg/kg	2.08	1	12/19/09 22:23	SW846 8082	9123022
PCB-1260	**7.08**		mg/kg	2.08	1	12/19/09 22:23	SW846 8082	9123022
Surr: Tetrachloro-meta-xylene (19-147%)	*100 %*					*12/19/09 22:23*	*SW846 8082*	*9123022*
Surr: Decachlorobiphenyl (20-150%)	*102 %*					*12/19/09 22:23*	*SW846 8082*	*9123022*
Sample ID: NSL1547-14 (XP-EXT-WC-1 - Misc. Solid) Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082								
PCB-1016	ND	RL1	mg/kg	170	250	12/21/09 14:26	SW846 8082	9123022
PCB-1221	ND	RL1	mg/kg	170	250	12/21/09 14:26	SW846 8082	9123022
PCB-1232	ND	RL1	mg/kg	170	250	12/21/09 14:26	SW846 8082	9123022
PCB-1242	ND	RL1	mg/kg	170	250	12/21/09 14:26	SW846 8082	9123022
PCB-1248	ND	RL1	mg/kg	170	250	12/21/09 14:26	SW846 8082	9123022
PCB-1254	ND	RL1	mg/kg	170	250	12/21/09 14:26	SW846 8082	9123022
PCB-1260	ND	RL1	mg/kg	170	250	12/21/09 14:26	SW846 8082	9123022
Surr: Tetrachloro-meta-xylene (19-147%)	*	*Z3*				*12/21/09 14:26*	*SW846 8082*	*9123022*
Surr: Decachlorobiphenyl (20-150%)	*	*Z3*				*12/21/09 14:26*	*SW846 8082*	*9123022*
Sample ID: NSL1547-15 (XP-EXT-WC1-1 - Misc. Solid) Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082								
PCB-1016	ND	RL1	mg/kg	88.6	250	12/21/09 14:46	SW846 8082	9123022
PCB-1221	ND	RL1	mg/kg	88.6	250	12/21/09 14:46	SW846 8082	9123022
PCB-1232	ND	RL1	mg/kg	88.6	250	12/21/09 14:46	SW846 8082	9123022
PCB-1242	ND	RL1	mg/kg	88.6	250	12/21/09 14:46	SW846 8082	9123022
PCB-1248	ND	RL1	mg/kg	88.6	250	12/21/09 14:46	SW846 8082	9123022
PCB-1254	ND	RL1	mg/kg	88.6	250	12/21/09 14:46	SW846 8082	9123022
PCB-1260	ND	RL1	mg/kg	88.6	250	12/21/09 14:46	SW846 8082	9123022
Surr: Tetrachloro-meta-xylene (19-147%)	*	*Z3*				*12/21/09 14:46*	*SW846 8082*	*9123022*

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Tetra Tech EMI (8164)	Work Order:	NSL1547
	415 Oak	Project Name:	West High Complex
	Kansas City, MO 64106	Project Number:	[none]
Attn	Jeffrey Mitchell	Received:	12/14/09 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NSL1547-15 (XP-EXT-WC1-1 - Misc. Solid) - cont. Sampled: 12/10/09 00:01								
Polychlorinated Biphenyls by EPA Method 8082 - cont.								
Surr: Decachlorobiphenyl (20-150%)	*	*Z3*				*12/21/09 14:46*	*SW846 8082*	*9123022*

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Tetra Tech EMI (8164)	Work Order:	NSL1547
	415 Oak	Project Name:	West High Complex
	Kansas City, MO 64106	Project Number:	[none]
Attn	Jeffrey Mitchell	Received:	12/14/09 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Polychlorinated Biphenyls by EPA Method 8082							
SW846 8082	9123022	NSL1547-01	2.70	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-01RE1	2.70	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-02	4.90	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-02RE1	4.90	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-03	8.84	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-04	28.13	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-05	1.20	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-06	1.58	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-07	1.06	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-08	2.67	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-09	1.06	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-09RE1	1.06	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-10	1.28	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-11	0.87	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-12	0.86	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-13	0.48	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-14	1.47	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-14RE1	1.47	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-15	2.82	10.00	12/17/09 17:15	TEM	EPA 3550B
SW846 8082	9123022	NSL1547-15RE1	2.82	10.00	12/17/09 17:15	TEM	EPA 3550B

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Client	Tetra Tech EMI (8164)	Work Order:	NSL1547
	415 Oak	Project Name:	West High Complex
	Kansas City, MO 64106	Project Number:	[none]
Attn	Jeffrey Mitchell	Received:	12/14/09 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Polychlorinated Biphenyls by EPA Method 8082						
9123022-BLK1						
PCB-1016	<0.0190		mg/kg	9123022	9123022-BLK1	12/19/09 15:53
PCB-1221	<0.0110		mg/kg	9123022	9123022-BLK1	12/19/09 15:53
PCB-1232	<0.0200		mg/kg	9123022	9123022-BLK1	12/19/09 15:53
PCB-1242	<0.0140		mg/kg	9123022	9123022-BLK1	12/19/09 15:53
PCB-1248	<0.0110		mg/kg	9123022	9123022-BLK1	12/19/09 15:53
PCB-1254	<0.0190		mg/kg	9123022	9123022-BLK1	12/19/09 15:53
PCB-1260	<0.0140		mg/kg	9123022	9123022-BLK1	12/19/09 15:53
Surrogate: Tetrachloro-meta-xylene	112%			9123022	9123022-BLK1	12/19/09 15:53
Surrogate: Decachlorobiphenyl	114%			9123022	9123022-BLK1	12/19/09 15:53

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Client	Tetra Tech EMI (8164)	Work Order:	NSL1547
	415 Oak	Project Name:	West High Complex
	Kansas City, MO 64106	Project Number:	[none]
Attn	Jeffrey Mitchell	Received:	12/14/09 08:00

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Polychlorinated Biphenyls by EPA Method 8082								
9123022-BS1								
PCB-1242	0.167	0.151		mg/kg	90%	45 - 137	9123022	12/19/09 16:14
Surrogate: Tetrachloro-meta-xylene	0.0167	0.0190			114%	19 - 147	9123022	12/19/09 16:14
Surrogate: Decachlorobiphenyl	0.0167	0.0187			112%	20 - 150	9123022	12/19/09 16:14

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2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Tetra Tech EMI (8164)	Work Order:	NSL1547
	415 Oak	Project Name:	West High Complex
	Kansas City, MO 64106	Project Number:	[none]
Attn	Jeffrey Mitchell	Received:	12/14/09 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Polychlorinated Biphenyls by EPA Method 8082										
9123022-MS1										
PCB-1242	ND	0.131		mg/kg	0.155	85%	21 - 175	9123022	NSL1806-03	12/19/09 16:36
Surrogate: Tetrachloro-meta-xylene		0.0155		mg/kg	0.0155	100%	19 - 147	9123022	NSL1806-03	12/19/09 16:36
Surrogate: Decachlorobiphenyl		0.0148		mg/kg	0.0155	96%	20 - 150	9123022	NSL1806-03	12/19/09 16:36

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Tetra Tech EMI (8164)	Work Order:	NSL1547
	415 Oak	Project Name:	West High Complex
	Kansas City, MO 64106	Project Number:	[none]
Attn	Jeffrey Mitchell	Received:	12/14/09 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Polychlorinated Biphenyls by EPA Method 8082												
9123022-MSD1												
PCB-1242	ND	0.130		mg/kg	0.153	85%	21 - 175	1	35	9123022	NSL1806-03	12/19/09 16:58
Surrogate: Tetrachloro-meta-xylene		0.0169		mg/kg	0.0153	110%	19 - 147			9123022	NSL1806-03	12/19/09 16:58
Surrogate: Decachlorobiphenyl		0.0160		mg/kg	0.0153	104%	20 - 150			9123022	NSL1806-03	12/19/09 16:58

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Tetra Tech EMI (8164)		Work Order:	NSL1547
	415 Oak		Project Name:	West High Complex
	Kansas City, MO 64106		Project Number:	[none]
Attn	Jeffrey Mitchell		Received:	12/14/09 08:00

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	Kansas
SW846 8082	Soil	N/A	X	X

Client	Tetra Tech EMI (8164)	Work Order:	NSL1547
	415 Oak	Project Name:	West High Complex
	Kansas City, MO 64106	Project Number:	[none]
Attn	Jeffrey Mitchell	Received:	12/14/09 08:00

NELAC CERTIFICATION SUMMARY

TestAmerica Analytical - Nashville does not hold NELAC certifications for the following analytes included in this report

Method	**Matrix**	**Analyte**

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Tetra Tech EMI (8164)	Work Order:	NSL1547
	415 Oak	Project Name:	West High Complex
	Kansas City, MO 64106	Project Number:	[none]
Attn	Jeffrey Mitchell	Received:	12/14/09 08:00

DATA QUALIFIERS AND DEFINITIONS

RL1 Reporting limit raised due to sample matrix effects.

Z3 The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Z5 Due to sample matrix effects, the surrogate recovery was outside acceptance limits. Secondary surrogate recovery was within the acceptance limits.

ND Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica
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Nashville, TN

COOLER RECI

NSL1547

Cooler Received/Opened On: 12/14/09 @ 08:00

1. Tracking # 6540 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID: 94660220

2. Temperature of rep. sample or temp blank when opened: 18.8 Degrees Celsius
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA
4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: ______

5. Were the seals intact, signed, and dated correctly? YES...NO...NA
6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) ______ JW

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None
9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)? YES...NO...NA
11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA
12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # ______

I certify that I unloaded the cooler and answered questions 7-14 (intial) ______ JW

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO..NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) ______ JW

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA
18. Did you sign the custody papers in the appropriate place? YES...NO...NA
19. Were correct containers used for the analysis requested? YES...NO...NA
20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) ______ JW

I certify that I attached a label with the unique LIMS number to each container (intial) ______ JW

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...# ______

Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
phone 615.301.5737 fax 615.726.3403

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Jeffrey Mitchell	Site Contact: Jeffrey Mitchell	Date: 12/11/2009	COC No: 1 of 2 COCs
Tetra Tech EMI	Tel/Fax: 816-412-1773/816-410-1748	Lab Contact:	Carrier: Fed Ex	Job No.
415 Oak Street	Analysis Turnaround Time			
Kansas City, MO 64106	Calendar (C) or Work Days (W) ____			
(816) 412-1773 Phone	TAT if different from Below ____			SDG No.
(816) 410-1748 Fax	☒ 2 weeks			NSL1547
Project Name: West High Complex	☐ 1 week			12/29/09 23:59
Site: West High Complex	☐ 2 days			
P O # 103DI9004L090163003.000	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	PCB	Sample Specific Notes:
AP-3-HW-WC-1	12/10/2009	NA	Bulk	Caulk	1		X	NSL1547·01
AP-EXT-WC-1	12/10/2009	NA	Bulk	Caulk	1		X	02
BP-EXT-WC-1	12/10/2009	NA	Bulk	Caulk	1		X	03
BP-EXT-DC-1	12/10/2009	NA	Bulk	Caulk	1		X	04
CP-G-BR-WC-1	12/10/2009	NA	Bulk	Caulk	1		X	05
CP-1-1-WC-2	12/10/2009	NA	Bulk	Caulk	1		X	06
CP-2-11-WC-3	12/10/2009	NA	Bulk	Caulk	1		X	07
CP-EXT-WC-1	12/10/2009	NA	Bulk	Caulk	1		X	08
DP-EXT-WC-1	12/10/2009	NA	Bulk	Caulk	1		X	09
DP-EXT-DC-1	12/10/2009	NA	Bulk	Caulk	1		X	10
DP-G-TR-WC-1	12/10/2009	NA	Bulk	Caulk	1		X	11
DP-1-6-WC-2	12/10/2009	NA	Bulk	Caulk	1		X	12

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☒ *Archive For* 1 *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Jeffrey Mitchell	TT	4pm 12/11	[signature]	TestAmerica, Inc.	12-14-09 @ 0800
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Nashville
2960 Foster Creighton Drive

Nashville, TN 37204
phone 615.301.5737 fax 615.726.3403

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Jeffrey Mitchell	Site Contact: Jeffrey Mitchell	Date: 12/11/2009	COC No: 2 of 2 COCs
Tetra Tech EMI	Tel/Fax: 816-412-1773/816-410-1748	Lab Contact:	Carrier: Fed Ex	Job No.
415 Oak Street	Analysis Turnaround Time			
Kansas City, MO 64106	Calendar (C) or Work Days (W) ______			
(816) 412-1773 Phone	TAT if different from Below ______			SDG No.
(816) 410-1748 Fax	[X] 2 weeks			
Project Name: West High Complex	[ ] 1 week			
Site: West High Complex	[ ] 2 days			
P O # 103DI9004L090163003.000	[ ] 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	PCB	Sample Specific Notes:
DP-2-4-WC-3	12/10/2009	NA	Bulk	Caulk	1		X	1547-13
XP-EXT-WC-1	12/10/2009	NA	Bulk	Caulk	1		X	14
XP-EXT-WC1-1	12/10/2009	NA	Bulk	Caulk	1		X	15

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______

Possible Hazard Identification
[X] *Non-Hazard* [ ] *Flammable* [ ] *Skin Irritant* *Poison B* [ ] *Unknown* [ ]

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
[ ] *Return To Client* [ ] *Disposal By Lab* [X] *Archive For* 1 *Months*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	TT	4/21/12/11	[signature]	TestAmerica Inc.	12-14-09 @ 0800
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

APPENDIX E

LABORATORY REPORTS AND CHAIN-OF-CUSTODY FORMS FOR MOLD SAMPLES

2033 Heritage Park Drive / Oklahoma City. OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Tetra Tech EM, Inc.
415 Oak Street
Kansas City, MO 64106

Re: QuanTEM ID 177449

QuanTEM appreciates the opportunity to provide analytical testing services to you. Attached are your reports and other supporting documentation for the above referenced project.

Thank you for making QuanTEM your lab of choice. If you have any question concerning this or other reports please feel free to contact us at 800-822-1650.

We continually work to improve our service. Help us out by providing feed back on your experience at www.QuanTEM.com. Click on Service Survey and fill out the form. We look forward to hearing from you.

Respectfully,
QuanTEM Laboratories, LLC.

QUANTEM LABORATORIES

2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Microbiology Analytical Report (Results)

QuanTEM Lab ID:	177449	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
Received By:	Barbara Holder		
Analyzed By:	Teeia Moore		
Date Analyzed:	11/18/2009	**Account Number:**	B229
Methodology:	Air-O-Cell, Quantitative NonCulturable, MM001	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103DI9004L090163004.000

QuanTEM Sample ID	177449-001	177449-002	177449-003	177449-004	177449-005	177449-006
Client Sample ID	MA-A-1-SW-1	MA-A-2-HW-1	MA-A-2-HW-1DUP	MA-A-3-CAF-1	MA-B-1.R-1	MA-B-LBR-BR-1
Volume (L)	150	150	150	150	150	150
Detection Limit	7	7	7	7	7	7
	Results Counts/m³	Results Counts/m³	Results Counts/m³	Results Counts/m³	Results Counts/m³	Results Counts/m³
Alternaria	33	13	47	7	13	27
Amerospores (1)			80		33	
Ascospores	713	587	353	420	320	67
Aspergillus/Penicillium Group	1753	980	947	2093	560	
Basidiospores	7	33	13	20	920	273
Bipolaris/Drechslera Group (2)		13				
Cercospora		7			7	
Chaetomium	27	7		13	20	20
Cladosporium	113	107	47	80	247	73
Curvularia		13	13			
Epicoccum	7					
Hyphal Fragments	60	73	113	47	120	73
Mildew			7			
Periconia/Myxomycetes/Smuts	8233	67	73	67	100	120
Pithomyces/Ulocladium						7
Pollen	40	40	93	7	13	7
Stachybotrys	7	7		167	67	
Torula	7					7
Total Results (Counts/m³)	11000	1947	1786	2921	2420	674
Percent Coverage (%)	45	55	60	25	50	60
Comments						

QUANTEM® LABORATORIES

2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Microbiology Analytical Report (Results)

QuanTEM Lab ID:	177449	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
Received By:	Barbara Holder		
Analyzed By:	Teeia Moore		
Date Analyzed:	11/18/2009	**Account Number:**	B229
Methodology:	Air-O-Cell, Quantitative NonCulturable, MM001	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103DI9004L090163004.000

QuanTEM Sample ID	177449-007	177449-008	177449-009	177449-010	177449-011	177449-012
Client Sample ID	MA-B-G-HW-1	MA-B-UBR-SW-1	MA-B-G-SE-1	MA-B-1-AUD-1	MA-B-1-HW-1	MA-B-2-HW-1
Volume (L)	150	150	150	150	150	150
Detection Limit	7	7	7	7	7	7
	Results Counts/m³	Results Counts/m³	Results Counts/m³	Results Counts/m³	Results Counts/m³	Results Counts/m³
Alternaria	13	Present	13		7	20
Ascospores	93	Present	213	1307	167	100
Aspergillus/Penicillium Group	3740	Present	727	840	11700	15200
Basidiospores	27	Present	160	133	7	127
Bipolaris/Drechslera Group (2)					7	7
Cercospora		Present				
Chaetomium		Present	107	13		7
Cladosporium	413	Present	527	207	33	53
Epicoccum	7			7		
Hyphal Fragments	60	Present	213	67	193	127
Nigrospora					13	
Periconia/Myxomycetes/Smuts	107	Present	233	47	7	87
Pithomyces/Ulocladium		Present	7			7
Pollen	20		7	27	7	13
Stachybotrys			13		7	33
Total Results (Counts/m³)	4480		2220	2648	12148	15781
Percent Coverage (%)	20	90	55	20	45	45
Comments		Too Dirty to Count				

QUANTEM® LABORATORIES

2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Microbiology Analytical Report (Results)

QuanTEM Lab ID:	177449	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
Received By:	Barbara Holder		
Analyzed By:	Teeia Moore		
Date Analyzed:	11/18/2009	**Account Number:**	B229
Methodology:	Air-O-Cell, Quantitative NonCulturable, MM001	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103DI9004L090163004.000

QuanTEM Sample ID	177449-013	177449-014	177449-015	177449-016	177449-017	177449-018
Client Sample ID	MA-B-3-HW-1	MA-B-A-1	MA-C-A-1	MA-C-2-HW-1	MA-C-1-HW-1	MA-C-G-HW-1
Volume (L)	150	150	150	150	150	150
Detection Limit	7	7	7	7	7	7
	Results Counts/m³	Results Counts/m³	Results Counts/m³	Results Counts/m³	Results Counts/m³	Results Counts/m³
Alternaria	Present	207	27	27	13	33
Ascospores	Present	193	307	167	313	207
Aspergillus/Penicillium Group	Present		6053	5100	1320	1627
Basidiospores	Present	287		7	53	33
Chaetomium			13			
Cladosporium	Present	187	380	73	1100	907
Curvularia		13				
Epicoccum	Present					13
Hyphal Fragments	Present	307	220	60	140	113
Periconia/Myxomycetes/Smuts	Present	260	147	80	93	53
Pithomyces/Ulocladium		13				7
Pollen	Present	227	213		20	13
Rusts					7	
Stachybotrys						27
Total Results (Counts/m³)		1694	7360	5514	3059	3033
Percent Coverage (%)	75	65	40	45	45	50
Comments	Too Dirty to Count					

QUANTEM® LABORATORIES

2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Microbiology Analytical Report (Results)

QuanTEM Lab ID:	177449	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
Received By:	Barbara Holder		
Analyzed By:	Teeia Moore		
Date Analyzed:	11/18/2009	**Account Number:**	B229
Methodology:	Air-O-Cell, Quantitative NonCulturable, MM001	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103DI9004L090163004.000

QuanTEM Sample ID	177449-019	177449-020	177449-021	177449-022	177449-023	177449-024
Client Sample ID	MA-D-G-TR-1	MA-D-1-HW-1	MA-D-2-HW-1	MA-D-2-HW-1DUP	MA-X-2-HW-1	MA-X-1-HW-1
Volume (L)	150	150	150	150	150	150
Detection Limit	7	7	7	7	7	7
	Results Counts/m³	Results Counts/m³	Results Counts/m³	Results Counts/m³	Results Counts/m³	Results Counts/m³
Alternaria				40	33	7
Ascospores	127	67	93	80	87	87
Aspergillus/Penicillium Group	400	7753	3287	4940	1027	1607
Basidiospores	20	13	80	93	33	27
Cercospora					7	
Chaetomium	13			120		
Cladosporium	240	247	360	213	313	40
Hyphal Fragments	120	147	147	153	67	107
Nigrospora	7					
Periconia/Myxomycetes/Smuts	60	20	340	2047	47	67
Pollen	13	20		53	13	7
Stachybotrys	7		60	20		
Total Results (Counts/m³)	1007	8267	4367	7759	1627	1949
Percent Coverage (%)	40	45	45	50	25	25
Comments						

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2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Microbiology Analytical Report (Results)

QuanTEM Lab ID:	177449	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
Received By:	Barbara Holder		
Analyzed By:	Teeia Moore		
Date Analyzed:	11/18/2009	**Account Number:**	B229
Methodology:	Air-O-Cell, Quantitative NonCulturable, MM001	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103DI9004L090163004.000

QuanTEM Sample ID	177449-025	177449-026	177449-027	177449-028	177449-029	177449-030
Client Sample ID	MA-X-N-OUT-1	MA-X-E-OUT-1	MA-X-W-OUT-1	MA-X-S-OUT-1	MA-B-E-OUT-1	MA-C-W-OUT-1
Volume (L)	150	150	150	150	150	150
Detection Limit	7	7	7	7	7	7
	Results Counts/m³	Results Counts/m³	Results Counts/m³	Results Counts/m³	Results Counts/m³	Results Counts/m³
Alternaria	27	7	20	13		13
Amerospores (1)				20		
Ascospores	487	853	140	227	127	147
Aspergillus/Penicillium Group			47	140	73	
Basidiospores	60	60	147	100	20	107
Bipolaris/Drechslera Group (2)			7		7	13
Cercospora	20				13	7
Chaetomium	7		7			
Cladosporium	87	147	327	427	380	287
Epicoccum	7	13	20	33	13	20
Hyphal Fragments	47	80	47	20	13	20
Mildew						7
Nigrospora				7		
Periconia/Myxomycetes/Smuts	80	180	67	100	147	80
Pollen			7			7
Polythrincium	7					
Rusts	7					
Scopulariopsis	7					
Total Results (Counts/m³)	843	1340	836	1087	793	708
Percent Coverage (%)	25	30	20	25	20	35
Comments						

LABORATORIES

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Microbiology Analytical Report (Results)

QuanTEM Lab ID:	177449	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
Received By:	Barbara Holder		
Analyzed By:	Tecia Moore		
Date Analyzed:	11/18/2009	**Account Number:**	B229
Methodology:	Air-O-Cell, Quantitative NonCulturable, MM001	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103DI9004L090163004.000

QuanTEM Sample ID	177449-031	177449-032
Client Sample ID	MA-A-S-OUT-1	MA-D-N-OUT-1
Volume (L)	150	150
Detection Limit	7	7
	Results Counts/m³	Results Counts/m³
Alternaria		7
Amerospores (1)	7	
Ascospores	413	500
Aspergillus/Penicillium Group	33	
Basidiospores	73	60
Cercospora	7	
Cladosporium	207	233
Epicoccum	7	53
Hyphal Fragments	27	60
Mildew	7	
Nigrospora	7	7
Periconia/Myxomycetes/Smuts	107	127
Pollen	7	7
Rusts		7
Torula	7	
Total Results (Counts/m³)	909	1061
Percent Coverage (%)	20	35
Comments		

QUANTEM® LABORATORIES

2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Microbiology Analytical Report (Counts)

QuanTEM Lab ID:	177449	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
Received By:	Barbara Holder		
Analyzed By:	Teeia Moore		
Date Analyzed:	11/18/2009	**Account Number:**	B229
Methodology:	Air-O-Cell, Quantitative NonCulturable, MM001	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103DI9004L090163004.000

QuanTEM Sample ID	177449-001	177449-002	177449-003	177449-004	177449-005	177449-006
Client Sample ID	MA-A-1-SW-1	MA-A-2-HW-1	MA-A-2-HW-1DUP	MA-A-3-CAF-1	MA-B-LR-1	MA-B-LBR-BR-1
Volume (L)	150	150	150	150	150	150
	Counts	Counts	Counts	Counts	Counts	Counts
Alternaria	5	2	7	1	2	4
Amerospores (1)			12		5	
Ascospores	107	88	53	63	48	10
Aspergillus/Penicillium Group	263	147	142	314	84	
Basidiospores	1	5	2	3	138	41
Bipolaris/Drechslera Group (2)		2				
Cercospora		1			1	
Chaetomium	4	1		2	3	3
Cladosporium	17	16	7	12	37	11
Curvularia		2	2			
Epicoccum	1					
Hyphal Fragments	9	11	17	7	18	11
Mildew			1			
Periconia/Myxomycetes/Smuts	1235	10	11	10	15	18
Pithomyces/Ulocladium						1
Pollen	6	6	14	1	2	1
Stachybotrys	1	1		25	10	
Torula	1					1

QUANTEM® LABORATORIES

2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Microbiology Analytical Report (Counts)

QuanTEM Lab ID:	177449	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
Received By:	Barbara Holder		
Analyzed By:	Teeia Moore		
Date Analyzed:	11/18/2009	**Account Number:**	B229
Methodology:	Air-O-Cell, Quantitative NonCulturable, MM001	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103DI9004L090163004.000

QuanTEM Sample ID	177449-007	177449-008	177449-009	177449-010	177449-011	177449-012
Client Sample ID	MA-B-G-HW-1	MA-B-UBR-SW-1	MA-B-G-SE-1	MA-B-1-AUD-1	MA-B-1-HW-1	MA-B-2-HW-1
Volume (L)	150	150	150	150	150	150
	Counts	Counts	Counts	Counts	Counts	Counts
Alternaria	2		2		1	3
Ascospores	14		32	196	25	15
Aspergillus/Penicillium Group	561		109	126	1755	2280
Basidiospores	4		24	20	1	19
Bipolaris/Drechslera Group (2)					1	1
Chaetomium			16	2		1
Cladosporium	62		79	31	5	8
Epicoccum	1			1		
Hyphal Fragments	9		32	10	29	19
Nigrospora					2	
Periconia/Myxomycetes/Smuts	16		35	7	1	13
Pithomyces/Ulocladium			1			1
Pollen	3		1	4	1	2
Stachybotrys			2		1	5

QUANTEM® LABORATORIES

2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Microbiology Analytical Report (Counts)

QuanTEM Lab ID:	177449	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
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Date Analyzed:	11/18/2009	**Account Number:**	B229
Methodology:	Air-O-Cell, Quantitative NonCulturable, MM001	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103DI9004L090163004.000

QuanTEM Sample ID	177449-013	177449-014	177449-015	177449-016	177449-017	177449-018
Client Sample ID	MA-B-3-HW-1	MA-B-A-1	MA-C-A-1	MA-C-2-HW-1	MA-C-1-HW-1	MA-C-G-HW-1
Volume (L)	150	150	150	150	150	150
	Counts	Counts	Counts	Counts	Counts	Counts
Alternaria		31	4	4	2	5
Ascospores		29	46	25	47	31
Aspergillus/Penicillium Group			908	765	198	244
Basidiospores		43		1	8	5
Chaetomium			2			
Cladosporium		28	57	11	165	136
Curvularia		2				
Epicoccum						2
Hyphal Fragments		46	33	9	21	17
Periconia/Myxomycetes/Smuts		39	22	12	14	8
Pithomyces/Ulocladium		2				1
Pollen		34	32		3	2
Rusts					1	
Stachybotrys						4

QUANTEM LABORATORIES

2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Microbiology Analytical Report (Counts)

QuanTEM Lab ID:	177449	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
Received By:	Barbara Holder		
Analyzed By:	Tecia Moore		
Date Analyzed:	11/18/2009	**Account Number:**	B229
Methodology:	Air-O-Cell, Quantitative NonCulturable, MM001	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103DI9004L090163004.000

QuanTEM Sample ID	177449-019	177449-020	177449-021	177449-022	177449-023	177449-024
Client Sample ID	MA-D-G-TR-1	MA-D-1-HW-1	MA-D-2-HW-1	MA-D-2-HW-1DUP	MA-X-2-HW-1	MA-X-1-HW-1
Volume (L)	150	150	150	150	150	150
	Counts	Counts	Counts	Counts	Counts	Counts
Alternaria				6	5	1
Ascospores	19	10	14	12	13	13
Aspergillus/Penicillium Group	60	1163	493	741	154	241
Basidiospores	3	2	12	14	5	4
Cercospora					1	
Chaetomium	2			18		
Cladosporium	36	37	54	32	47	6
Hyphal Fragments	18	22	22	23	10	16
Nigrospora	1					
Periconia/Myxomycetes/Smuts	9	3	51	307	7	10
Pollen	2	3		8	2	1
Stachybotrys	1		9	3		

QUANTEM® LABORATORIES

2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Microbiology Analytical Report (Counts)

QuanTEM Lab ID:	177449	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
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Date Analyzed:	11/18/2009	**Account Number:**	B229
Methodology:	Air-O-Cell, Quantitative NonCulturable, MM001	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103DI9004L090163004.000

QuanTEM Sample ID	177449-025	177449-026	177449-027	177449-028	177449-029	177449-030
Client Sample ID	MA-X-N-OUT-1	MA-X-E-OUT-1	MA-X-W-OUT-1	MA-X-S-OUT-1	MA-B-E-OUT-1	MA-C-W-OUT-1
Volume (L)	150	150	150	150	150	150
	Counts	Counts	Counts	Counts	Counts	Counts
Alternaria	4	1	3	2		2
Amerospores (1)				3		
Ascospores	73	128	21	34	19	22
Aspergillus/Penicillium Group			7	21	11	
Basidiospores	9	9	22	15	3	16
Bipolaris/Drechslera Group (2)			1		1	2
Cercospora	3				2	1
Chaetomium	1		1			
Cladosporium	13	22	49	64	57	43
Epicoccum	1	2	3	5	2	3
Hyphal Fragments	7	12	7	3	2	3
Mildew						1
Nigrospora				1		
Periconia/Myxomycetes/Smuts	12	27	10	15	22	12
Pollen			1			1
Polythrincium	1					
Rusts	1					
Scopulariopsis	1					

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Microbiology Analytical Report (Counts)

QuanTEM Lab ID:	177449	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
Received By:	Barbara Holder		
Analyzed By:	Teeia Moore		
Date Analyzed:	11/18/2009	**Account Number:**	B229
Methodology:	Air-O-Cell, Quantitative NonCulturable, MM001	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103DI90041.090163004.000

QuanTEM Sample ID	177449-031	177449-032
Client Sample ID	MA-A-S-OUT-1	MA-D-N-OUT-1
Volume (L)	150	150
	Counts	Counts
Alternaria		1
Amerospores (1)	1	
Ascospores	62	75
Aspergillus/Penicillium Group	5	
Basidiospores	11	9
Cercospora	1	
Cladosporium	31	35
Epicoccum	1	8
Hyphal Fragments	4	9
Mildew	1	
Nigrospora	1	1
Periconia/Myxomycetes/Smuts	16	19
Pollen	1	1
Rusts		1
Torula	1	

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Microbiology Analytical Report (Signature Page)

QuanTEM Lab ID:	177449	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
Received By:	Barbara Holder		
Analyzed By:	Teeia Moore		
Date Analyzed:	11/18/2009	**Account Number:**	B229
Methodology:	Air-O-Cell, Quantitative NonCulturable, MM001	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103DI9004L090163004.000

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

(1)Small, single-celled, unidentifiable mold spores (2)Also includes spores from Exosporium, Exserohilum and Helminthosporium

Percent coverage = amount of particulate matter. With 25-50% coverage, results may be underestimated; with 50-70% coverage, results will be underestimated; with >70% coverage, slides are designated overloaded (too dirty to count).

The results taken from your home, building, etc. cannot be interpreted without physical inspection of the contaminated area or without considering the building's characteristics and the factors that led to the present condition. Interpretation of results is the responsibility of the company or individual who conducted the investigation.

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Approved: Teeia Moore, Analyst

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Page 1 of 3

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Company Name: Tetra Tech EMI
Acct.#: B229
Project Name: West High Complex
Project Location: Kansas City, MO
Project Number: 103DI9004L090163004.000

	Sample Number	Sample Description	Volume or Area (Liters)	Fungal Analysis (non-culture): Spore Trap	Spore Trap (Detailed)	Tape Lift	Bulk / Swab	ASTM D6785 Vacuum (Mod.)	NADCA Vacuum	Other (Specify)	Fungal Analysis (culture based): Impaction Plate	Sedimentation Plate	Bulk / Swab - Genus ID	Bulk/Swab-Genus ID & Enumeration	ASTM D5755 Vacuum (Mod.)	Other (Specify)	Bacterial Analysis: Water Screen	Sewage Screen	Heterotrophic Plate Count	COMMENTS (Specify Media)
1	MA-A-1-SW-1		150	X																
2	MA-A-2-HW-1			X																
3	MA-A-2-HW-1Dup			X																
4	MA-A-3-Caf-1			X																
5	MA-B-LR-1			X																
6	MA-B-LBR-BR-1			X																
7	MA-B-G-HW-1			X																
8	MA-B-UBR-SW-1			X																
9	MA-B-G-SE-1			X																
10	MA-B-1-Aud-1			X																
11	MA-B-1-HW-1			X																
12	MA-B-2-HW-1			X																
13	MA-B-3-HW-1			X																
14	MA-B-A-1			X																
15	MA-C-A-1			X																

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TURNAROUND TIME	
	Rush
	Same Day
	24 Hour
	3-Day
X	5-day
	Up to 14 Days (culture based)

CONTACT INFORMATION

Name: Jeffrey Mitchell
Phone: 816-412-1773
Report Results VIA (CHOOSE ONE):
FAX:
X QuanTEM WebSite
E-Mail:

Relinquished By	Date/Time	VIA	Received By	Date/Time	Date Sampled	Sampled By
Jeffrey Mitchell	11/10/09 - 4pm	FedEx	[signature] 1008	11-12-09	11/9 - 11/11/09	RTN
Relinquished By	Date/Time	VIA	Received By	Date/Time		

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Company Name: Tetra Tech EMI Acct.#: 6229 Project Name: West High Complex
Project Location: Kansas City, MO Project Number: 103DI9004L09016 3004.00

	Sample Number	Sample Description	Volume or Area (Liters)	Fungal Analysis (non-culture): Spore Trap	Spore Trap (Detailed)	Tape Lift	Bulk / Swab	ASTM D5755 Vacuum (Mod.)	NADCA Vacuum	Other (Specify)	Fungal Analysis (culture based): Impaction Plate	Sedimentation Plate	Bulk / Swab - Genus ID	Bulk/Swab-Genus ID & Enumeration	ASTM D5755 Vacuum (Mod.)	Other (Specify)	Bacterial Analysis: Water Screen	Sewage Screen	Heterotrophic Plate Count	COMMENTS (Specify Media)
16	MA-C-2-HW-1		150	X																
17	MA-C-1-HW-1			X																
18	MA-C-6-HW-1			X																
19	MA-D-G+R-1			X																
20	MA-D-1-HW-1			X																
21	MA-D-2-HW-1			X																
22	MA-D-2-HW-1Dup			X																
23	MA-X-2-HW-1			X																
24	MA-X-1-HW-1			X																
25	MA-X-N-out-1			X																
26	MA-X-E-out-1			X																
27	MA-X-W-out-1			X																
28	MA-X-S-out-1			X																
29	MA-B-E-out-1			X																
30	MA-C-W-out-1			X																

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Jeffrey Mitchell	11/10/09 - 4pm	Fed Ex	[signature]	1002 11-12-09	11/9 - 11/10/09	KTN
Relinquished By	Date/Time	VIA	Received By	Date/Time		

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TURNAROUND TIME

- [ ] Rush
- [ ] Same Day
- [ ] 24 Hour
- [ ] 3-Day
- [X] 5-day
- [ ] Up to 14 Days (culture based)

CONTACT INFORMATION

Name: Jeffrey Mitchell
Phone: 816-412-1773
Report Results VIA (CHOOSE ONE):
- [ ] FAX:
- [X] QuanTEM WebSite
- [ ] E-Mail:

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Lab No. 17449
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Company Name: Tetra Tech EMI Acct.#: B229 Project Name: West High Complex
Project Location: Kansas City, MO Project Number: 103DF9004L090163004.000

	Sample Number	Sample Description	Volume or Area (Liters)	Fungal Analysis (non-culture): Spore Trap	Spore Trap (Detailed)	Tape Lift	Bulk / Swab	ASTM D5755 Vacuum (Mod.)	NADCA Vacuum	Other (Specify)	Fungal Analysis (culture based): Impaction Plate	Sedimentation Plate	Bulk / Swab - Genus ID	Bulk/Swab-Genus ID & Enumeration	ASTM D5755 Vacuum (Mod.)	Other (Specify)	Bacterial Analysis: Water Screen	Sewage Screen	Heterotrophic Plate Count	COMMENTS (Specify Media)
31	MA-A-S-out-1		150	X																
32	MA-O-N-out-1		150	X																

End of TOS

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TURNAROUND TIME

- [ ] Rush
- [ ] Same Day
- [ ] 24 Hour
- [ ] 3-Day
- [x] 5-day
- [ ] Up to 14 Days (culture based)

CONTACT INFORMATION

Name: Jeffrey Mitchell
Phone: 816-412-1773
Report Results VIA (CHOOSE ONE):
- [ ] FAX:
- [x] QuanTEM WebSite
- [ ] E-Mail:

Relinquished By	Date/Time	Via	Received By	Date/Time	Date Sampled	Sampled By:
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Relinquished By	Date/Time	Via	Received By	Date/Time		

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Tetra Tech EM, Inc.
415 Oak Street
Kansas City, MO 64106

Re: QuanTEM ID 177447

QuanTEM appreciates the opportunity to provide analytical testing services to you. Attached are your reports and other supporting documentation for the above referenced project.

Thank you for making QuanTEM your lab of choice. If you have any question concerning this or other reports please feel free to contact us at 800-822-1650.

We continually work to improve our service. Help us out by providing feed back on your experience at www.QuanTEM.com. Click on Service Survey and fill out the form. We look forward to hearing from you.

Respectfully,
QuanTEM Laboratories, LLC.

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Microbiology Analytical Report (Results)

QuanTEM Lab ID:	177447	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
Received By:	Barbara Holder		
Analyzed By:	Teeia Moore		
Date Analyzed:	11/17/2009	**Account Number:**	B229
Methodology:	Tape, Qualitative NonCulturable, MM002	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103DI9004L090163004.000

QuanTEM Sample ID	177447-001	177447-002	177447-003	177447-004	177447-005	177447-006
Client Sample ID	MD-A-1-HW1	MD-A-2-SR-1	MD-A-2-SR-1DUP	MD-A-3-CAF-1	MD-B-CR-1	MD-B-G-BR-1
	Results	Results	Results	Results	Results	Results
Alternaria		Moderate				
Ascospores				Few		
Cladosporium	Few	Moderate			Abundant	Abundant
Hyphal Fragments	Abundant			Abundant	Few	
Periconia/Myxomycetes/Smuts						Few
Stachybotrys		Abundant	Abundant			
Comments						

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Microbiology Analytical Report (Results)

QuanTEM Lab ID:	177447	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
Received By:	Barbara Holder		
Analyzed By:	Teeia Moore		
Date Analyzed:	11/17/2009	**Account Number:**	B229
Methodology:	Tape, Qualitative NonCulturable, MM002	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103D19004L090163004.000

QuanTEM Sample ID	177447-007	177447-008	177447-009	177447-010	177447-011	177447-012
Client Sample ID	MD-C-G-19-1	MD-C-G-MECH-1	MD-C-1-SW-1	MD-C-2-CL-1	MD-D-GTR-1DUP	MD-D-GTR-1
	Results	Results	Results	Results	Results	Results
Aspergillus sp.	Abundant					
Cladosporium		Moderate	Abundant		Abundant	Abundant
Hyphal Fragments					Few	
Penicillium				Abundant		
Periconia/Myxomycetes/Smuts			Few			
Stachybotrys		Abundant				
Comments						

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Microbiology Analytical Report (Results)

QuanTEM Lab ID:	177447	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
Received By:	Barbara Holder		
Analyzed By:	Teeia Moore		
Date Analyzed:	11/17/2009	**Account Number:**	B229
Methodology:	Tape, Qualitative NonCulturable, MM002	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103DI9004L090163004.000

QuanTEM Sample ID	177447-013	177447-014
Client Sample ID	MD-D-1-SW-1	MD-D-2-SW-1
	Results	Results
Cladosporium	Abundant	Abundant
Hyphal Fragments		Moderate
Penicillium	Abundant	
Comments		

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Microbiology Analytical Report (Signature Page)

QuanTEM Lab ID:	177447	**Client:**	Tetra Tech EM, Inc. 415 Oak Street Kansas City, MO 64106
Date Received:	11/12/2009		
Received By:	Barbara Holder		
Analyzed By:	Tecia Moore		
Date Analyzed:	11/17/2009	**Account Number:**	B229
Methodology:	Tape, Qualitative NonCulturable, MM002	**Project:**	West High Complex
		Location:	Kansas City, MO
AIHA ID Number:	101352	**Project No:**	103DI9004L090163004.000

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

Few=10 or fewer fungal structures detected over area analyzed; Abundant=fungal structures detected in 75% or more of the area analyzed or more than 500 fungal structures present; Moderate=fungal structure concentrations between few & abundant. The results taken from your home, building, etc. cannot be interpreted without physical inspection of the contaminated area or without considering the building's characteristics and the factors that led to the present condition. Interpretation of results is the responsibility of the company or individual who conducted the investigation.
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Approved: Tecia Moore, Analyst

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Company Name: Tetra Tech EMI Acct.#: BZ29 Project Name: West High Complex

Project Location: Kansas City, MO Project Number: ~~103BI~~ 103 EI 9004L0901630 ~~4~~.000

	Sample Number	Sample Description	Volume or Area	Fungal Analysis (non-culture): Spore Trap	Spore Trap (Detailed)	Tape Lift	Bulk / Swab	ASTM D5755 Vacuum (Mod.)	NADCA Vacuum	Other (Specify)	Fungal Analysis (culture based): Impaction Plate	Sedimentation Plate	Bulk / Swab - Genus ID	Bulk/Swab-Genus ID & Enumeration	ASTM D5755 Vacuum (Mod.)	Other (Specify)	Bacterial Analysis: Water Screen	Sewage Screen	Heterotrophic Plate Count	COMMENTS (Specify Media)
1	MD-A-1-AW1					X														
2	MD-A-2-SR-1					X														
3	MD-A-2-SR-1Dup					X														
4	MD-A-3-CAF-1					X														
5	MD-B-CR-1					X														
6	MD-B-G-BR-1					X														
7	MD-C-G-19-1					X														
8	MD-C-G-mech-1					X														
9	MD-C-1-SW-1					X														
10	MD-C-2-CL-1					X														
11	MD-D-GTR-1Dup					X														
12	MD-D-GTR-1					X														
13	MD-P-1-SW-1					X														
14	MD-D-2-SW-1					X														
	End of Tol																			

Relinquished By	Date/Time	VIA	Received By	Date/Time	Date Sampled	Sampled By:
Jeffrey Mitchell	11/11/09 - 4pm	FedEx	[illegible signature]	1002 11-12-09	11/9-11/11/09	RJN
Relinquished By	Date/Time	VIA	Received By	Date/Time		

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- [ ] Rush
- [ ] Same Day
- [ ] 24 Hour
- [ ] 3-Day
- [x] 5-day
- [ ] Up to 14 Days (culture based)

CONTACT INFORMATION

Name: Jeffrey Mitchell

Phone: 816-412-1773

Report Results VIA (CHOOSE ONE):

- [ ] FAX:
- [x] QuanTEM WebSite
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Revision: May 2006

APPENDIX F

METHODOLOGY FOR THE MOLD INVESTIGATION

Designation: E 2418 – 06

Standard Guide for Readily Observable Mold and Conditions Conducive to Mold in Commercial Buildings: Baseline Survey Process[1]

This standard is issued under the fixed designation E 2418; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 *Purpose*—The purpose of this *guide*[2] is to define good commercial and customary practice in the United States of America for conducting a baseline survey for readily observable mold and conditions conducive to mold in a *commercial building* related to a *commercial real estate transaction* by conducting: a *walk-through survey*, document reviews, and interviews as outlined within this *guide*. This *guide* is intended to identify *observable mold* and *physical deficiencies conducive to mold* as a result of moisture and water infiltration through the *commercial building's* envelope or substructure, or generated within the building as a result of processes or mechanical systems, excluding *de minimis observable mold* and *physical deficiencies conducive to mold*. This *guide* is to allow a *user* to assess the potential need for further assessment or other actions that may be appropriate that are beyond the scope of this *guide*. For purposes of this *guide*, the acronym *"BSP"* or *"Baseline Survey Process"* is used interchangeably with this *guide's* full title.

1.2 *Purpose Limitations*—While a *BSP* may be used to survey for readily identifiable *mold* and *physical deficiencies conducive to mold*, the *BSP* is not designed to serve as *comprehensive survey* for the presence of *observable mold* and *physical deficiencies conducive to mold* in all or most areas in a commercial building. It is not intended to reduce the risk of the presence of *observable mold* and *physical deficiencies conducive to mold* nor is it to eliminate the risk that *observable mold* and *physical deficiencies conducive to mold* may pose to the building or its occupants.

1.3 *Considerations Beyond This Scope*—The use of this *guide* is strictly limited to the scope set forth in this section. Section 13 of this *guide* identifies, for informational purposes, certain physical conditions (not an all-inclusive list) that may exist at a property and certain activities or procedures (not an all-inclusive list) that are beyond the scope of this *guide* but may warrant consideration by parties to a *commercial real estate transaction*. The need to investigate any such conditions in the *consultant's* scope of services should be evaluated based upon, among other factors, the nature of the property and the reason for conducting the *BSP*. The scope of such further investigation or testing services should be agreed upon between the *user* and the *consultant* as additional services, which are beyond the scope of this *guide*, prior to initiation of the *BSP* process. The responsibility to initiate work beyond the scope of this *guide* lies with the *user*.

1.3.1 Sampling for mold growth is a non-scope consideration under this *guide*. As noted by EPA 402-K-01-001, sampling cannot be used to assess whether a commercial building complies with federal standards, since no EPA or other federal standards or Threshold Limit Values (TLVs) have been established for mold spores. And, sampling would only produce results reflecting a *specific moment in time* in the best case and could produce inaccurate or misleading results in the worst case.

1.4 *Organization of the Guide*—This *guide* has 13 sections and three appendices. Section 1 defines the Scope. Section 2 is Referenced Documents. Section 3 is Terminology. Section 4 defines the Significance and Use of this *guide*. Section 5 describes User Responsibilities. Sections 6 through 11 provide guidelines for the main body of the *report*, including the scope of the *Walk-through Survey* and preparation of the *report*. Section 12 and Appendix X1 identifying Out of Scope Considerations. Section 13 lists keywords for Internet reference. Appendix X1 provides the *user* with additional *BSP* scope considerations, whereby a *user* may increase this *guide's* baseline scope of due diligence to be exercised by the *consultant*, Appendix X2 provides the *user* with a suggested Interview Checklist, and Appendix X3 provides the *user* with a suggested Field Checklist.

2. Referenced Documents

2.1 *ASTM Standards:* [3]

E 1527 Practice for Environmental Site Assessments: Phase

[1] This guide is under the jurisdiction of ASTM Committee E50 on Environmental Assessment, Risk Management, and Corrective Action and is the direct responsibility of Subcommittee E50.02 on Real Estate Assessment and Management.

Current edition approved March 1, 2006. Published March 2006.

[2] Whenever terms defined in Section 3 are used in this guide, they are in *italics*.

[3] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

I Environmental Site Assessment Process

E 2018 Guide for Property Condition Assessments: Baseline Property Condition Assessment Process

2.2 *Other Document:*

EPA 402-K-01-001 U.S. Environmental Protection Agency, Mold Remediation in Schools and Commercial Buildings, March 2001[4]

3. Terminology

3.1 *Scope*—This section provides definitions, descriptions of terms, and a list of acronyms for many of the words used in this *guide*. The terms are an integral part of the *guide* and are critical to an understanding of the *guide* and its use.

3.2 *Definitions:*

3.2.1 *architect*—designation reserved by law for a person professionally qualified, examined, and registered by the appropriate governmental board having jurisdiction, to provide architectural services including, but not limited to, analysis of project requirements and conditions, development of project design, production of construction drawings and specifications, and administration of construction contracts.

3.2.2 *building system*—interacting or independent *components* or assemblies, which form single integrated units, that comprise a building and its site work, including, but not limited to, structural frame, roofing, exterior walls, plumbing, HVAC, electrical, and so forth.

3.2.3 *certified industrial hygienist*—an individual who has met the requirements and is in good standing with the American Board of Industrial Hygiene and is qualified to perform services, including, but not limited to, the science and practice devoted to the anticipation, recognition, evaluation, and control of those environmental factors and stresses that may cause sickness, impaired health and well-being, or significant discomfort.

3.2.4 *commercial real estate*—improved real property except a dwelling or property with four or less dwelling units exclusively used for residential use. This term includes, but is not limited to, improved real property used for: industrial, retail, office, hospitality, agriculture, medical, educational, or other commercial purposes; and residential purposes provided that there are more than four residential dwelling units; and property with four or less dwelling units for residential use when it has a commercial function, as in the operation of such dwellings for profit.

3.2.5 *commercial real estate transaction*—for purposes of this *guide*, this term means a transfer of title to (for example, sales/acquisition) or possession (for example, lease) of improved real property, or the receipt of a security interest, mortgage, or the placing of a lien on improved commercial real estate (for example, lending) excepting individual dwellings.

3.2.6 *component*—a portion of a *building system*, piece of equipment, or building element.

3.2.7 *consultant*—the entity or individual that prepares the *BSP* and that is responsible for the observance of and reporting on the presence of *observable mold and physical deficiencies conducive to mold* within a *commercial building* in accordance with this *guide* as defined in 7.1.

3.2.8 *engineer*—designation reserved by law for a person professionally qualified, examined, and licensed by the appropriate governmental board having jurisdiction, to provide engineering services.

3.2.9 *environmental site assessment*—as defined in Practice E 1527, the process by which a person or entity seeks to determine if a particular parcel of real property (including improvements) is subject to recognized environmental conditions.

3.2.10 *field observer*—the individual who conducts the *walk-through survey*. This *guide* recognizes that for the majority of *commercial buildings* subject to a *BSP*, the *field observer* assigned by the *consultant* to conduct the *walk-through survey* will most likely be a single individual having a general, well rounded knowledge of pertinent *building systems*, *building components*, visible mold characteristics, and conditions conducive to mold growth.

3.2.11 *guide*—a series of options and instructions that do not recommend a specific course of action. See also *standard*.

3.2.12 *interviews*—discussions with those knowledgeable about the building, its construction, and history or who may have information related to the *building systems* or *components*.

3.2.13 *material*—having significant importance or great consequence to the *subject property's* intended use or physical condition.

3.2.14 *occupants*—those tenants, subtenants, or other persons or entities using the property or a portion of the property.

3.2.15 *owner*—generally the fee owner of record of the property.

3.2.16 *practically reviewable*—information that is practically reviewable means that the information is provided in a manner and in a form that, upon examination, yields information relevant to the property without the need for extraordinary analysis of irrelevant data.

3.2.17 *practice*—a definitive procedure for performing one or more specific operations or functions that does not produce a test result.

3.2.18 *property*—the real property that is the subject of the *BSP* described in this *guide*. Real property includes buildings and other fixtures and improvements located on the property and affixed to the land.

3.2.19 *property condition assessment (PCA)*—as defined in Guide E 2018, the process by which a person or entity observes a property, interviews sources, and reviews available documentation for the purpose of developing an opinion and preparing a property condition report of the improvements.

3.2.20 *property condition report (PCR)*—the work product resulting from completing a PCA in accordance with Guide E 2018.

3.2.21 *publicly available*—the source of the information allows access to the information to anyone upon request.

3.2.22 *report*—the written record prepared by the *consultant* and constituting part of a *BSP*, as required by this *guide*.

3.2.23 *standard*—as used in ASTM, a document that has been developed and established within the consensus principles

[4] Available from United States Environmental Protection Association (EPA), Ariel Rios Bldg., 1200 Pennsylvania Ave., NW, Washington, DC 20460.

of the ASTM and that meets the approval requirements of ASTM procedures and regulations. This term herein is used interchangeably with *guide* ("this *guide*").

3.2.24 *sump*—a pit, cistern, cesspool, or similar receptacle where liquids drain, collect, or are stored.

3.2.25 *user*—the person, persons, or entity retaining the *consultant* to conduct the *BSP* in accordance with this *guide*. A *user* may include, but is not limited to, a purchaser, owner, existing or potential mortgagee, lender, or property manager of the building.

3.2.26 *water or moisture*—water as liquid, vapor, or solid (for example, ice, frost, or snow) in any combination or in transition.

3.3 *Definitions of Terms Specific to This Standard:*

3.3.1 *actual knowledge*—the knowledge actually possessed by an individual who is a real person, rather than an entity. *Actual knowledge* is to be distinguished from constructive knowledge, which is knowledge imputed to an individual or entity.

3.3.2 *baseline*—the minimum level of observations, inquiry, research, document review, and preparation of opinions for conducting a *BSP* as described in this *guide*.

3.3.3 *building department records*—those records of the *local government agency* in which the *property* is located indicating permission of the local government to construct, alter, or demolish improvements on the *property*. Often *building department records* are located in the building department of a municipality or county.

3.3.4 *BSP*—the process described in this *guide*.

3.3.5 *BSP reviewer*—the individual who reviews the *BSP* prior to delivery to the *user*.

3.3.6 *commercial building*—structure except a dwelling or structure with four or less dwelling units exclusively for residential use. This term includes, but is not limited to, structures used for industrial, retail, office, hospitality, agriculture, other commercial, medical, or educational purposes; property used for residential purposes that has more than four residential dwelling units; and structures with four or less dwelling units for residential use when it has a commercial function, as in the operation of such dwellings for profit.

3.3.7 *comprehensive*—complete, thorough, entire, methodical, and detailed.

3.3.8 *dangerous condition*—conditions that may pose a threat or possible injury to the *consultant* and which may require the use of special protective clothing, safety equipment, access equipment, or any other precautionary measures.

3.3.9 *deferred maintenance*—physical deficiencies that cannot be remedied with routine maintenance, normal operating maintenance, and so forth, excluding *de minimis* conditions that generally do not present a *material physical deficiency* to the *subject property*.

3.3.10 *dismantling*—to take apart or remove any *component*, device, or piece of equipment that is bolted, screwed, secured, or fastened by other means.

3.3.11 *due diligence*—the process of inquiring into the characteristics of a parcel of *commercial real estate*, usually in connection with a *commercial real estate transaction*. The degree, scope, and kind of due diligence vary for different properties and differing purposes of the user.

3.3.12 *dwelling unit*—structure or portion thereof used for residential habitation.

3.3.13 *easily visible*—describes items, *components*, and systems that are conspicuous, patent, and which may be observed visually during the *walk-through* without: intrusion, removal of materials, exploratory probing, use of special protective clothing, or use of special equipment.

3.3.14 *extraordinary physical search*—surveying of confined locations that are difficult to either physically access or observe within a *commercial building*. These locations include, but are not limited to, within wall or false ceiling cavities, mechanical or electrical system chases, wall or duct insulation, on the backing of carpeting, within crawl spaces, or in other inconvenient locations.

3.3.15 *exterior*—that portion of the building not defined herein as *interior*.

3.3.16 *fungi*—(singular fungus) neither animals or plants and are classified in a kingdom of their own. *Fungi* include *molds*, yeasts, mushrooms, and puffballs. In this *guide*, the terms *fungi* and *molds* are used interchangeably.

3.3.17 *health department records*—those records of the *local government agency*, where the *property* is located, with the responsibility to maintain health-related files regarding the *property*. Often *health department records* are located in the Health Department of a municipality or county.

3.3.18 *interior*—the area(s) of any building where people have readily available access and are included in the conditioned space of the structure. Does not include: elevator shafts, basements, garages, cavities, roof top mechanical rooms, and so forth.

3.3.19 *interviews*—those portions of this *guide* that are contained in Section 6 thereof and address questions to be asked of *owners*, *key site managers*, and/or *occupants* of the *property*.

3.3.20 *key site manager*—the person identified by the *owner* of a *commercial real estate* as having good knowledge of the history, uses, management, and physical characteristics of the *commercial building*.

3.3.21 *limited*—not *comprehensive* in scope or purpose.

3.3.22 *local government agencies*—those agencies of municipal or county government having jurisdiction over the *property*. Municipal and county government agencies include, but are not limited to, cities, towns, parishes, townships, and similar entities.

3.3.23 *mold*—visible fungal growth that may belong to one of three natural classes of *fungi*. The term has no taxonomic significance and is used only in a very general sense of visible fungal growth on organic matter. Fungal *colonies* most commonly found growing in the indoor environment are often called *molds*. All *molds* are *fungi*, but not all *fungi* are considered *molds*. Molds produce *conidia* or *spores* for the purpose of reproduction that are poorly visible or not visible at all to the naked eye, and that in many species are specialized to become airborne. *Fungi conidia* or *spores* are ubiquitous, and *mold* growth can occur virtually anywhere whenever environmental conditions (generally controlled by the presence of moisture) are favorable.

3.3.23.1 *Discussion*—Note that the term *mold* as used in this *guide* includes suspected *fungi* and other *visual suspect mold growth*. As no testing is performed under this *guide*, the *visual suspect mold growth* that may be *observed* pursuant to this *guide* may or may not be *mold* or *fungi*. In general, for the purpose of this *guide*, the terms *fungi* and *mold* can be used interchangeably.

3.3.24 *moldy odor*—see *musty odor*.

3.3.25 *musty odor*—generic olfactory recognition of moldy or *musty odors* useful for perceiving whether there may be *mold*, *fungal* or other microbial growth in a building.

3.3.26 *occupants*—those tenants, subtenants, or other persons or entities each of which uses a portion of the leasable area of the *property*.

3.3.27 *observe*—to conduct an *observation* pursuant to this *guide*.

3.3.28 *observation*—the survey of items, systems, conditions, or *components* that are *readily accessible* and *easily observable* during a walk-through survey of the subject *property*.

3.3.29 *obvious*—that which is plain or evident; a condition or fact that could not reasonably be ignored or overlooked by a *field observer* while *visually observing* the *property*.

3.3.30 *physical deficiency conducive to mold*—conspicuous or patent defects or significant *deferred maintenance* of a *commercial building's building systems* and *building components* as *observed* during the *field observer's walk-through survey*, excluding *de minimis* conditions that generally do not present a *physical deficiency conducive to mold*.

3.3.31 *readily accessible*—describes areas of the *building* that are promptly made available for *observation* to the *field observer* at the time of the *walk-through* of the *building* and does not require the removal of materials, personal property, equipment, or similar items and that are safely accessible in the opinion of the *field observer*. Use of extraordinary means and methods to access or observe *suspect materials* render such materials inaccessible (for example, fall protection, mechanical lifts, confined space entry, lockout/tagout, energized systems, and so forth) is excluded. An area is said to be *readily accessible* if it can be observed, and identified in a safe manner without causing objectionable damage to such material or other building materials. The necessity to use ladders or stools to reach ceiling materials, the need to move lay-in ceiling tiles to view *components* above such lay-in ceilings, the need to remove goods in a retail establishment to look below shelves, or the need to look beneath carpet (at corners or existing holes only) does not render a material inaccessible. The presence of fixtures, furnishings, equipment, or similar items within the area to be assessed or restricted access (that is, locked doors or denied access or authorization to enter) may render materials not *readily accessible*. For example, materials located underground within crawl spaces or below-grade confined areas such as vaults or tunnels, below concrete slabs, or within walls without access panels, shafts, or chases that are not *readily accessible*.

3.3.32 *readily observable*—describes a physical condition that is *obvious*, *patent*, and *readily accessible*.

3.3.33 *reasonably ascertainable*—information that is *(1) publicly available*, *(2)* obtainable from its source within reasonable time and cost constraints, and *(3) practically reviewable*.

3.3.34 *reasonably available information*—information that is provided and received from the *user* or the party designated by the *user* prior to the *walk-through*.

3.3.35 *recognized environmental condition*—as defined in Practice E 1527, the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

3.3.36 *records review*—that part that is contained in Section 7 of this *guide* addresses, which records shall or may be reviewed.

3.3.37 *representative observations*—*observations* of a reasonable number of samples of repetitive *systems*, *components*, areas, and so forth, which are conducted by the *field observer* during the *walk-through survey*. The concept of *representative observations* extends to all conditions, areas, equipment, *components*, systems, buildings, and so forth to the extent that they are similar and representative of one another.

3.3.38 *subject building*—referring to the primary building or buildings on the *subject property*, and which are within the scope of the *BSP*.

3.3.39 *subject property*—the *commercial real estate* consisting of the site and *commercial building* that are the subject of the *BSP* described by this *guide*.

3.3.40 *site visit*—the visit to the *subject property* during which *observations* are made constituting the *walk-through survey* section of this *guide*.

3.3.41 *survey*—*observations* made by the *field observer* during a *walk-through survey* to obtain information concerning the *subject property's readily accessible* and *easily visible components* or *systems*.

3.3.42 *suspect fungal growth*—visible growth with characteristics of *mold*. Suspect fungal growth cannot be confirmed by the *field observer's* professional judgment without the benefit of sampling. For purposes of this *guide*, this term is used interchangeably with *"mold"* herein.

3.3.43 *timely access*—entry provided to the *field observer* at the time of the *walk-through*.

3.3.44 *visually and/or physically observed*—during a *site visit* pursuant to this *guide*, this term means *observations* made by vision, or other sensory perception, while performing a *walk-through*.

3.3.45 *walk-through*—a *walk-through* of the *commercial building* to make observations in order to complete the *BSP Checklist* for the potential for *observable mold* and *physical deficiencies conducive to mold*. It is the intent of this *guide* that this *walk-through* should not be considered exhaustive or *comprehensive* in nature and is subject to the limitations of this *guide*.

3.4 *Acronyms:*

3.4.1 *ASTM*—American Society for Testing and Materials International

3.4.2 *EPA*—Environmental Protection Agency

3.4.3 *ESA*—environmental site assessment

3.4.4 *FIRM*—flood insurance rate map

3.4.5 *HVAC*—heating, ventilation, and air conditioning

3.4.6 *IAQ*—indoor air quality

3.4.7 *OSHA*—Occupational Safety and Health Act or Occupational Safety and Health Agency

3.4.8 *PCA*—property condition assessment

3.4.9 *TLV*—threshold limit value

4. Significance and Use

4.1 *Use*—This *guide* is intended for use on a voluntary basis by parties who wish to obtain a limited survey of *commercial real estate* to assess for *observable mold* and *physical deficiencies conducive to mold* as part of a *commercial real estate transaction*. This *guide* is intended to constitute a *baseline inquiry* using representative observations for the purposes of conducting *due diligence* regarding the actual and potential presence of *observable mold* and *physical deficiencies conducive to mold* in connection with a property. Inquiries that are more and less comprehensive than this *guide* (including, in some instances, no inquiry) may be appropriate in some circumstances in the opinion of the *user* (for example, when the presence of mold is known to the *user*). Furthermore, no implication is intended that a person must use this *guide* in order to be deemed to have conducted *appropriate inquiry* in a commercially prudent or reasonable manner in any particular transaction. Nevertheless, this *guide* is intended to reflect a commercially prudent and reasonable inquiry. However, a *BSP* is not intended to serve as a *comprehensive survey* for the presence of *observable mold* and *physical deficiencies conducive to mold* in all or most of the building systems throughout a *commercial building*. While a *BSP* is intended to reduce the risk of the presence of *observable mold* and *physical deficiencies conducive to mold* within a *commercial building*, it will not, nor is it intended, to eliminate that risk, or remediate *observable mold* and *physical deficiencies conducive to mold*.

4.2 *Clarification of Use*:

4.2.1 *Specific Point in Time*—Because conditions conducive to mold in a building can vary greatly over time due to changes in weather, interior air handling and conditioning, occupancy, and so forth, a *user* should only rely on the results presented in the *report* for the point in time at which the *BSP* was conducted.

4.2.2 *Site-Specific*—This *guide* is site-specific in that it relates to assessment of *observable mold* and *physical deficiencies conducive to mold* within a specific *commercial building*. Consequently, this *guide* does not address many additional issues raised in *commercial real estate transactions* such as purchases of business entities, or interests therein, or of their assets, that may well involve liabilities pertaining to properties previously owned or operated or other on-site or off-site liabilities.

4.2.3 *Residential Tenants/Purchasers and Others*—No implication is intended that it is currently customary practice for residential tenants of multifamily residential buildings, tenants of single-family homes or other residential real estate, or purchasers of dwellings for one's own residential use, to conduct a *BSP* in connection with these transactions. Thus, these transactions are not included in the term *commercial real estate transaction*, and it is not intended to imply that such persons are obligated to conduct a *BSP* in connection with these transactions for purposes of *appropriate inquiry* or for any other purpose. In addition, no implication is intended that it is currently customary practice for a *BSP* to be conducted in other unenumerated instances (including, but not limited to, many commercial leasing transactions, many acquisitions of easements, and many loan transactions in which the lender has multiple remedies). On the other hand, anyone who elects to do a *BSP* of any *property* or portion of a *property* may, in such person's judgement, use this *guide*.

4.3 *Who May Conduct*—The *walk-through survey* portion of a *BSP* should be conducted by a *field observer* qualified as outlined in Section 7.

4.4 *Additional Services*—As set forth in 11.13, additional services may be contracted for between the *user* and the *consultant*. Such additional services may include an *environmental site assessment*, *property condition assessment* and other issues not included within the scope of this *guide*, examples of which area identified in Section 12 under Out of Scope Considerations.

4.5 *Principles*—The following principles are an integral part of this *guide* and are intended to be referred to in resolving any ambiguity or exercising such discretion as is accorded the *user* or *consultant* in conducting a *BSP* or in judging whether a *user* or *consultant* has conducted *appropriate inquiry* or has otherwise conducted an adequate *BSP*.

4.5.1 *Uncertainty Not Eliminated*—No limited survey of *observable mold* and *physical deficiencies conducive to mold* can wholly eliminate uncertainty regarding the potential for *observable mold* and *physical deficiencies conducive to mold* to be present at a *property*. Performance of a *BSP* pursuant to this *guide* is intended to reduce, but not eliminate, uncertainty regarding the current *observable mold* and *physical deficiencies conducive to mold* at a *property* nor to eliminate the potential for *observable mold* and *physical deficiencies conducive to mold* to be or to become present. The *guide* recognizes a *consultant's* findings may be determined under time constraints, formed without the aid of testing, exploratory probing, the removal of materials, or design.

4.5.2 *Not Exhaustive*—*Appropriate inquiry* does not mean an exhaustive assessment of a *property*. There is a point at which the cost of information obtained or the time required to gather it outweighs the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions. One of the purposes of this *guide* is to identify a balance between the competing goals of limiting the costs and time demands inherent in performing a *BSP* and the reduction of uncertainty about unknown conditions resulting from additional information.

4.5.3 *Activity Exclusions*—Certain activities are generally excluded from or otherwise represent limitations to the scope of a *BSP* prepared in accordance with this *guide*. These should not be construed as all-inclusive or implying that any exclusion not specifically identified is a *BSP* requirement under this *guide*. Specifically excluded activities include:

4.5.3.1 Removing or relocating materials, furniture, storage containers, personal effects, debris materials or finishes; conducting exploratory probing or testing; *dismantling* or operating equipment or appliances; or disturbing personal items or property which obstructs access or visibility.

4.5.3.2 Entering or accessing any area of the premises deemed to pose a threat of *dangerous conditions* with respect to the *field observer* or to perform any procedure that may damage or impair the physical integrity of the *property*, any *system*, or *component*.

4.5.3.3 Providing an *environmental site assessment*, *property condition assessment*, or any element of an *environmental site assessment* or *property condition assessment*.

4.5.4 *Hidden Areas*—In some cases, *observable mold* and *physical deficiencies conducive to mold* may not be *obvious*. *Mold growth* may occur on hidden surfaces such as: within wall cavities, within crawlspaces; on the back side of drywall, wallpaper or paneling; on the tops of ceiling tiles or the underside of carpets and pads, and so forth. Possible locations of hidden *mold* can include pipe chases and utility tunnels, porous thermal or acoustic liners inside ductwork, or roof insulation materials above roof decks of ceilings. If the *user* suspects the presence of hidden *mold* (for example, due to musty smells), the *user* should communicate this fact to the *consultant*. Investigation of hidden *mold* problems may be difficult and is beyond the scope of work described in this *guide*. If the *user* suspects hidden *mold*, work beyond that described in this *guide* may be appropriate. This *guide* does not include a *physical search* for hidden *mold*.

4.5.5 *Representative Observations*—The purpose of conducting representative *observations* is to convey to the *user* the expected magnitude of commonly encountered or anticipated conditions. *Representative observation* quantities are to be provided in the agreement between *user* and *consultant*; however, if in the *consultant's* opinion such *representative observations* as presented in the agreement are unwarranted as a result of homogeneity of the asset or other reasons deemed appropriate by the *consultant*, a sufficient number of units, areas, systems, buildings, and so forth may be *observed* so as to achieve a reasonable confidence as to the representative present conditions of such repetitive or similar areas, systems, buildings, and so forth.

4.5.5.1 *User-Requested Representative Observations*—A *user* may define the *representative observations* required for a given *property*.

4.5.5.2 *Extrapolation of Findings—Consultant* may reasonably extrapolate *representative observations* and findings to all typical areas or *systems* of the *property* for the purposes of describing such conditions within the *report*.

4.5.6 *Level of Inquiry Is Variable*—Not every *commercial real estate* transaction will warrant the same level of assessment. Consistent with good commercial or customary practice, the appropriate level of survey will be guided by the type of property subject to assessment, the expertise and risk tolerance of the *user*, geographic and other environmentally related issues such as local climate, drainage and proximity to surface water, and other information that may be developed during the course of the *BSP*.

4.5.7 *Comparison With Subsequent Inquiry*—It should not be concluded or assumed that an inquiry was not an *appropriate inquiry* merely because the inquiry did not identify *observable mold* and *physical deficiencies conducive to mold* in connection with a *commercial building*. *BSPs* must be evaluated based on the reasonableness of judgments made at the time and under the circumstances in which they were made. Subsequent *BSPs* should not be considered valid standards to judge the appropriateness of any prior assessment based upon hindsight, changed conditions, new information, use of developing technology or analytical techniques, or other factors.

4.6 *Rules of Engagement*—The contractual and legal obligations between a *consultant* and a *user* (and other parties, if any) are outside the scope of this *guide*. No specific legal relationship between the *consultant* and the *user* is necessary for the *user* to meet the requirements of this *guide*.

5. User Responsibilities

5.1 *Access*—User should arrange for the *field observer* to receive *timely access*, which is complete and safe to the *commercial real estate's* improvements (including roofs). In addition, access to the *commercial real estate's* staff and appropriate documents should be provided by *owner*, *owner's* representative, and/or made available by the *user*. If requested by the *consultant*, the *user* shall provide someone knowledgeable about the property to accompany the *consultant* during the *walk-through survey*. In no event should the *field observer* seek access to any particular portion of the *commercial real estate*, interview property management staff or tenants, or review documents, if the *owner*, *user*, or *occupant* objects to such access or attempts to restrict the *field observer* from conducting any portion of the *walk-through survey*, document review, *interviews*, or taking of photographs. Any conditions that significantly impede or restrict the *field observer's walk-through survey* or research, or the failure of the *owner* or occupant to provide *timely access*, information, or requested documentation should be timely communicated by the *consultant* to the *user*. If such conditions are not remedied, the *consultant* is obligated to state within the *report* all such material impediments that interfered with the conducting of the *BSP* in accordance with this *guide*.

5.2 *User Disclosure*—The *user* should disclose in a timely manner all appropriate information in the *user's* possession that may assist the *field observer* in identifying key issues such as construction details, renovation details, building damage details, or prior *mold*-related survey or remediation services conducted at the *commercial building* and other information useful in completing the *BSP*.

6. Survey for Readily Observable Mold and Conditions Conducive to Mold

6.1 *Objective*—The purpose of the *BSP* is to *observe*, to the extent feasible pursuant to the processes prescribed herein, on *observable mold* and *physical deficiencies conducive to mold* at the *subject property* and prepare a *report* of the findings.

6.2 *BSP Sections*—The *BSP* should have four sections:

6.2.1 Documentation Review; refer to Section 8.

6.2.2 Interview; refer to Section 9.

6.2.3 Walk-Through Survey; refer to Section 10.

6.2.4 Report; refer to Section 11.

6.3 *Coordination of Sections*:

6.3.1 *Sections Used in Concert*—The Documentation Review, Interviews, and *Walk-Through Survey* sections of this *guide* are interrelated in that information obtained from one component may either indicate the need for more information from another, or impact the *consultant's* findings, opinions, or recommendations, or combination thereof.

6.3.2 *Information Provided By Others*—The *consultant* should note in the *report* the source of information used by the *consultant* that were *material* in identifying any *observable mold* and *physical deficiencies conducive to mold* encumbering the *property* that was not readily *observed* by the *consultant* or that supplemented the *consultant's observations*.

6.3.3 *No Sampling*—This *guide* does not include any air, surface or bulk sampling and testing for the presence of *mold*.

6.4 *Consultant's Duties*:

6.4.1 *Who May Conduct Portions of the Survey*—The inquiries, *interviews*, *walk-through survey*, interpretation of the information upon which the Report is based, and the writing of the *report* are all tasks and portions of the *BSP* that may be performed by the *consultant*, *field observer*, members of the *consultant's* staff, or third party contractors engaged by the *consultant*, provided such persons meet applicable licensure requirements, if any, in the jurisdiction where the services are performed.

6.4.2 *Responsibility for Lack of Information*—The *consultant* is not responsible for providing or obtaining information should the source contacted fail to respond, to respond only in part, or fails to respond in a timely fashion.

6.4.3 *Representative Observations*—The *field observer* is not expected to *survey* every *component* of every *building system* during a *walk-through survey*. For example, it is not the intent to *survey* every apartment unit, mechanical area, toilet room facilities, every square foot of tenant area, and so forth. Only *representative observations* of such areas are to be *surveyed*. The concept of *representative observations* extends to all conditions, areas, equipment, *building components*, *building systems*, and so forth to the extent that they are similar and representative of one another.

7. The Consultant

7.1 *Qualifications of Consultant*—This *guide* recognizes that the competency of the *consultant* is highly dependent on many factors that may include professional education, training, experience, certification, or professional licensing/registration of both the *consultant's field observer* and the *BSP reviewer*. It is the intent of this *guide* to identify factors that should be considered by the *user* when retaining a *consultant* to conduct a *BSP* and by the *consultant* in selecting the appropriate *field observer* and *BSP reviewer*. No standard can be designed to eliminate the role of professional judgment, competence, and the value and need for experience during the *walk-through survey* and to conduct the *BSP*. Consequently, the qualifications of the *field observer* and the *BSP reviewer* are critical to the performance of the *BSP* and the resulting *report*. This *guide* further recognizes the *consultant* has the responsibility to select, engage, or employ the *field observer* and the *BSP reviewer*.

7.2 *Independence of Consultant*—This *guide* recognizes that the *consultant* is normally a person or entity, acting as an independent contractor, who has been engaged by the *user* to conduct a *BSP*. In the event the *consultant*, the *field observer*, the *BSP reviewer*, or members of the *consultant's* staff are employees of, or subsidiary of, the *user*, such affiliation or relationship should be disclosed in the Executive Summary of the *report*.

7.3 *Qualifications of the Field Observer*—Refer to X1.1.1, for nonmandatory guidance on the qualifications of the *field observer*.

7.4 *Qualifications of the BSP Reviewer*—Refer to X1.1.2, for nonmandatory guidance on the qualifications of the *BSP Reviewer*.

7.5 *The Field Observer and BSP Reviewer may be a Single Individual*—The *BSP reviewer* may also act as the *field observer* and conduct the *walk-through survey*. In such an event, the *BSP reviewer* should identify such dual responsibilities and sign the *report* indicating that he or she has performed both functions.

7.6 *Not a Professional Architecture or Engineering Service*—It is not the intent of this *guide* that by conducting the *walk-through survey* or reviewing the *report* that the *consultant*, the *field observer*, or the *BSP reviewer* is practicing architecture, engineering, industrial hygiene or safety. Furthermore, it is not the intent of this *guide* that either the *BSP reviewer* or the *field observer*, if they are an *architect*, *engineer* or *industrial hygienist*, must either sign or seal the *report* as an instrument of professional service or identify their signatures as being that of an *architect* or *engineer*.

8. Document and Record Review

8.1 *Objective*—The objective of the document and record review is to augment the *walk-through survey* and to assist the *consultant's* understanding of the *subject property* and identifying of *observable mold* and *physical deficiencies conducive to mold*. Records or documents, if *readily available*, should be reviewed to specifically identify, or assist in the identification of, *observable mold* and *physical deficiencies conducive to mold*.

8.2 *Reliance*—The *consultant* is not required to independently verify the information provided and may rely on information absent *actual knowledge* to the contrary and to the extent that the information appears reasonable to the *consultant*.

8.3 *Accuracy and Completeness*—Accuracy and completeness of information varies among information sources. The *consultant* is not obligated to identify mistakes or insufficiencies in the information provided. However, the *consultant* should make reasonable efforts to compensate for mistakes or insufficiencies of information reviewed that are obvious in light of other information obtained in the process of conducting the *BSP* or otherwise known to the consultant.

8.4 *Pre-survey Questionnaire—Consultant* may provide *owner* or *owner's representative*, or both, with a pre-survey questionnaire (the "questionnaire"). Such questionnaire, complete with the *owner's* or *owner's* representative's responses, should be included as an exhibit within the *report* unless directed otherwise by user.

8.5 *Owner/User Provided Documentation and Information*—If *readily available*, the *consultant* should review the following documents and information that may be in the possession and/or provided by the *owner*, *owner's* representative, or *user*, as appropriate. Such information could also aid the *consultant's* knowledge of the *commercial real estate's* physical improvements, extent and type of use, and/or assist in identifying *material* discrepancies between reported information and *observed* conditions. The *consultant's* review of documents submitted does not require commenting on the accuracy of such documents or their preparation, methodology, or protocol. However, if the *consultant* discovers a significant discrepancy, it should be disclosed within the *report*. Such materials are to be handled in a manner that protects the *commercial building's* privacy and confidentiality.

8.5.1 Moisture Intrusion Survey, Mold or Microbial Growth Survey, either current or previously prepared.

8.5.2 IAQ Reports.

8.5.3 Violations, orders, tenant or occupant complaints, or other documents or communication from any *local government agencies* regarding *mold*, *fungi*, IAQ, water, sewer, septic, wastewater, or other moisture related issue.

8.5.4 Previously prepared *environmental site assessment reports*.

8.5.5 Previously prepared *property condition reports* or studies pertaining to any aspect of the *subject property's* physical condition.

8.5.6 Records indicating building occupancy percentage.

8.5.7 Records indicating building turnover percentage.

8.5.8 Building rent roll.

8.5.9 Leasing literature, listing for sale, marketing/promotional literature such as photographs, descriptive information, reduced floor plans, and so forth.

8.5.10 Drawings and specifications (as-built or construction).

9. Interviews with Owners and Occupants

9.1 *Persons to be Interviewed*—Prior to the *site visit*, the *consultant* should ask the *owner*, *user*, or *key site manager* to identify a person or persons knowledgeable of the physical characteristics, maintenance, and repair of the *commercial building*. If a property manager or agent of the *owner* is identified, the *consultant* should contact such individual so as to inquire about the *subject property's* historical repairs and replacements, history of tenant complaints, level of preventive maintenance exercised, pending repairs and improvements, frequency of repairs and replacements, existence of ongoing or pending litigation related to *subject property's* physical condition, the presence of *observable mold*, or *physical deficiencies conducive to mold*. In connection with the *consultant's* research or *walk-through survey*, *consultant* may also question others who are knowledgeable of the *commercial real estate's* physical condition and operation. It is within the discretion of the *consultant* to decide which questions to ask before, during, or after the *site visit*.

9.2 *Reliance*—*Consultant* may rely on the information obtained as a result of the *interviews*, provided that in the *consultant's* opinion such information appears to be reasonable.

9.3 *Method*—Questions to be asked pursuant to this section are at the discretion of the *consultant* and may be asked in person, by telephone, or in writing.

9.4 *Incomplete Answers*—While the *consultant* should make inquiries in accordance with this section, the persons to whom the questions are addressed may have no obligation to cooperate. Should the *owner*, *key site manager* or the property manager, building/facility engineer, or maintenance supervisor not be available for an *interview*, whether by intent or inconvenience, or not respond in full or in part to questions posed by the *consultant*, *consultant* should disclose such within the *report*. Furthermore, should any party not grant such authorization to interview, restrict such authorization, or should the person to whom the questions are addressed not be knowledgeable about the *subject property* this should be disclosed within the *report*.

9.5 *Questions*—See Appendix X2.

10. Walk-Through Survey

10.1 *Objective*—The objective of the *walk-through survey* is to obtain information indicating the likelihood of identifying current *observable mold* and *physical deficiencies conducive to mold* observed to be occurring within a *commercial building*.

10.2 *Photographs*—*Consultant* should document representative conditions and *observable mold* and *physical deficiencies conducive* with photographs and use reasonable efforts to document typical conditions present including *observable mold* and *physical deficiencies conducive to mold*, if any.

10.3 *Observation*—During the *walk-through survey*, the *consultant* shall *visually and/or physically observe* the *property* and the *commercial building(s)* located on the *property* to the extent not obstructed by bodies of water, adjacent buildings, or other obstacles.

10.4 *Specific Examples of Areas to be Observed*—The following listing of areas and/or locations at a *property* to be *observed*, if present, are provided as examples. If these areas are present on a *property* they should be *observed* for the presence of *observable mold* and *physical deficiencies conducive to mold*.

10.4.1 *Site*—The periphery of the developed area of the *commercial building* should be *visually and/or physically observed*.

10.4.1.1 *Topography*—*Observe* the general topography and any unusual or problematic features or conditions that would be possibly problematic with respect to moisture or water infiltration into the *commercial building's* sublevel(s).

10.4.1.2 *Storm Water Drainage*—*Observe* the storm water collection and drainage *system* and note the presence of on-site surface waters, and retention or detention basins. If swales or drainage areas are present adjacent to or near building exterior walls, they should be *observed* for standing water or other indications that they could be sources of moisture that could enter the building.

10.4.1.3 *Marshes, Bogs and Open Water*—If marshes, bogs, or areas of open water, or combination thereof, are present adjacent to or near the building's exterior walls, they should be *observed* for standing water or other indications that they could be sources of moisture that could enter the building.

10.4.2 *Exterior*—The periphery of all structures on the *property* shall be *visually and/or physically observed*.

10.4.2.1 *Exterior Building Walls*—Should be *visually and/or physically observed*.

10.4.2.2 *Cooling Towers*—Should be *visually and/or physically observed*.

10.4.2.3 *Roofs*—Roofs should be *observed* for obvious signs of leaking such as split seams and excessive areas of patching (frequently identified on flat gravel surfaced roofs by the gravel being moved to allow repair and not being replaced over the repaired areas).

10.4.2.4 *Air Intakes*—HVAC air intakes should be *observed* for signs of *mold* or for the presence of standing water in the vicinity of them.

10.4.2.5 *Air Handling Units*—HVAC air handling units should be *visually and/or physically observed*.

10.4.3 *Interior*—The interior of structures on the *property*, *readily accessible* common areas expected to be used by *occupants* or the public (such as lobbies, hallways, utility rooms, recreation areas, and so forth), maintenance and repair areas, including boiler rooms, and a representative sample of *occupant* spaces, should be *visually and/or physically observed*. Additionally, *readily accessible* attics, basements, cellars, and other such areas of the *commercial building* not usually occupied should be viewed. It is not necessary to comply with this *guide* by surveying under floors, above ceilings, behind walls, or within confined areas such as chases, ducts, or crawl spaces as these areas are not generally considered *readily accessible* and would be deemed areas warranting an *extraordinary physical search*.

10.4.3.1 *Interior Areas Near Visible Exterior Mold*—If exterior wall *mold* is *observed*, the interior walls adjacent to such *visible* exterior *mold* should be *observed*. Interior wall surfaces that are near locations where the exterior of the building had identified *observable mold* should be *observed*. If reasonably possible, the interior wall cavities of exterior walls may be *observed*. While this *guide* does not require opening such wall cavities, if they can be *observed* from above hung ceilings or through existing wall penetrations, they may be so *observed*.

10.4.3.2 *Interior Areas Near Exterior Swales and/or Drainage Systems*—If exterior swales or drainage systems are *observed*, the interior walls adjacent to such swales and/or drainage systems should be *observed*. Interior wall surfaces that are near locations where the exterior of the building is near swales and/or drainage systems should be *observed*. If *readily accessible*, the interior wall cavities of exterior walls may be *observed*. While this *guide* does not require opening such wall cavities, if they can be *observed* from above hung ceilings or through existing wall penetrations they may be so *observed*.

10.4.3.3 *Interior Areas Near Below Grade Exterior Walls or Those at Lower Levels Than the Surrounding Land*—Interior wall surfaces that are near locations where the exterior of the building is below grade or at lower levels than surrounding land should be *observed*. If reasonably possible, the interior wall cavities of exterior walls may be *observed*. While this *guide* does not require opening such wall cavities, if they can be *observed* from above hung ceilings or through existing wall penetrations they may be so *observed*.

10.4.3.4 *Toilet Rooms and Bathrooms*—Toilet rooms and bathroom should be observed for operational exhaust fans and leaking plumbing fixtures. Exhaust fans should be *observed*, and if accessible, operated to ensure that they are drawing air from the space. The areas around and near the fans should be *observed* for *mold*.

10.4.3.5 *Kitchens*—Kitchens should be *observed*. Enclosed cabinets and areas beneath sinks and around grease traps should be *observed*. Exhaust fans should be *observed*, and if accessible, operated to ensure that they are drawing air from the space. The areas around and near the fans should be *observed* for *mold*.

10.4.3.6 *Humidifiers*—Humidifiers, especially reservoir-type central and portable units, should be *observed*.

10.4.3.7 *Dehumidifiers*—Dehumidifiers should be noted as to their location within the building, cause for warranting such an appliance, and method of discharging the collected water.

10.4.3.8 *Condensation/Drip Pans*—To the extent they are *readily accessible*, condensation/drip pans under coils of air conditions or other HVAC equipment should be *observed* for standing water and *microbial growth*.

10.4.3.9 *Crawl Spaces*—Entering of crawl or confined space areas are considered out of scope. However, the *field observer* should observe conditions to the extent *easily visible* from the point of access to the crawl or confined space areas. The *field observer* is to note evidence of previous substructure flooding or water penetration if *easily visible* or if such information is provided.

10.4.3.10 *Basements and Cellars*—Basements and cellars should be *observed* along the building's exterior perimeter walls for evidence of *visible mold* or significant water intrusion, or both. Any *sumps*, perimeter channels, or other areas of open water in the basement and/or cellar should be *observed*.

10.4.3.11 *Plumbing*—Exposed plumbing in basements, cellars, and other *readily observable* locations should be *observed* for water leaks or condensation.

10.4.3.12 *Fire Suppression Systems*—Exposed fire suppression system components in basements, cellars, and other *readily observable* locations should be *observed* for water leaks or condensation.

10.4.3.13 *Windows and Sliding Doors*—Frames and perimeters should be *observed* for *observable mold* and *physical deficiencies conducive to mold*, such as condensation, as well as areas where leaks can occur.

10.4.3.14 *Attic Spaces*—Attic spaces, especially around roof penetrations where flashing would be expected, should be *observed* if *readily accessible*. If possible, on buildings with pitched roofs, areas near the building's eaves should be *observed*. Attic insulation should be *observed* for signs of *observable mold* and *physical deficiencies conducive to mold*.

10.4.3.15 *Interior Areas With Open Water or High Humidity*—Area of buildings with spas, whirlpools, swimming pools, decorative fountains, saunas, steam baths and other such areas that have open water or high humidity, or both, should be *observed*.

10.4.3.16 *Reservoir Misters*—Reservoir misters in supermarket produce sections should be *observed*.

10.4.3.17 *Dryer Vents*—Dryer vents should be *observed* to ensure that they are connected and directly discharge outside buildings.

10.4.3.18 *Gas-fired and Oil-fired Heaters*—Gas-fired and oil-fired heaters (for example, hot water heater, pool water heaters, and so forth) and their exhausts should be *observed*.

10.4.4 *Sample Field Checklist*—See Appendix X3.

11. Evaluation and Report Preparation

11.1 *Report Format*—The *report* of findings of the *BSP* can either be *(1)* a stand-alone *report* or *(2)* accompany or be an integral part of an *environmental site assessment (ESA)* report or *property condition report (PCR)*, as determined by *rules of engagement* between the *user* and *consultant*. If the results of the *BSP* are to be included within either an *ESA* report or a *PCR*, all of the information required by this *guide* should be included. However, the ordinal placement of such information within the *ESA* or *PCR* may reasonably vary.

11.2 *Scope*—Provide an outline of the scope of work completed for the *report* and methods utilized. Should either the *survey* or the *report* materially deviate from this *guide* or if there were any constraints preventing the *consultant* from conducting the *survey* in accordance with this *guide*, these constraints should be identified.

11.3 *Documentation*—The findings, opinions, and conclusions in the *report* should be supported by documentation, if readily available. If the *consultant* has chosen to exclude certain documentation from the *report*, the *consultant* should identify in the *report* the reasons for doing so (for example, a confidentiality or nondisclosure agreement between *user* and *consultant*). Supporting documentation should be included in the *report* or adequately referenced to facilitate reconstruction of the *survey* by another *consultant*. Sources that revealed no salient, pertinent information should be documented.

11.4 *Content of Report*—The *report* should include those matters required to be included in the *report* pursuant to various provisions of this *guide*.

11.5 *Scope of Services*—The *report* should describe all services performed in sufficient detail to permit another party to reconstruct the work performed.

11.6 *Consultant Information*—The name, address, phone number, and fax number of the *consultant* conducting the *survey* as well as the name and signature of the *BSP reviewer*.

11.7 *Building Identification*—Name (if any) and address of the *subject property*, age, size, use, the general materials used to construct and clad the frame, and a general description of the interior.

11.8 *User Information*—Name, address, phone number, and fax number.

11.9 *Findings*—The *report* should summarize the observed *observable mold* and *physical deficiencies conducive to mold*, if any, on the property.

11.10 *Opinion*—The *report* should include the *consultant's* opinion(s) related to *observable mold* and *physical deficiencies conducive to mold* or areas/conditions conducive to *moisture intrusion* or *microbial growth* on the *property*, found as a result of the *BSP*. The logic and reasoning used by the *consultant* in evaluating information collected during the course of the survey related to *observable mold* and *physical deficiencies conducive to mold* on the *property* should be discussed. *Observable mold* and *physical deficiencies conducive to mold* should be listed in the conclusions section of the *report*.

11.11 *Conclusions*—The *report* should summarize all indications of *observable mold* and *physical deficiencies conducive to mold* connected with the *property*.

11.12 *Deviations*—All deletions and deviations from this *guide* (if any) should be listed individually. Related services that complement or augment the *survey* should also be listed.

11.13 *Additional Services*—Any additional services contracted for between the *user* and *consultant*, including a broader scope of assessment, detailed conclusions, testing of any kind, recommendations to remediate mold of moisture infiltration, and so forth, are beyond the scope of this *guide*, and should only be included in the *report* if so specified in the terms of engagement between the *user* and the *consultant*.

11.14 *Qualifications*—The *report* should include a qualification statement of the *consultant* responsible for conducting *BSP*.

11.15 *Limiting Conditions*—Provide all limiting conditions of the *report*.

11.16 *Exhibits*:

11.16.1 Representative photographs.

11.16.2 Questionnaire, if used.

11.16.3 *User/owner* submitted documents, if any.

11.16.4 Photocopied plot plans, sketches, and so forth, if any.

11.16.5 Other exhibits considered appropriate by the *consultant*, if any.

12. Out of Scope Consideration

12.1 *Activity Exclusions*—The activities listed below are generally excluded from or otherwise represent limitations to the scope of a *BSP* prepared in accordance with this *guide*. These should not be construed as all-inclusive or implying that any exclusion not specifically identified is a *BSP* requirement under this *guide*.

12.1.1 Removing or relocating materials, furniture, storage containers, personal effects, debris material, or finishes; conducting exploratory probing or testing of any kind; *dismantling* or operating of equipment or appliances; or disturbing personal items or any property, personal or real, that obstructs access or visibility.

12.1.2 Verifying measurements or quantities to establish or confirm any information or representations provided by the *owner* or *user*.

12.1.3 Entering or accessing any area of the premises deemed to pose a threat of *dangerous conditions* with respect to the *field observer* or to perform any procedure, which may damage or impair the physical integrity of the *property*, any *system*, or *component*.

12.1.4 Providing an opinion as to the presence within the *property* of asbestos, hazardous wastes, toxic materials, or conducting an *environmental site assessment* in whole or in part.

12.1.5 Providing an opinion as to the physical condition of any component system, or equipment within the *property*. Or, conducting a *property condition assessment* in whole or in part.

12.2 *Warranty and Guarantee Exclusions*—By conducting a *BSP* and preparing a *report*, the *consultant* is merely providing an opinion and does not warrant or guarantee the present or future condition of the *subject property* or the absence of *observable mold* and *physical deficiencies conducive to mold*.

12.3 *Additional Services/General Considerations*:

12.3.1 *Further Inquiry*—There may be physical condition issues or certain physical improvements at the *subject property* that the parties may wish to assess in connection with a *commercial real estate transaction* that are outside the scope of this *guide*. Such issues are referred to as out of scope considerations and if included in the *BSP*, should be identified under 11.13.

12.3.2 *Out of Scope Considerations*—Whether or not a *user* elects to inquire into out of scope considerations in connection with this *guide* is a decision to be made by the *user*. No assessment of such out of scope considerations is required for a *BSP* to be conducted in compliance with this *guide*.

12.4 *Other Standards*—There may be standards or protocols for the discovery or assessment, or both, of *observable mold* and *physical deficiencies conducive to mold* associated with out of scope considerations developed by government entities, professional organizations, or private entities.

13. Keywords for Internet Reference

13.1 ASTM; commercial real estate survey; fungal growth; indoor air quality; *microbial growth*; *moisture intrusion survey*; *mold*; *mold survey*; water intrusion; water intrusion survey

APPENDIXES

(Nonmandatory Information)

X1. GUIDANCE AND ENHANCED DUE DILIGENCE SERVICES

INTRODUCTION

The information presented in this appendix is not necessary for completing a baseline *BSP* pursuant to this *guide*. However, a *user* and *consultant* may wish to utilize some or all of the information presented in this appendix to increase or supplement the extent of due diligence to be exercised by the *consultant*.

X1.1 *Qualifications*—This *guide* recognizes that the quality of a *BSP* is highly dependent on the qualifications of the *field observer* and *BSP Reviewer*. These qualifications include such factors as experience, education, training, certification and/or professional registration/licensure in architecture, engineering or industrial hygiene. Additionally, this *guide* recognizes that appropriate qualification levels may vary for different *BSPs* depending on such factors as asset type and scope (for example, size, age, complexity, and so forth) as well as the specific needs, purpose the *BSP* is to serve, and the risk tolerance level of the user.

X1.1.1 *Qualifications of the Field Observer*—The *field observer* is the person engaged by the *consultant* to conduct the *walk-through survey*; the *field observer* also may be the *BSP Reviewer*. The *consultant* should establish the qualifications of the *field observer*, but as the accuracy and completeness of the *walk-through survey* will determine the quality of the *BSP*, the *consultant* should carefully consider education, training, and experience when selecting the *field observer*.

X1.1.1.1 The *field observer*, as a representative of the *consultant*, should be identified in the *BSP*.

X1.1.2 *Qualifications of the BSP Reviewer*—The *BSP Reviewer* is the qualified individual designated to exercise responsible control over the *field observer* on behalf of the *consultant* and to review the *BSP*. This *guide* recognizes that the consultant is ultimately responsible for the *BSP* process.

X1.1.2.1 As indicated in the main body of the *guide*, all *BSPs* prepared in accordance with this *guide* should be reviewed and signed by the *BSP Reviewer*.

X1.1.2.2 It is recommended that the *user* consider a *BSP Reviewer* qualified by possessing a professional designation in architecture, engineering, industrial hygiene, a state license in an appropriate field or appropriate experience or certifications, or both, in the construction fields. The *BSP Reviewer* should have experience commensurate with the subject property type and scope (size, complexity, and so forth), and experience in the preparation of *BSPs*. Generally, professional architecture, engineering, industrial hygiene licensure/registration, and/or certifications, education, or appropriate construction experience related to these disciplines are recognized as acceptable qualifications for reviewing *BSPs*. However, the *user* and *consultant* may mutually agree to define qualifications for the *BSP Reviewer*, which may depend on the specific experience of the *BSP Reviewer* and the scope of the subject *property*.

X1.2 *Documents and Records Research*:

X1.2.1 *Objective*—*Consultant* should solicit and review *publicly available* recorded documents.

X1.2.2 *Reasonably Ascertainable/Standard Government Record Sources*—Availability of record or document information varies from information source to information source, including governmental jurisdictions. *Consultant* should make *appropriate inquiry* and review only such record information that is *reasonably ascertainable* from standard sources. If information is not *practically reviewable* or not provided to the *consultant* in a reasonable time for the *consultant* to formulate an opinion and complete the *report*, such fact should be stated in the *report*, and the *consultant* is to have no further obligation of retrieving such documentation or reviewing it if it is subsequently provided. Nevertheless, if pursuant to the *consultant's appropriate inquiry*, *material* information is received by the *consultant* contemporaneous to the preparation of the *report* (within 30 days) but too late to be included in the *report*, the *consultant* should forward it to *user*.

X1.2.3 *Publicly Available Documents*—Information from a local, state, triba,l or federal government agency, department, or other source of information, which is typically reproduced and provided to the *consultant* upon *appropriate inquiry* and is *reasonably ascertainable*.

X1.2.4 *Drawings*—Obtaining a set of drawings, which may be *publicly available*, is an exception to the requirement that *publicly available documents* be provided, due to delivery and cost constraints. If *readily available*, such documents should be provided and identified to the *consultant* by the *owner*, *owner's* representative, or *user* as construction, as-built, or other design/construction documents. Nonetheless, the review of drawings of the *commercial building* is not a requirement of this *guide*. Drawings may serve as an aid to the *consultant* in describing the *commercial real estate's* improvements, and to assist in preparing brief descriptions of the *commercial building's* major *systems*.

X1.2.5 *Reasonable Time and Cost*—It is the intent of this *guide* that information will be provided to the *consultant* within ten business days of the source receiving *appropriate inquiry*, without an in-person request by the *consultant* being required, and at no more than a nominal cost to cover the source's cost of retrieving and duplicating the information. Generally, an in-person request by the *consultant* is not required. However, this is not to preclude the *consultant* from personally researching such files if, in the opinion of the *consultant*, this could be reasonably accomplished at the time of the *site visit*.

X1.3 *Suggested Types of Documents to Review*:

X1.3.1 Records of complaints related to IAQ;

X1.3.2 Records of water damage, flooding, water leakage or water intrusion, or both;

X1.3.3 Records of property insurance claims applicable to *mold* and *physical deficiencies conducive to mold*; or

X1.3.4 Records of code violations or citations, or both, applicable to *mold* and *physical deficiencies conducive to mold*.

X1.4 *Suggested Locations of Documents to Review*:

X1.4.1 Government agencies—zoning, building codes or licensing and permits.

X1.4.2 Health department.

X1.4.3 Fire department.

X1.4.4 Insurance databases.

X1.4.5 Environmental databases.

X1.4.6 FIRM maps.

X2. INTERVIEW CHECKLIST

INTRODUCTION

The information presented in this appendix is not necessary for completing a *BSP* pursuant to this *guide*. However, a *user* and *consultant* may wish to utilize some or all of the information presented in this appendix as guidance to complete the *BSP*.

The following questions may be asked of the *owner*, *user*, or *key site manager* of the *property*. Note that if the answer to any of the following questions is "yes," further inquiry may be required during the *interview* to determine the location of within the building where the issue exists and to gain information and documentation useful in the completion of the *walk-through survey*.

X2.1 When was the *commercial building* constructed?

X2.2 Are there any existing or historic moisture, condensation, and/or high humidity problems within or exterior to the building?

X2.3 Has there been any flooding within the building, basement, cellar, or crawl spaces?

X2.4 Are you aware of any visual mold within the building? If so, what is the extent and location?

X2.5 Have there been any fires extinguished by water?

X2.6 Have there been any discharge or leaks from a sprinkler system?

X2.7 Have any window or roof leaks or other water damage occurred in any part of the *commercial building*? If so, when and what measures where taken, if any, to address the leaks?

X2.8 Are there any *sumps*, perimeter channels, or interior drains?

X2.9 Has there been any overflow from sinks, *sumps*, or sewers?

X2.10 Are there any wet or damp basement, cellar, or crawl space areas?

X2.11 Are there any dirt floor basement or crawl spaces?

X2.12 Are there any areas with extensive amounts of indoor plants or greenhouses?

X2.13 Are there any areas where landscaping irrigation sprinklers have water contact with the building's sidewalls?

X2.14 Are there any areas of known or suspected *mold* on or in the building or on any furnishing (for example, carpet, books, papers, wallpaper, insulation, drywall, plaster, and so forth) within the building?

X2.15 Are there any areas of currently or formerly damp materials in the building or any such furnishing (for example, carpet, books, papers, wallpaper, insulation, drywall, plaster, and so forth) within the building?

X2.16 Have building *occupants* reported any *moldy odors* or *musty odors*?

X2.17 Are there any hidden sources of water or high humidity?

X2.18 Are there any areas of high humidity (for example, kitchens, indoor pools, spas, whirlpools, saunas, steam baths, decorative fountains, and so forth)?

X2.19 Are there any humidifiers?

X2.20 Are there any dehumidifiers? If yes, why and what is the method of discharging the collected water?

X2.21 Are there any HVAC cooling towers?

X2.22 Does the HVAC system have any drip pans or other open discharge of condensate water, steam or other moisture?

X2.23 Are there any HVAC maintenance program(s) in place for the *commercial building*?

X2.24 Are there any gas-fired or oil-fired hot water, pool water, or other types of water heaters? Do any exhaust within the building?

X2.25 Are there any visually water damaged or water stained building materials such as ceilings, walls, and so forth?

X2.26 Are there any areas of exterior standing water or inadequate drains?

X2.27 Are there any sewer ejector pumps? If so, are they working properly?

X2.28 Have any plumbing leaks or excessive piping condensation occurred in any part of the *commercial building*? If so, when and what measures were taken, if any, to address the leaks?

X2.29 Are there any building envelope leaks: roofs, sidewalls, flashing, windows, eaves, sliders, and so forth?

X2.30 Are there are there any clothes dryers? Are dryers vented to the outside?

X2.31 Are there any interior wet areas such as areas of condensation?

X2.32 Are there any attics or other locations with resident or seasonal birds, bats, or other animals?

X2.33 Are there any attics that have toilet room exhaust ducts discharging directly into the attic area?

X2.34 Are there any areas with chronic condensation such as inadequately insulated cold water supply, condensate, or chilled water piping, exterior walls, windows, doors, sliders, or other cool surfaces?

X2.35 Has the building been partially or fully resided? If yes, with what material?

X2.36 Have there been any obvious repairs to the partial or full residing? Is it applied over any wood framing?

X2.37 Are there any animal confinement operations on-site, within or exterior to the building?

X2.38 Are there any firewood storage areas within or exterior to the building?

X2.39 Have there been any water damage and/or *mold* related insurance claims?

X2.40 Have there been any violation notices regarding IAQ, odors, moisture, *mold*, *fungi*, or related issues received from any regulatory body (for example, local Boards of Health, Building Department, and so forth)?

X2.41 Has there been any tenant or other *occupant* complaints regarding IAQ, odors, moisture, excess water, *mold*, *fungi*, or related issues made?

X3. FIELD CHECKLIST

INTRODUCTION

The information presented in this appendix is not necessary for completing a *BSP* pursuant to this *guide*. However, a *user* and *consultant* may wish to utilize some or all of the information presented in this appendix as guidance to complete the *BSP*.

During the *walk-through survey*, the *field observer* may complete the following checklist. The following questions should be answered as "Yes," "No," "Not Applicable," or "Unable to Easily Observe or Readily Access." Documentation and photographs, along with the checklist answers, may be helpful in completing the *walk-through survey*.

X3.1 *Site and Surroundings*:

X3.1.1 Does the ground surface slope away from the building?

X3.1.2 Do downspouts and scuppers appear to drain water away from the building?

X3.1.3 Do sprinklers overspray onto the building?

X3.1.4 Is there evidence that sprinklers excessively water near the building?

X3.1.5 Is there vegetation close to structure?

X3.1.6 Are there any marshes, bogs, or open water? Any observable standing water?

X3.2 *Building Exterior*:

X3.2.1 Is staining or discoloration apparent on the building exterior (that is not the intended finish or the result of rust)?

X3.2.2 Is there visual evidence of water intrusion associated with the building exterior?

X3.2.3 Is there visible damage to the building exterior?

X3.2.4 Are crawlspace vents blocked?

X3.2.5 Is there visual evidence of suspect fungal growth on the building exterior?

X3.2.6 Are there side wall penetrations?

X3.2.7 Are there observable on-site surface waters? Are there any retention or detention basins?

X3.2.8 Are there swales or open drainage areas near the building? Any observable standing water?

X3.3 *Roof*:

X3.3.1 Is there visual evidence of suspect fungal growth on the roof?

X3.3.2 Was roof damage or extensive areas of repair observed?

X3.3.3 Is there evidence of ponding on the roof?

X3.3.4 Are plumbing stacks at least 10 ft away from air intakes?

X3.3.5 Are exhaust fans present?

X3.3.6 If exhaust fans are present, are they operating with air flowing out?

X3.3.7 Are any exhaust fans within 10 ft of air intakes?

X3.3.8 Are roof vents blocked?

X3.3.9 Are roof penetrations sealed?

X3.3.10 Are gutters, downspouts, and roof drains present and in good repair?

X3.4 *HVAC*:

X3.4.1 Are ventilation units on with air flowing into outdoor air intakes?

X3.4.2 Is there visual evidence of suspect fungal growth on or around the air intake?

X3.4.3 Is there standing water near the air intake?

X3.4.4 Is there any accumulation of organic materials near the air intake?

X3.4.5 Is the air intake screened?

X3.4.6 Is the air intake blocked?

X3.4.7 Are condensation pans clean and unobstructed?

X3.4.8 Are drain lines unobstructed?

X3.4.9 Is there a cooling tower within 25 ft from the air intake?

X3.4.10 Is there visual evidence of suspect fungal growth in, on, or around an air handling unit?

X3.4.11 Are return air filters dirty or blocked?

X3.4.12 Is there visual evidence of suspect fungal growth in the return air filters?

X3.4.13 Is there standing water in or around the air handling units?

X3.4.14 Is the outdoor air damper operating properly?

X3.4.15 Are supply and return air ducts clean?

X3.4.16 Is the plenum clean?

X3.4.17 Is there visual evidence of suspect fungal growth in the supply air ducts?

X3.4.18 Is there visual evidence of suspect fungal growth in the return air ducts?

X3.4.19 Is there visual evidence of suspect fungal growth in the plenum?

X3.4.20 Is there a musty odor?

X3.5 *Building Interior*:

X3.5.1 Is there visual evidence of suspect fungal growth within the building?

X3.5.2 Is there a musty odor present within the building?

X3.5.3 Does the building seem to have excessive humidity?

X3.5.4 Does the building have humidifiers? Are they properly working?

X3.5.5 Does the building have dehumidifiers? What is the method for discharging the collected water?

X3.5.6 Do the toilet rooms or bathrooms have operating exhaust fans?

X3.5.7 Does the kitchen have an operating exhaust fan?

X3.5.8 Are dryer vents properly connected and discharging to the outside?

X3.5.9 Is staining or discoloration apparent on floors?

X3.5.10 Is staining or discoloration apparent on the walls?

X3.5.11 Is staining or discoloration apparent on the ceilings?

X3.5.12 Is staining or discoloration apparent on the fixtures?

X3.5.13 Is staining or discoloration apparent on the finish materials?

X3.5.14 Is there evidence of a current or past water leak?

X3.5.15 Are walls crumbling or degrading?

X3.5.16 Are ceilings crumbling or degrading?

X3.5.17 Are window sills in good condition?

X3.5.18 Are painted surfaces bubbled, swollen, sagging or peeling?

X3.5.19 Is there condensate on cold surface (such as piping, exterior walls, roof, exterior doorframes, windows, or floor)?

X3.5.20 Are sewer injectors located within the building?

X3.5.21 If sewer injectors are present, do they appear to be working properly?

X3.5.22 Does the building have a basement?

X3.5.23 If the building has a basement, was visual evidence of suspect fungal growth or significant water intrusion observed? Any sumps, perimeter channels, or other areas of open water?

X3.5.24 Is there any exposed plumbing? If yes, any water leaks or condensation?

X3.5.25 Is there any fire suppression system components? If yes, any water leaks or condensation?

X3.5.26 Any observable mold or water intrusion on the attic insulation?

X3.5.27 Any spas, whirlpools, swimming pools, decorative fountains, saunas, steam baths, or other such areas with open water?

X3.5.28 Are there any gas-fired or oil-fired heaters (such as hot water heaters or pool water heaters)?

APPENDIX G

PHOTOLOG


Photo 1: Suspected mold growth in the Cafeteria, third floor of Building A.


Photo 2: Suspected mold growth in Cafeteria, third floor of Building A, where sample No. MD-A-3-CAF-1 was taken.

Photo 3: Suspected mold growth in Cafeteria of Building A on the third floor.

Photo 4: Water damaged ceiling tiles and suspected mold located in a Cafeteria on the third floor of Building A.

Photo 5: Suspected mold growth on the south wall of the south classroom on the second floor in Building A where samples MD-A-2-SR-1 and MD-A-2-SR-1DUP were taken.

Photo 6: Suspected heavy black mold growth on the south wall of the south classroom on the second floor in Building A.

Photo 7: Suspected mold growth and water damage in the west classroom on the second floor of Building A.

Photo 8: Suspected heavy black mold growth on the south wall of the south classroom on the second floor in Building A where sample MD-A-1-HW-1 was taken.

Photo 9: Suspected mold growth on the ceiling and walls of the pool locker room in Building B on the basement floor. Sample MD-B-LR-1 was taken here.

Photo 10: Suspected mold growth on the ceiling and walls of the pool locker room in Building B on the basement floor.

Photo 11: Suspected mold growth on pipes and walls in the lower boiler room in the basement of Building B. Sample MD-B-G-BR-1 was taken here.

Photo 12: Water damaged ceiling in the auditorium on the ground floor in Building B.

Photo 13: Water damaged ceiling tiles in Room 11 on the second floor of Building C.

Photo 14: Suspected mold growth on the door of a janitor's closet in the hallway on the second floor in Building C. Sample No. MD-C-2-CL-1 was taken here.

Photo 15: Suspected mold growth on the walls of a stairwell of Building C on the first floor where sample No. MD-C-1-SW-1 was taken.

Photo 16: Suspected mold growth on the walls of Room 19 in Building C on the ground floor where sample No. MD-C-G-19-1 was taken.

Photo 17: Suspected mold growth on the ceiling and pipes on the ground level of Building C, where sample No. MD-C-G-Mech-1 was taken.

Photo 18: Suspected mold growth on the walls of the Transition Center in Building D on the ground floor where samples MD-D-G-TR-1 and MD-D-G-TR-1DUP were taken.

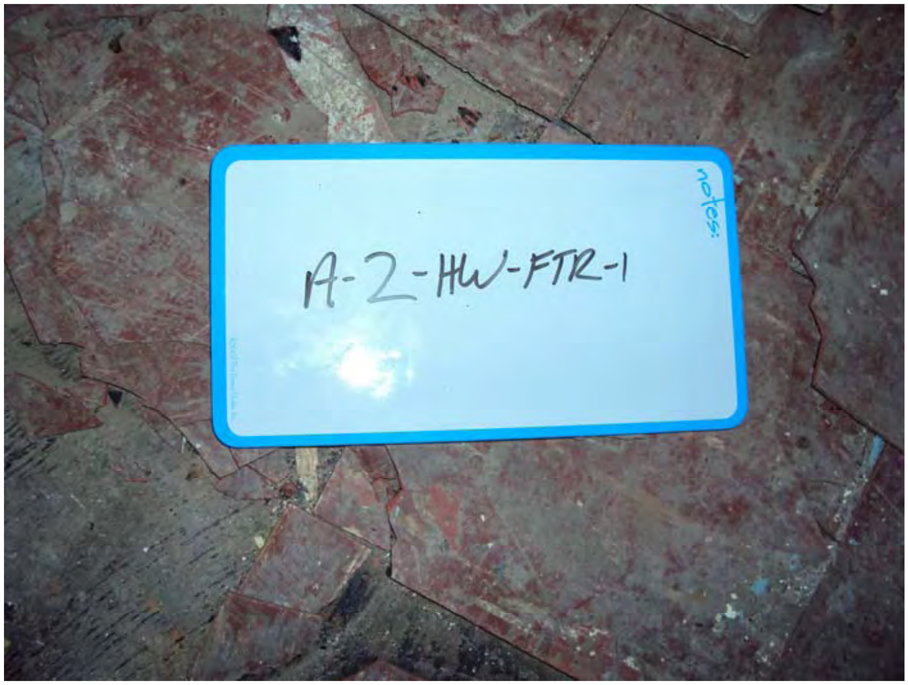
Photo 19: Suspected mold growth on the walls of the Transition Center in Building D on the ground floor where samples MD-D-G-TR-1 and MD-D-G-TR-1DUP were taken.

Photo 20: Suspected mold growth on the walls of a stairwell of Building D on the first floor where sample No. MD-D-1-SW-1 was taken.

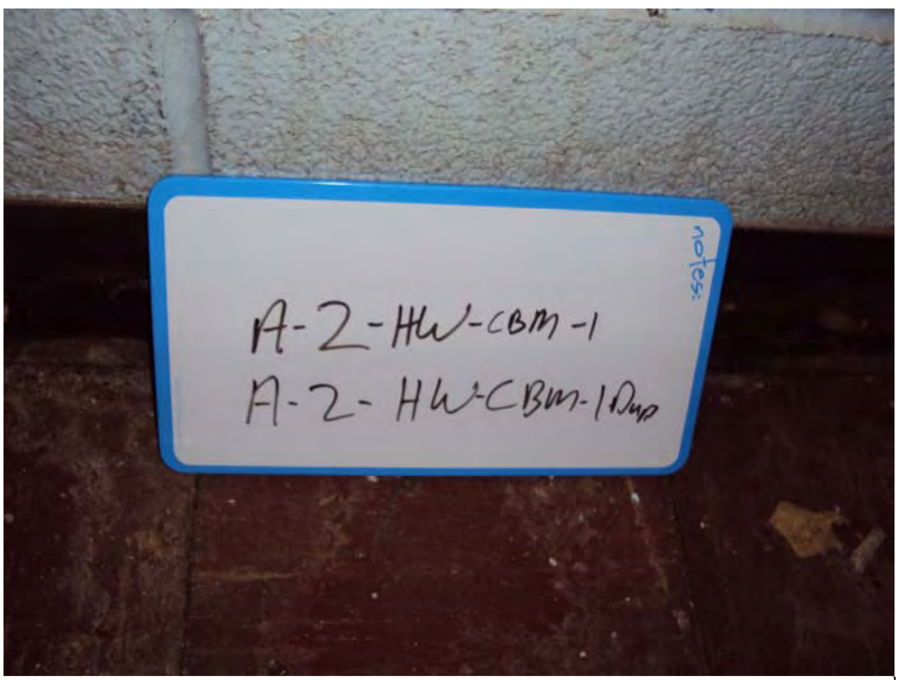
Photo 21: Water damage on the walls and ceiling in Room 8 on the north side of the building in Building D.

Photo 22: Suspected mold growth on the walls and ceilings on the second floor of Building D where sample No. MD-D-2-SW-1 was taken.

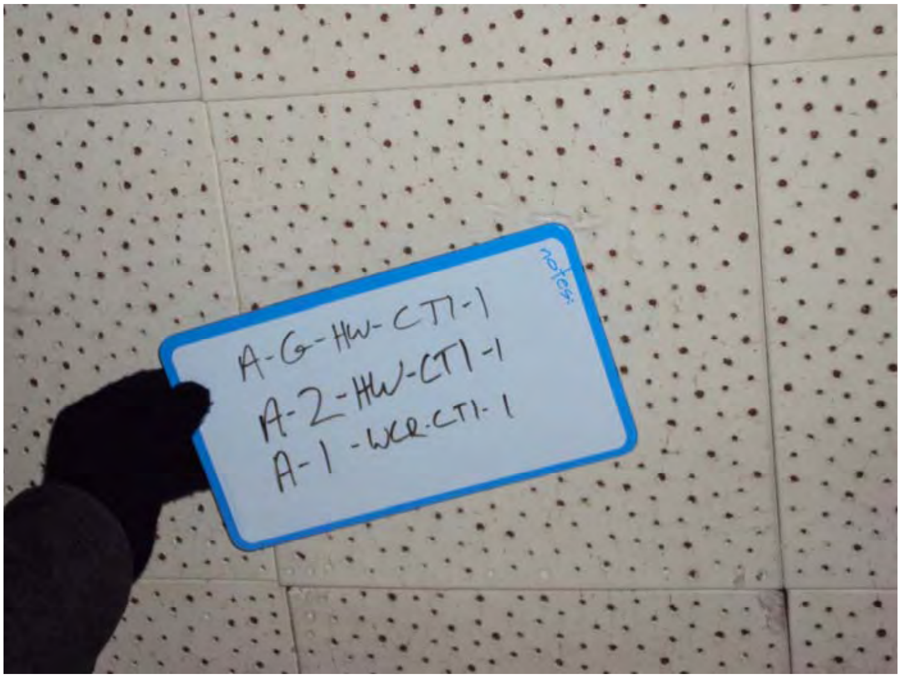
Asbestos Survey Photos



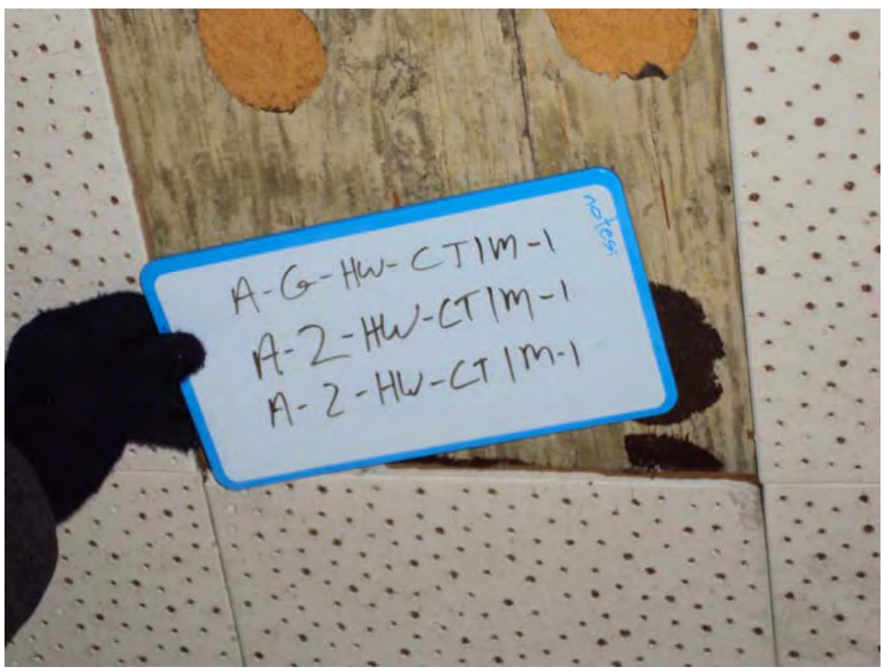
Red 9x9 floor tile and associated mastic represented by sample number A-2-HW-FTR-1 located on the 3rd floor hallway of Building A.



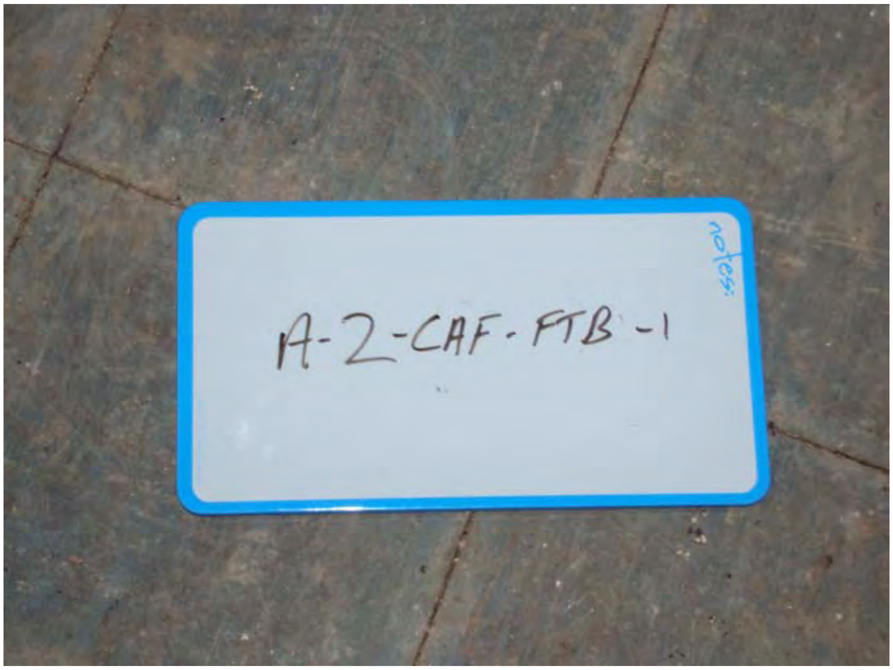
Black cove base mastic represented by sample number A-2-HW-CBM-1 located on the 3rd floor hallway of Building A.



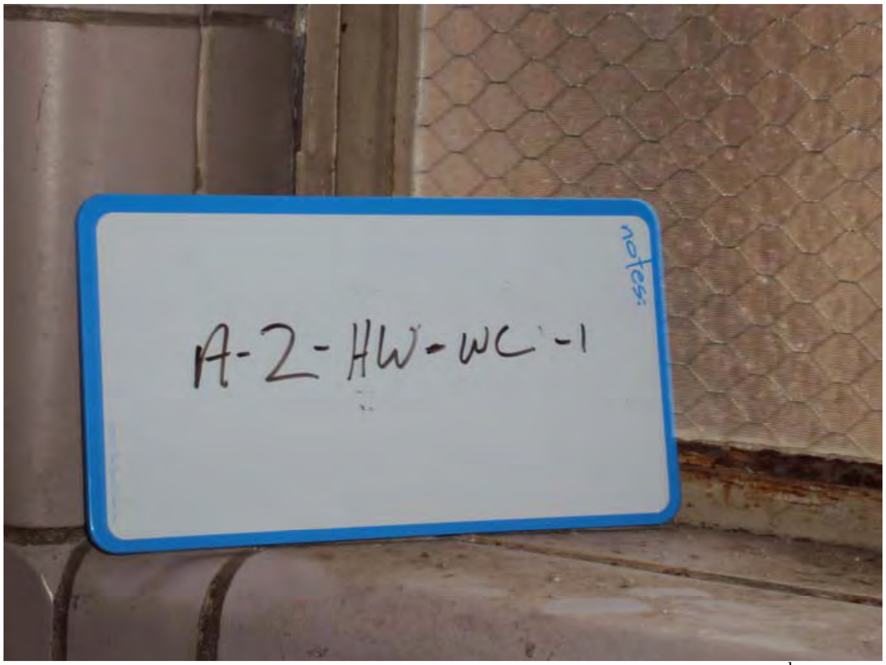
White 12x12 ceiling tile represented by sample number A-G-HW-CT1-1, A-2-HW-CT1-1 and A-1-WCR-CT1-1 located on the 1st, 2nd and 3rd floor of Building A.



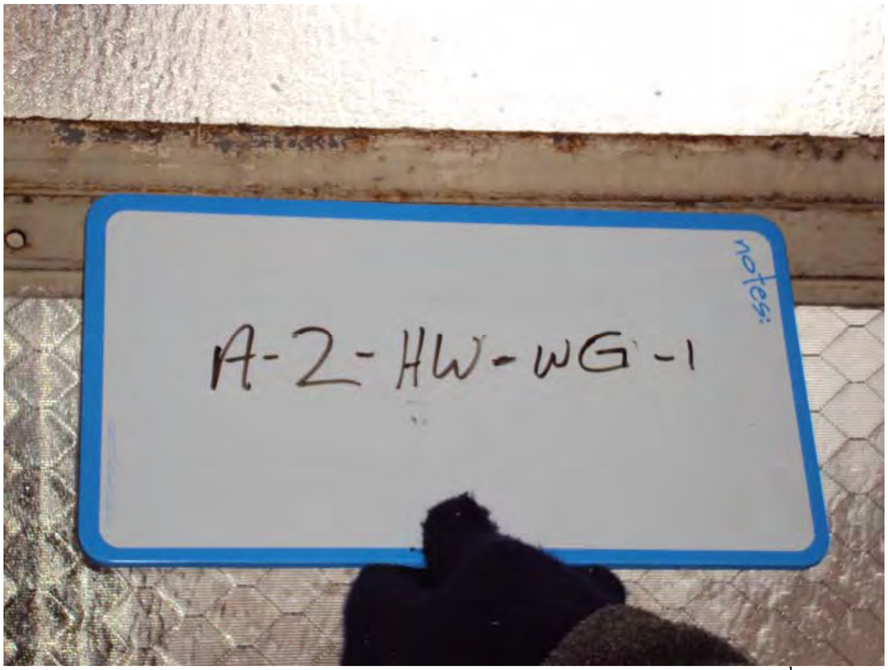
White 12x12 ceiling tile represented by sample number A-G-HW-CT1M-1, A-2-HW-CT1M-1 and A-1-WCR-CT1M-1 located on the 1st, 2nd and 3rd floor of Building A.



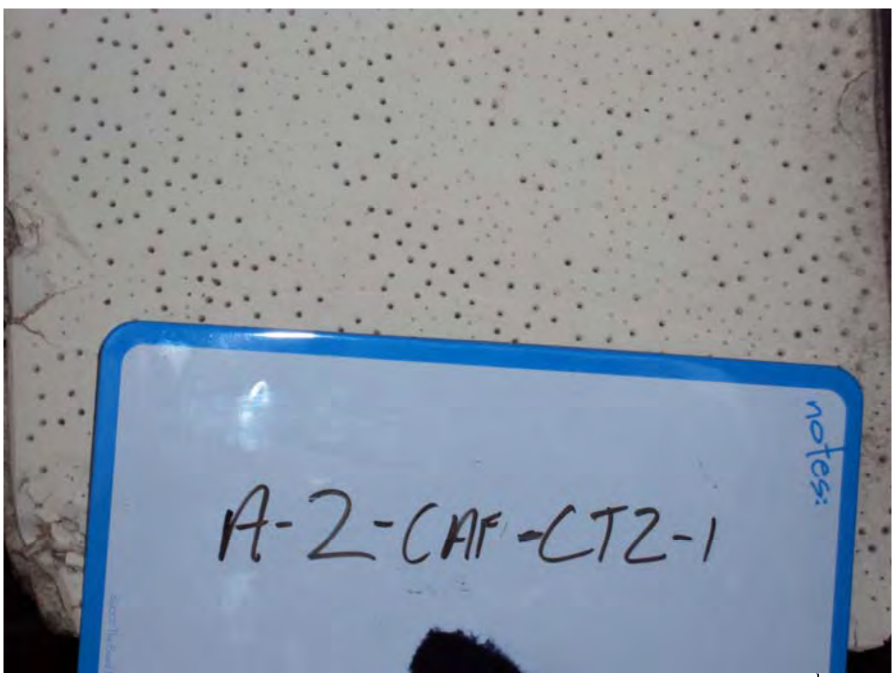
Brown 9x9 floor tile and associated mastic represented by sample number A-2-CAF-FTB-1 located on the 3rd floor of Building A.



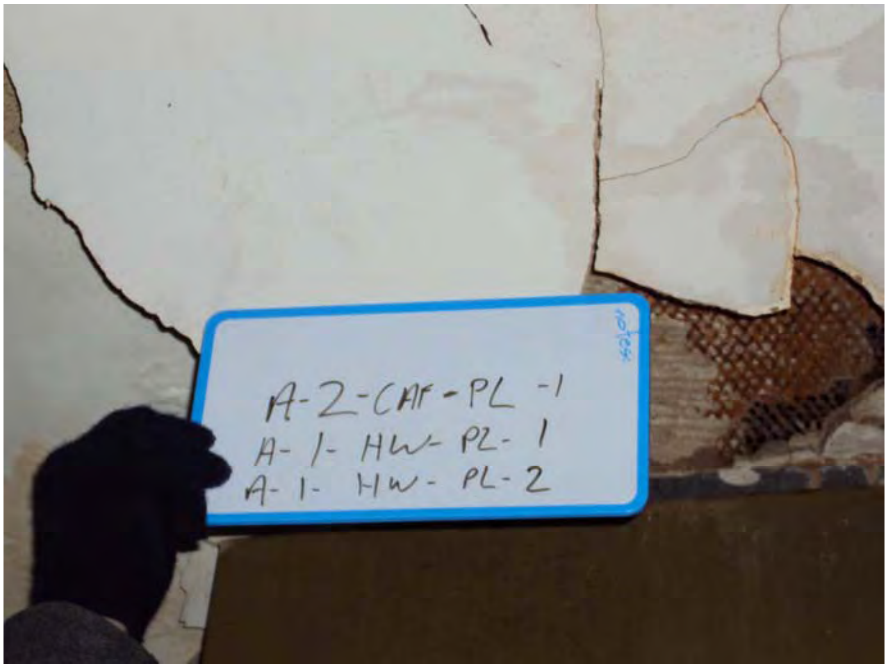
Window caulk represented by sample number A-2-HW-WC-1 located on the 3rd floor of Building A.



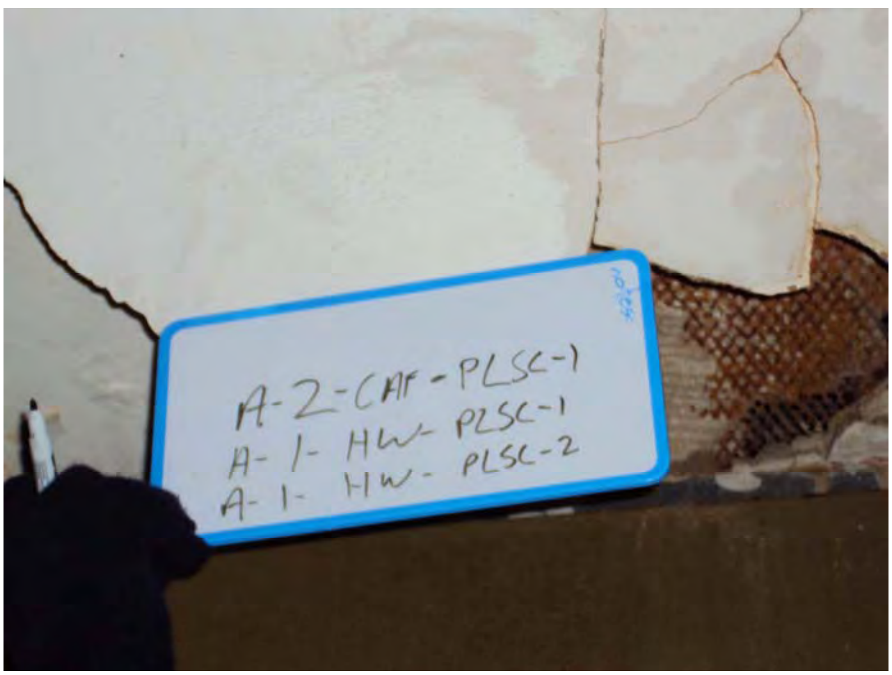
Window glaze represented by sample number A-2-HW-WG-1 located on the 3rd floor of Building A.



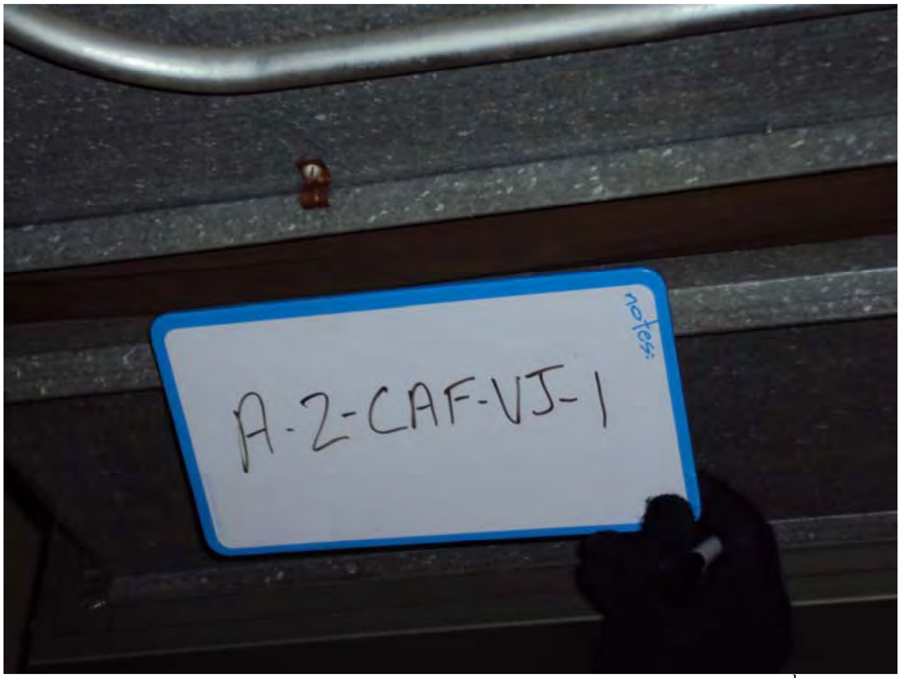
12x12 ceiling tile represented by sample number A-2-CAF-CT2-1 located on the 3rd floor of Building A.



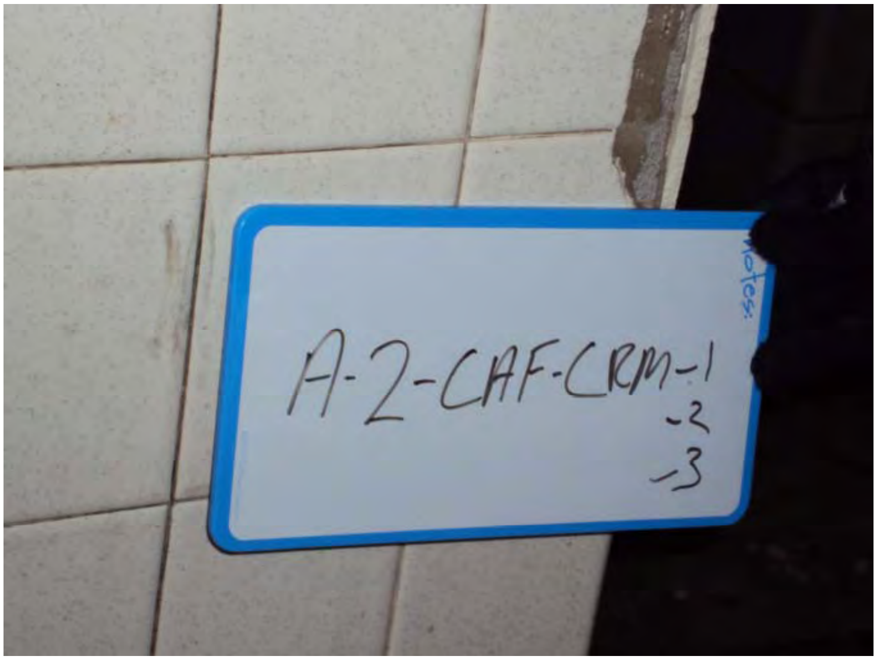
Plaster walls represented by sample numbers A-2-CAF-PL-1, A-1-HW-PL-1 and A-1-HW-PL-2 located on the 1st, 2nd and 3rd floor of Building A.



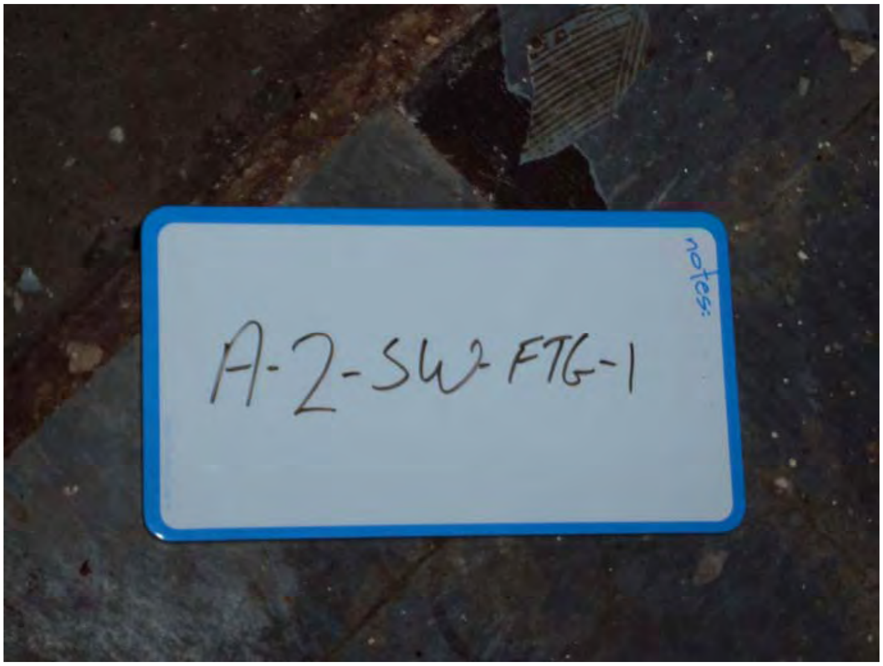
Plaster skim coat represented by sample numbers A-2-CAF-PLSC-1, A-1-HW-PLSC-1 and A-1-HW-PLSC-2 located on the 1st, 2nd and 3rd floor of Building A.



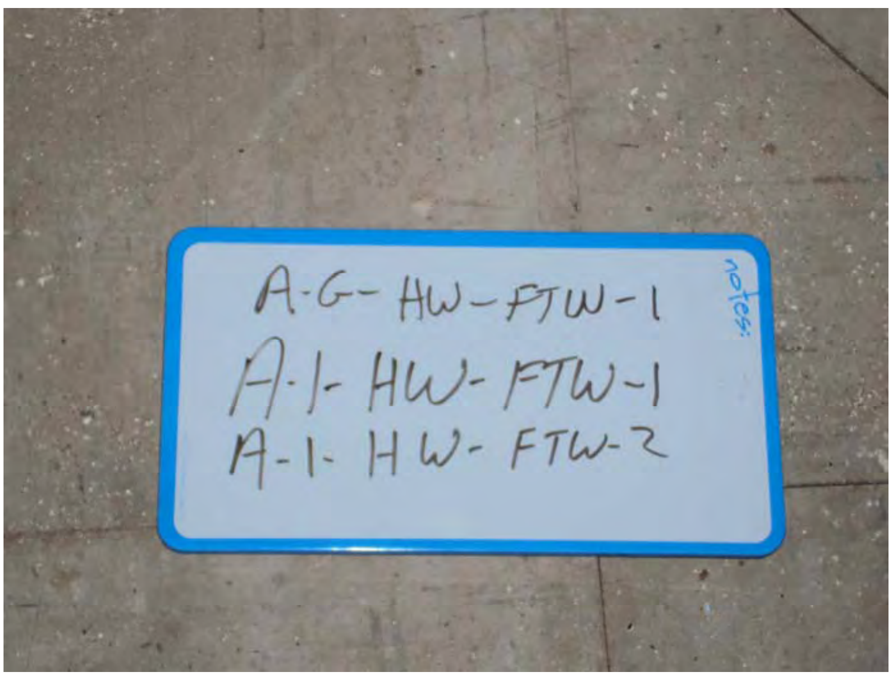
Vibration joint represented by sample number A-2-CAF-VJ-1 located on the 3rd floor of Building A.



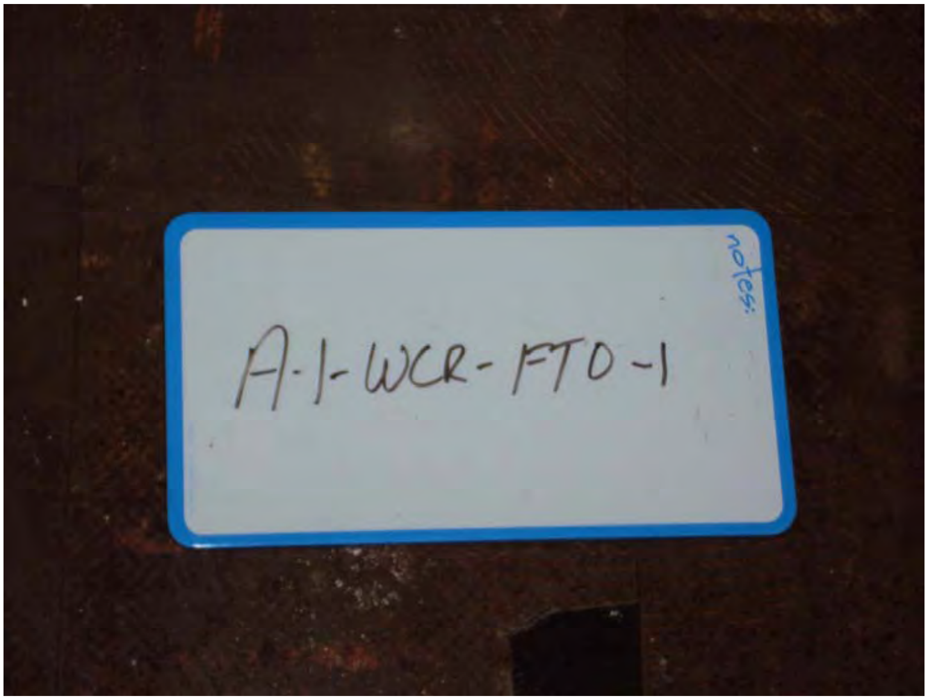
Ceramic tile mastic represented by sample numbers A-2-CAF-CRM-1, 2 and 3 located on the 3rd floor of Building A.



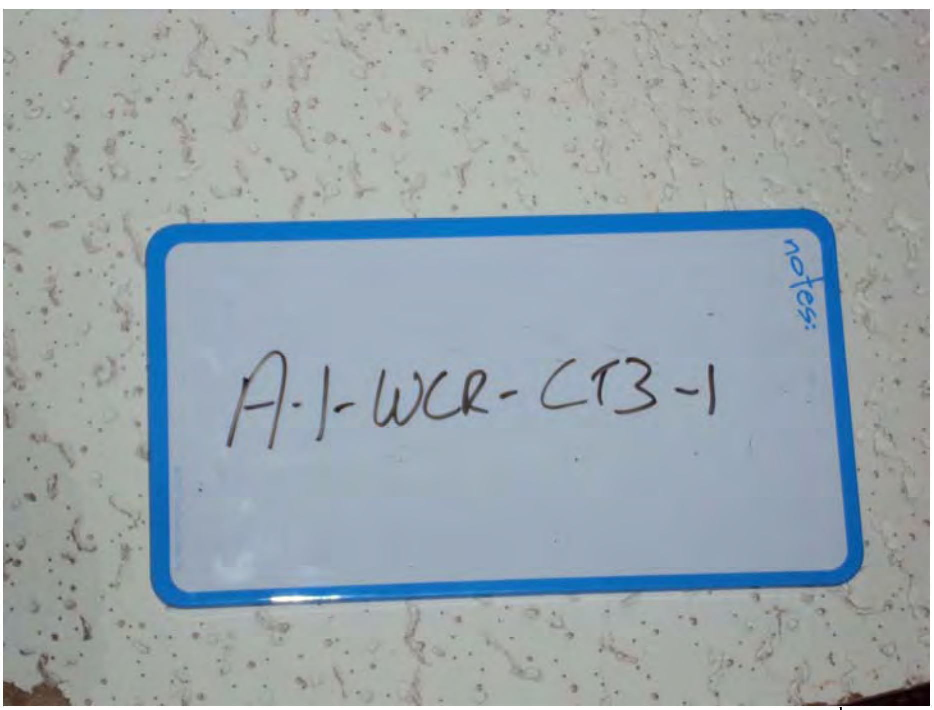
12x12 gray floor tile represented by sample number A-2-SW-FTG-1 located on the 3rd floor of Building A.



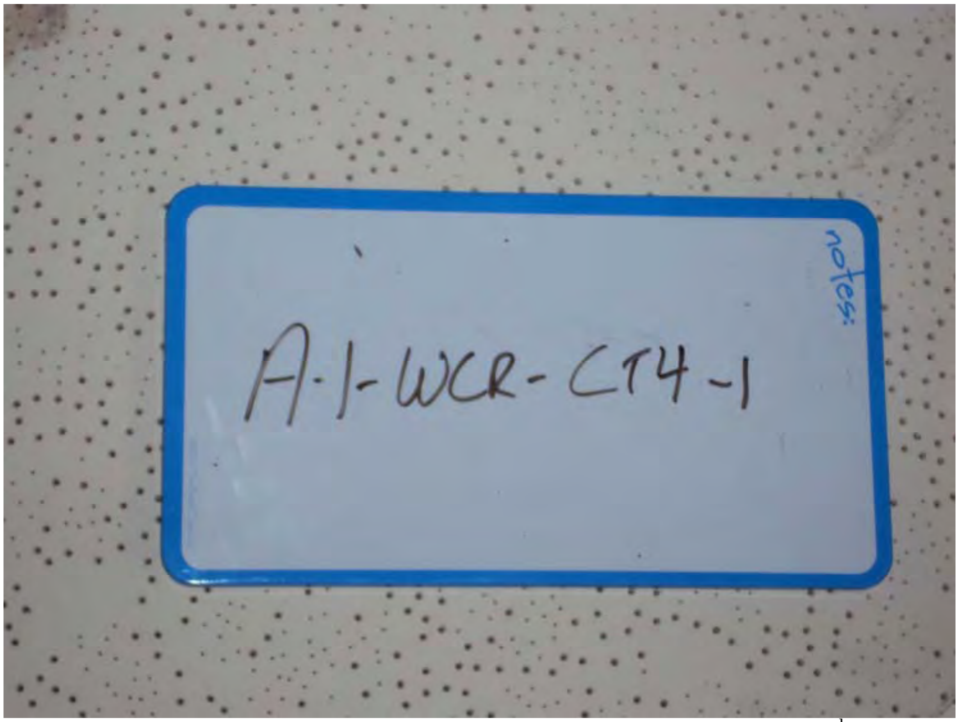
12x12 white floor tile and associated mastic represented by sample numbers A-G-HW-FTW-1, A-1-HW-FTW-1, and A-1-HW-FTW-2 located on the 1st, 2nd and 3rd floor of Building A.



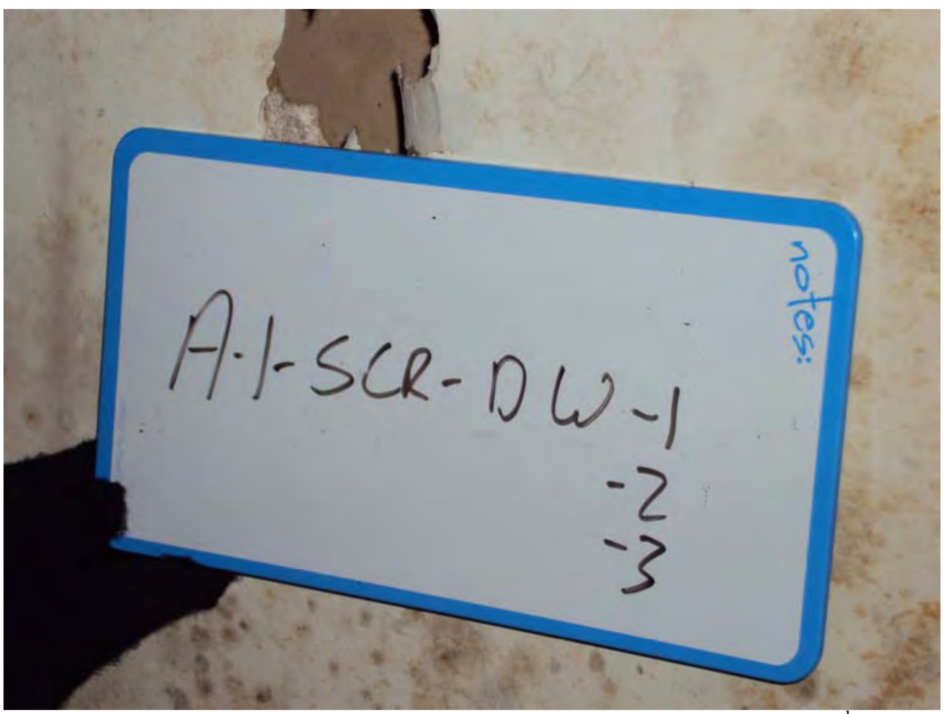
Orange 9x9 floor tile and associated mastic represented by sample number A-2-SW-FTG-1 located on the 2nd floor of Building A.



2x4 ceiling tile represented by sample numbers A-1-WCR-CT-3-1 located on the 2nd floor of Building A.

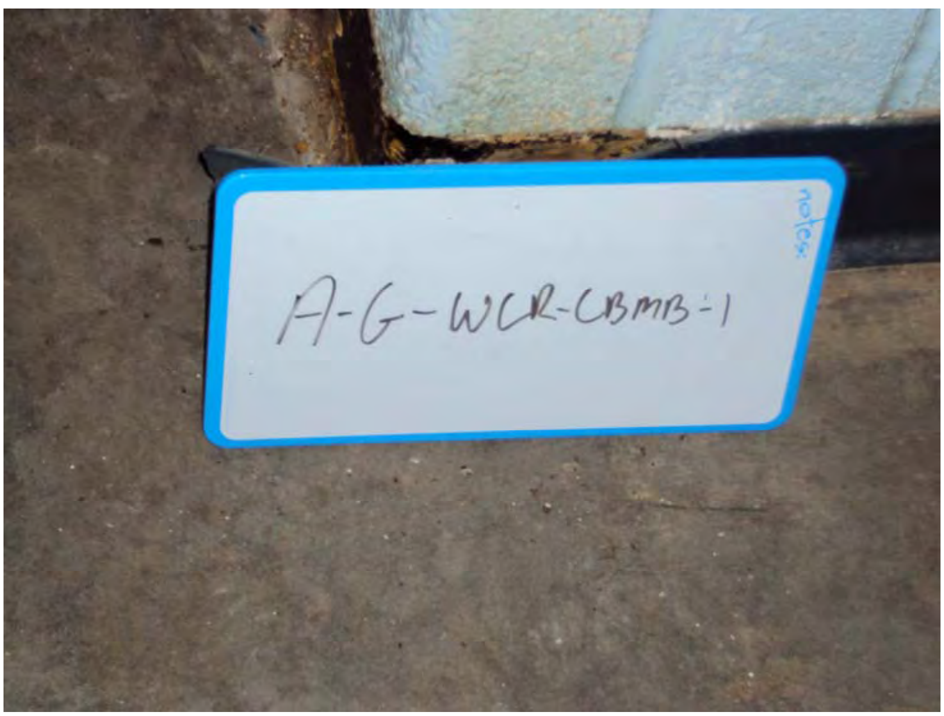


2x4 ceiling tile represented by sample number A-1-WCR-CT4-1 located on the 2nd floor of Building A.

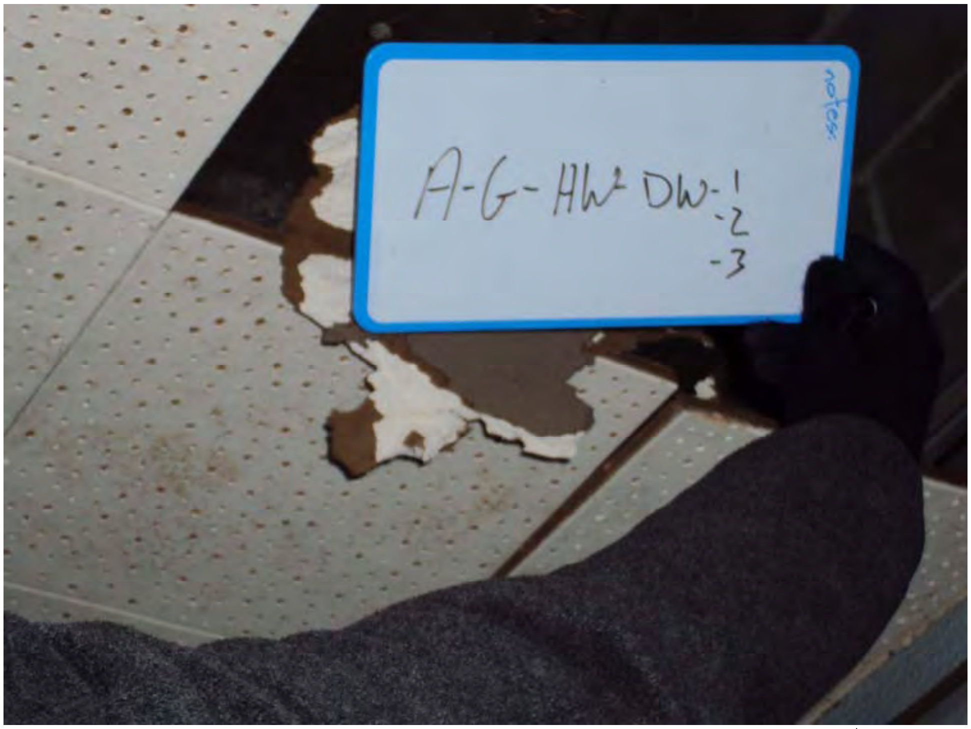


Drywall represented by sample numbers A-1-SCR-DW-1, 2, and 3 located on the 2nd floor of Building A.

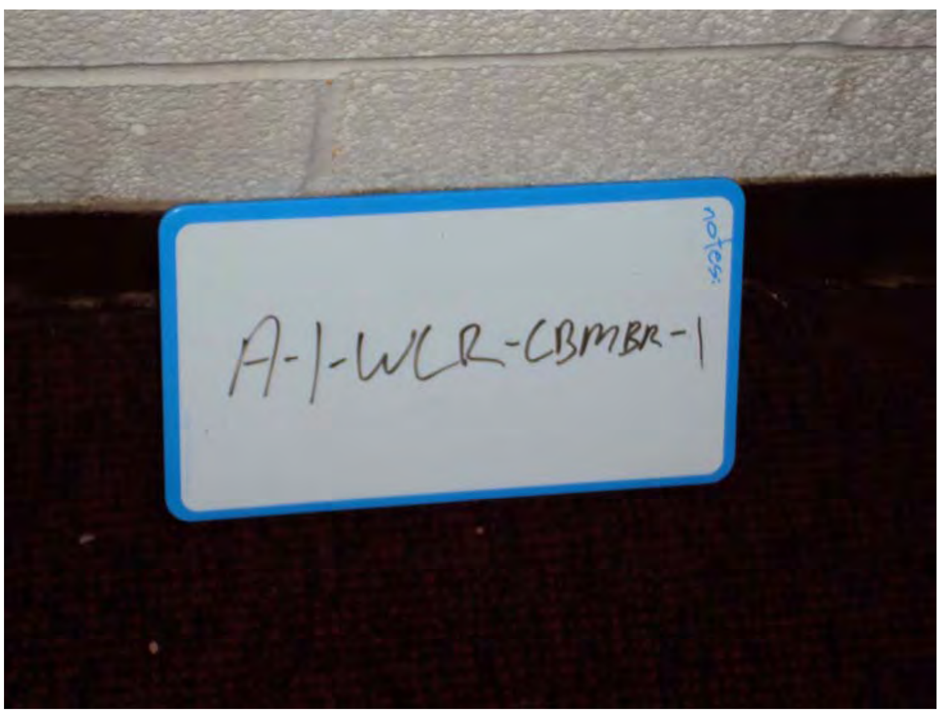
Joint compound represented by sample numbers A-1-SCR-JC-1, 2, and 3 located on the 2nd floor of Building A.



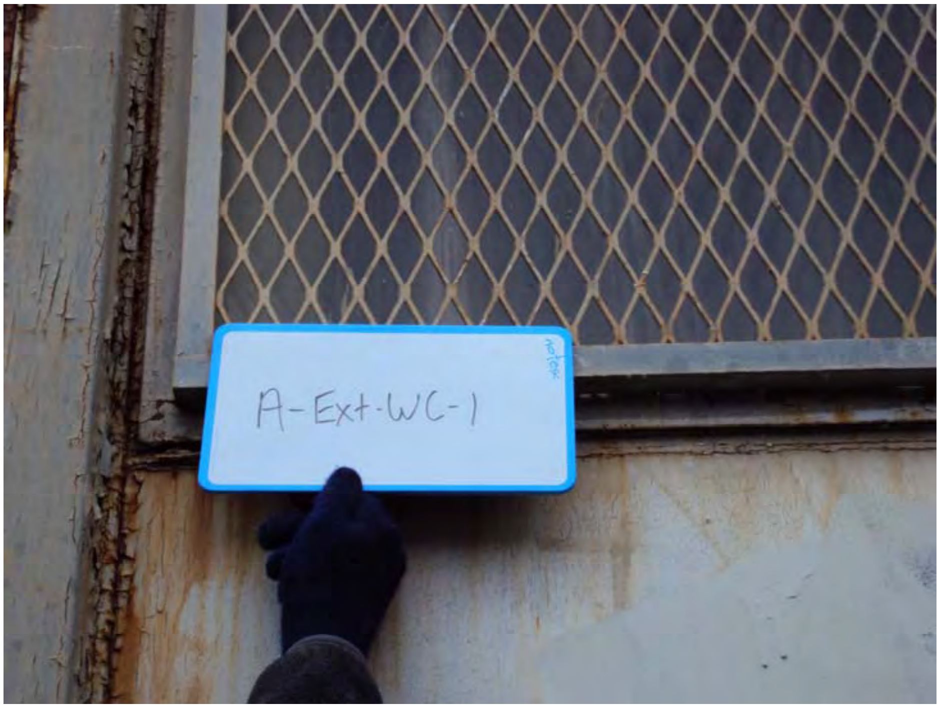
Blue cove base mastic represented by sample number A-G-WCR-CBMB-1 located on the 1st floor of Building A.



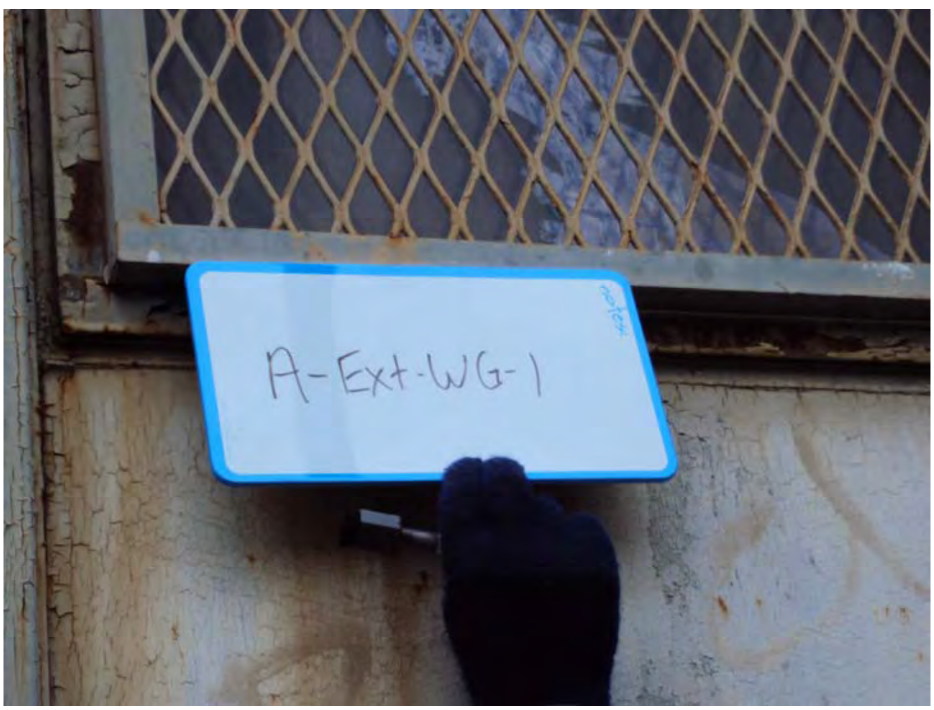
Drywall represented by sample numbers A-G-HW-DW-1, 2, and 3 located on the 1st floor of Building A.



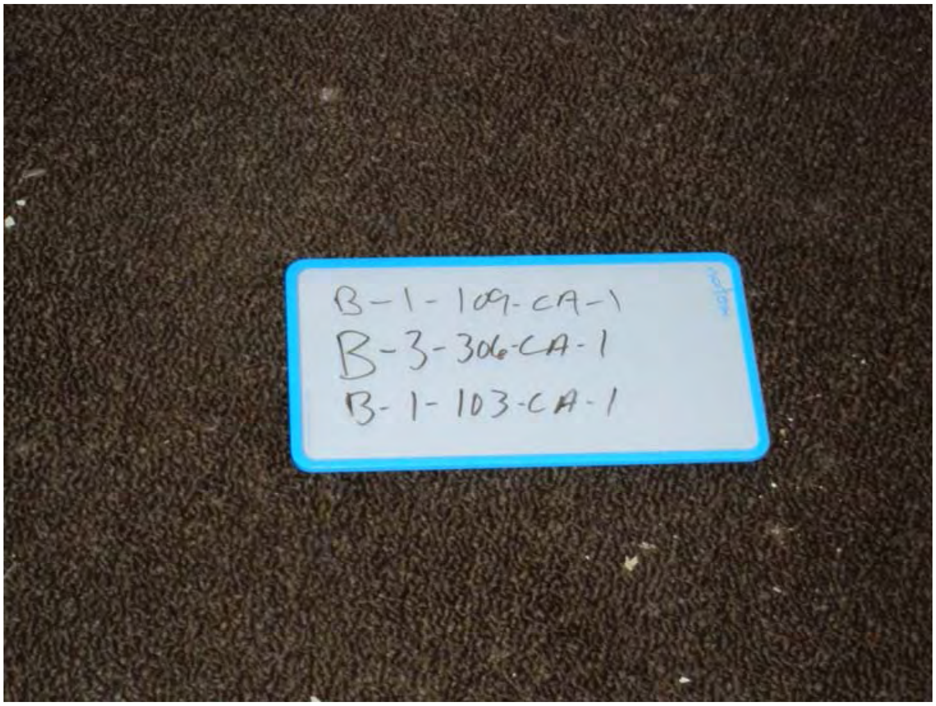
Brown cove base mastic represented by sample number A-1-WCR-CBMBR-1 located on the 2nd floor of Building A.



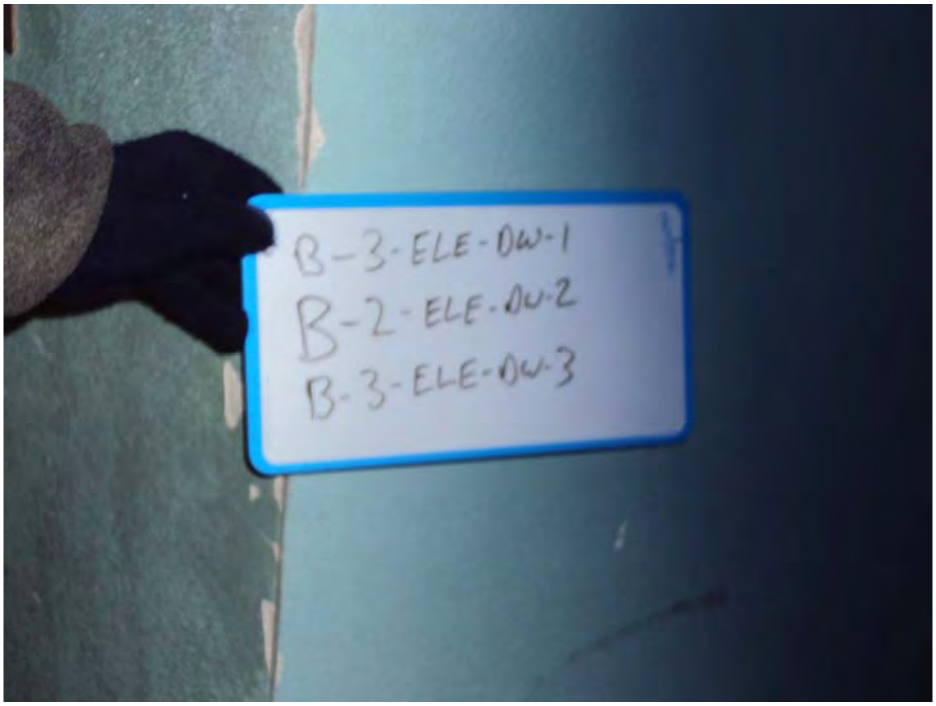
Exterior window caulk represented by sample number A-EXT-WC-1 located on the exterior of Building A.



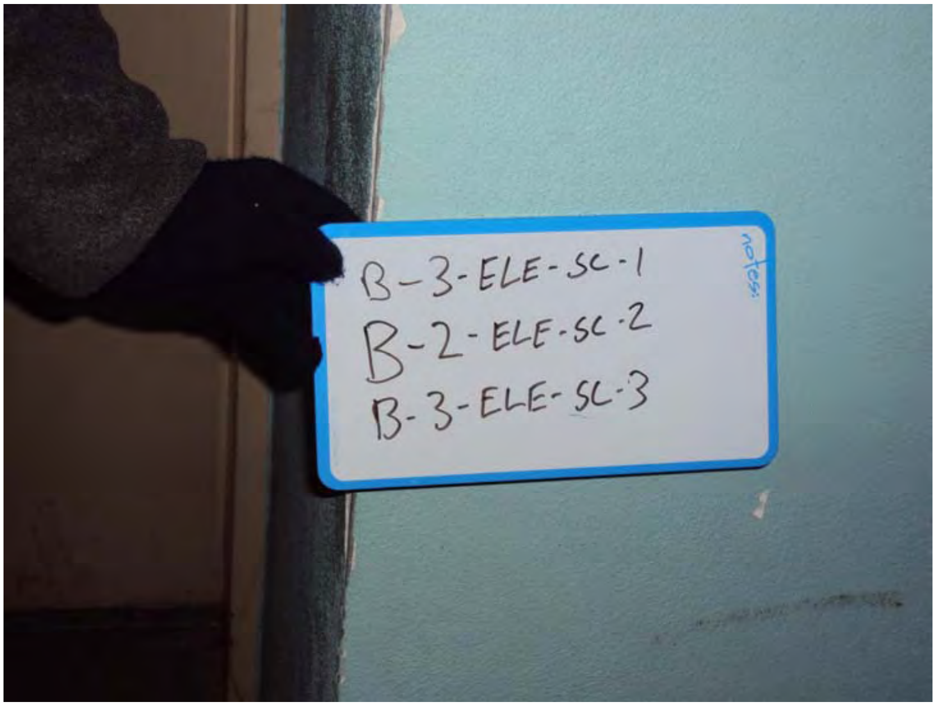
Exterior window glaze represented by sample number A-EXT-WG-1 located on the exterior of Building A.



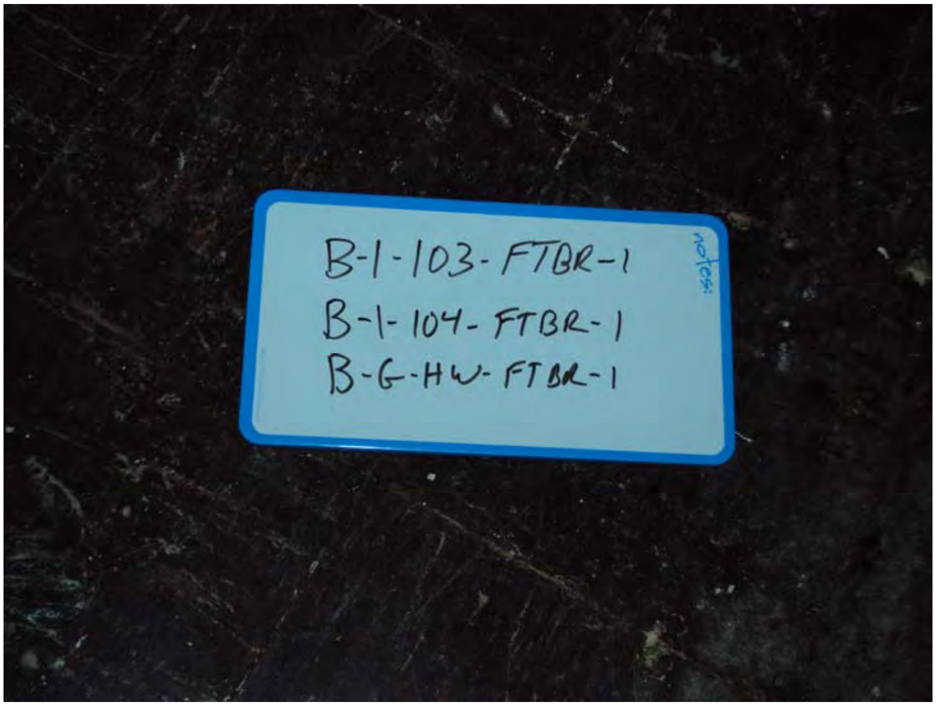
Carpet adhesive represented by sample numbers B-1-109-CA-1, B-3-306-CA-1, and B-1-103-CA-1 located on the 1st and 3rd floor of Building B.



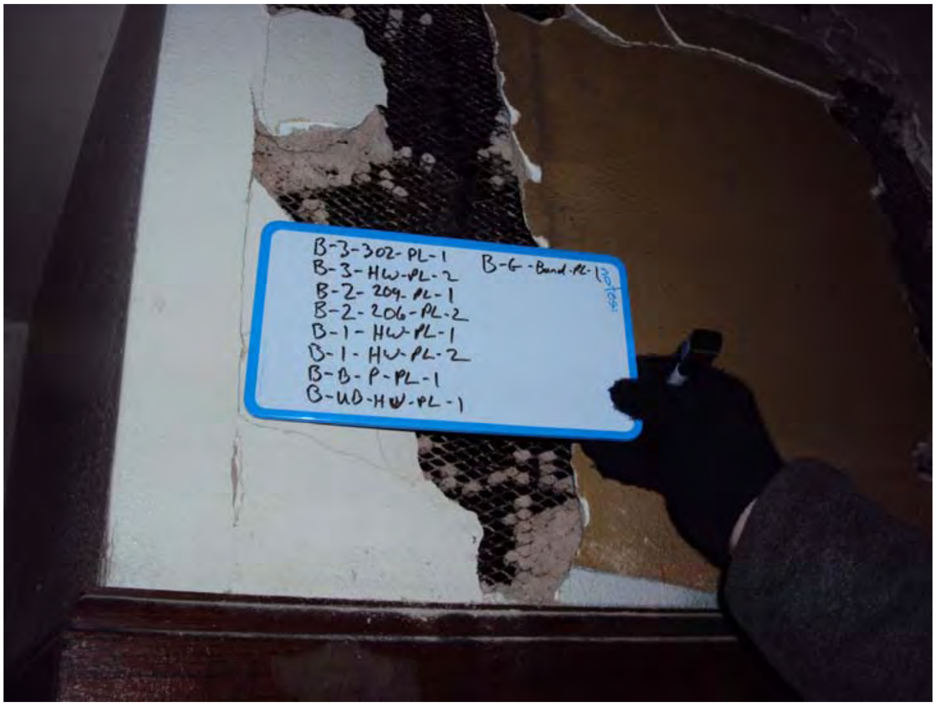
Drywall represented by sample numbers B-3-ELE-DW-1, B-2-ELE-DW-2, and B-3-ELE-DW-3 located on the 1st and 2nd floor of Building B at the elevator shaft.



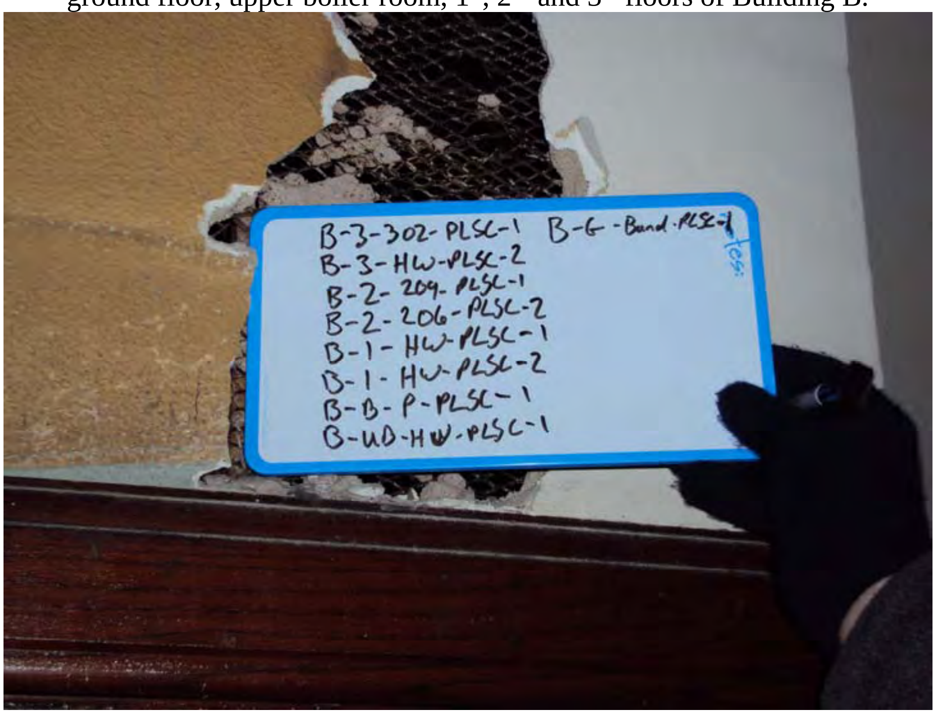
Drywall skim coat represented by sample numbers B-3-ELE-SC-1, B-2-ELE-SC-2, and B-3-ELE-SC-3 located on the 1st and 2nd floor of Building B at the elevator shaft.



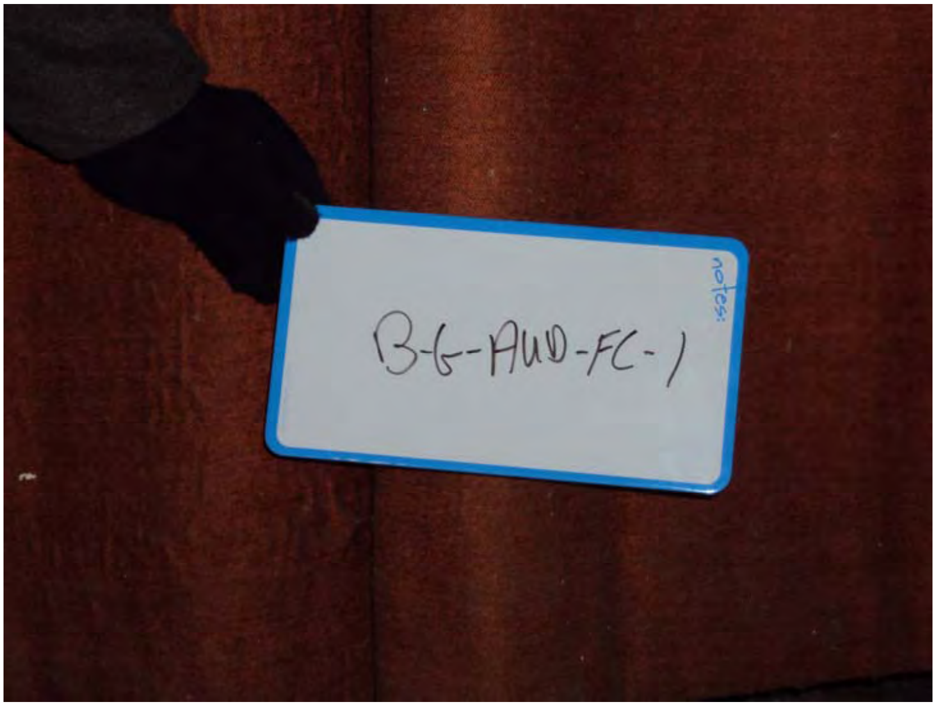
12x12 brown floor tile and associated mastic represented by sample numbers B-1-103-FTBR-1, B-1-104-FTBR-1, and B-G-HW-FTBR-1 located on the 1st floor and ground floor of Building B.



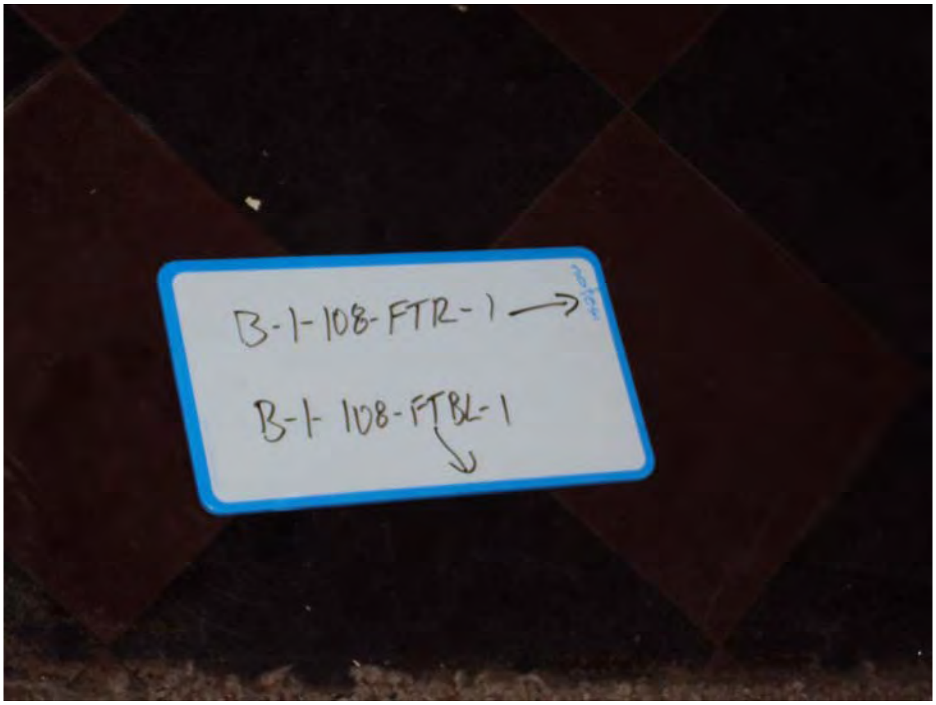
Plaster represented by sample numbers B-3-302-PL-1, B-3-HW-PL-2, B-2-204-PL-1, B-2-206-PL-2, B-1-HW-PL-1, B-1-HW-PL-2, B-B-P-PL-1, B-UB-HW-PL-1 and B-G-BAND-PL-1 located on the basement, ground floor, upper boiler room, 1st, 2nd and 3rd floors of Building B.



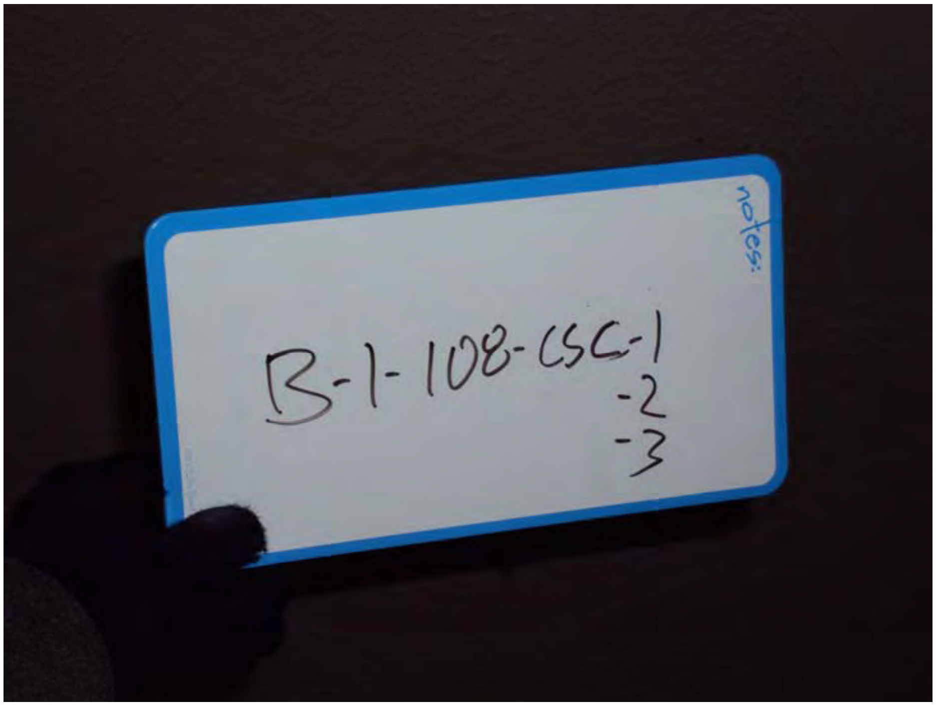
Plaster skim coat represented by sample numbers B-3-302-PLSC-1, B-3-HW-PLSC-2, B-2-204-PLSC-1, B-2-206-PLSC-2, B-1-HW-PLSC-1, B-1-HW-PLSC-2, B-B-P-PLSC-1, B-UB-HW-PLSC-1 and B-G-BAND-PLSC-1 located on the basement, ground floor, upper boiler room, 1st, 2nd and 3rd floors of Building B.



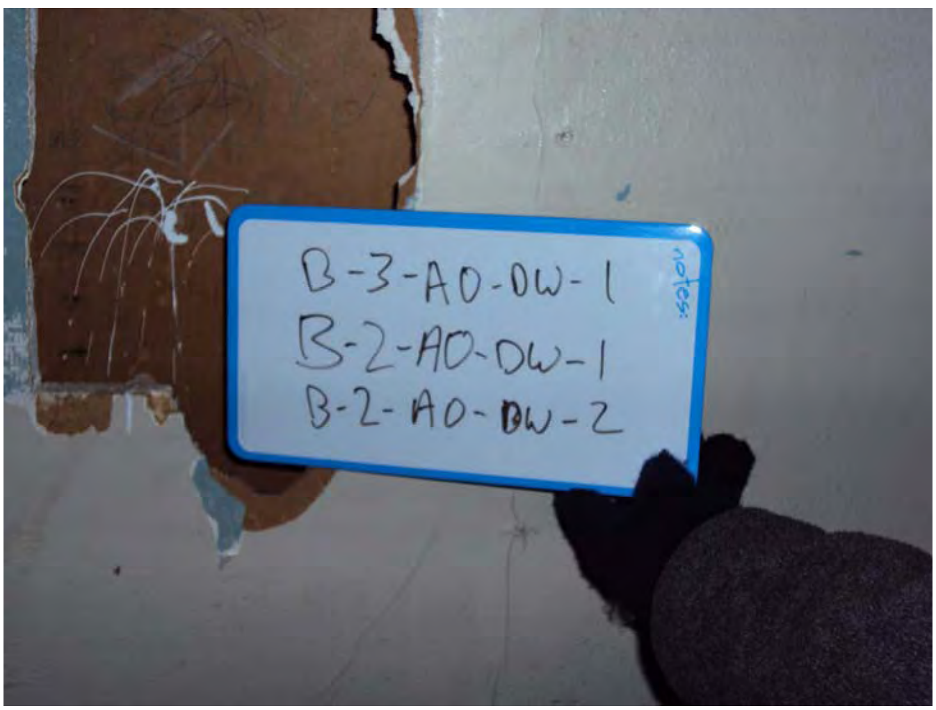
Fire curtain represented by sample number B-G-AUD-FC-1 located in the auditorium of Building B.



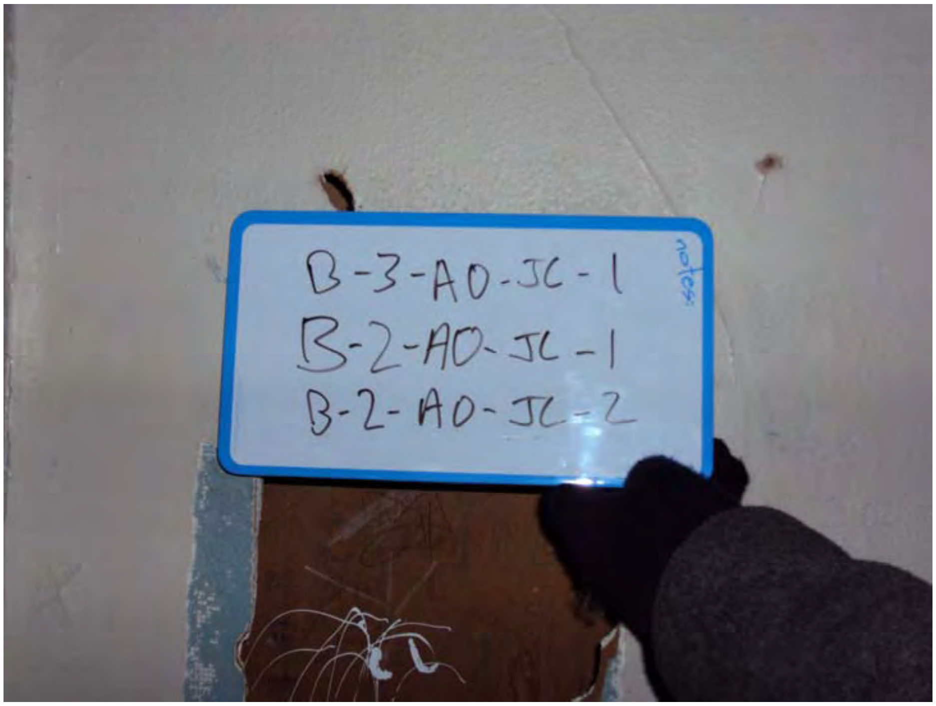
12x12 black floor tile and 12x12 red floor tile and associated mastic represented by sample numbers B-1-108-FTR-1, B-1-108-FTBL-1, located in room 108 of Building B.



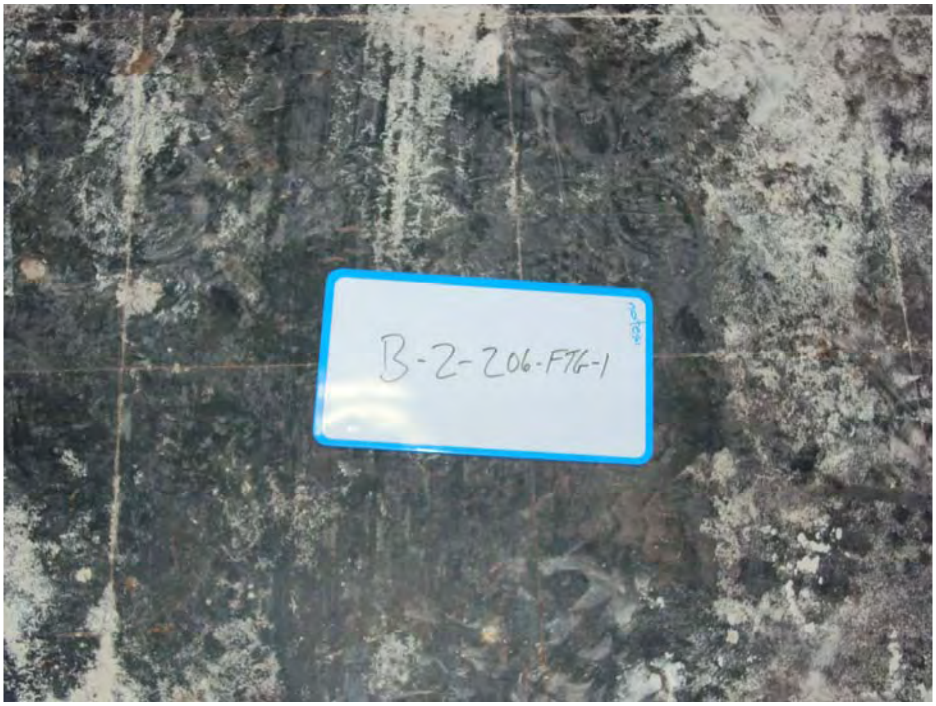
Ceiling skim coat represented by sample numbers B-1-108-CSC-1, 2 and 3 located in room 108 of Building B.



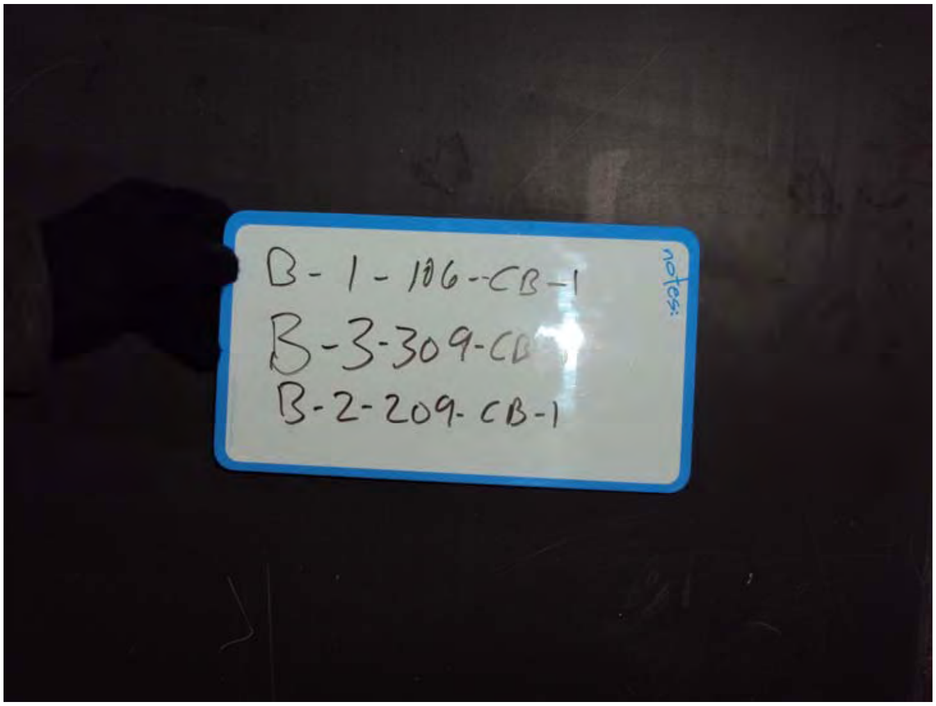
Drywall represented by sample numbers B-3-AO-DW-1, B-2-AO-DW-1 and B-2-AO-DW-2 located on the 2nd and 3rd floor of Building B.



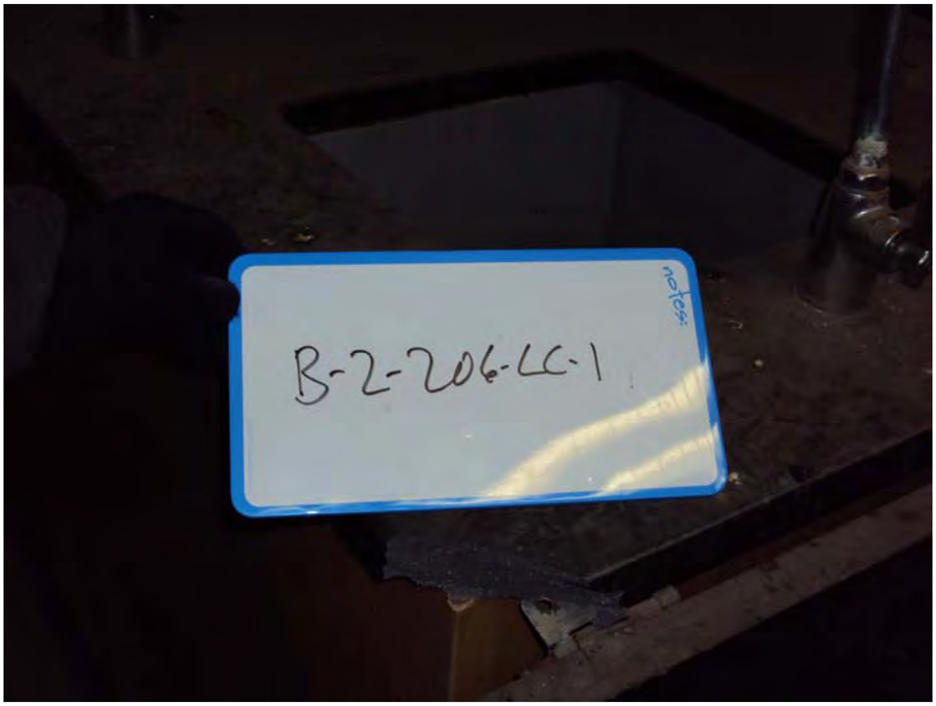
Joint compound represented by sample numbers B-3-AO-JC-1, B-2-AO-JC-1 and B-2-AO-JC-2 located on the 2nd and 3rd floor of Building B.



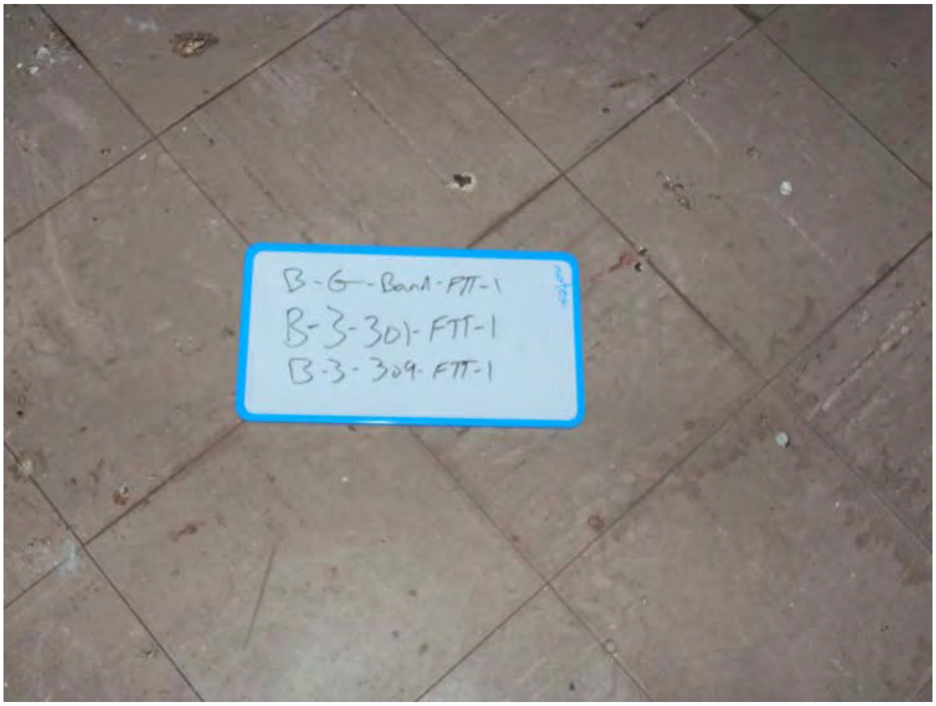
12x12 gray floor tile and associated mastic represented by sample number B-2-206-FTG-1 located in room 206 of Building B.



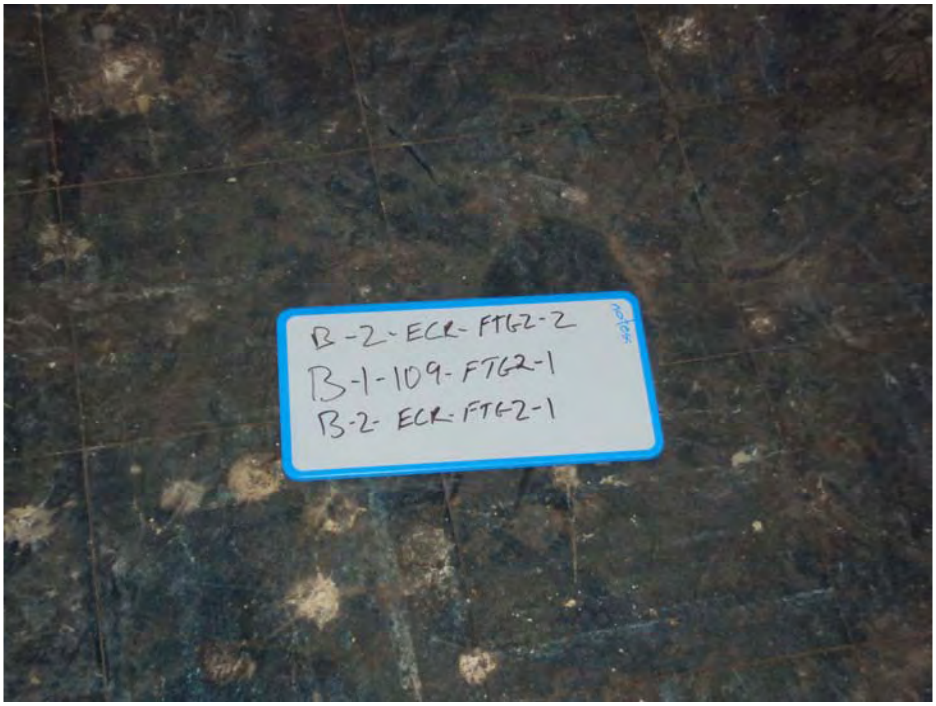
Chalkboard represented by sample numbers B-1-106-CB-1, B-3-309-CB-1 and B-2-209-CB-1 located in rooms 106, 209 and 309 of Building B.



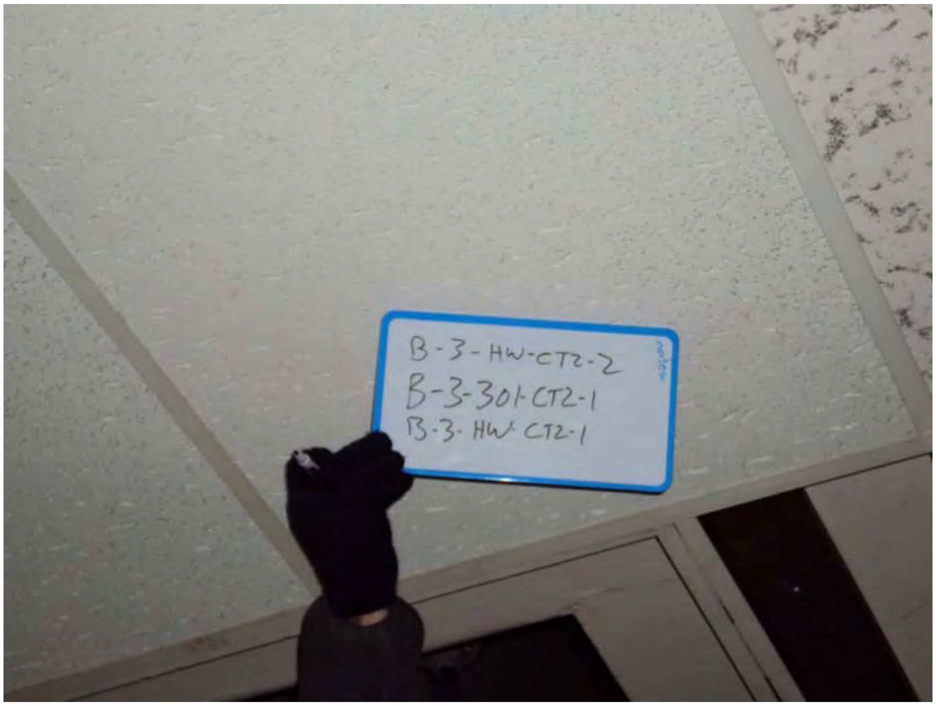
Lab counter represented by sample number B-2-206-LC-1 located in room 206 of Building B.



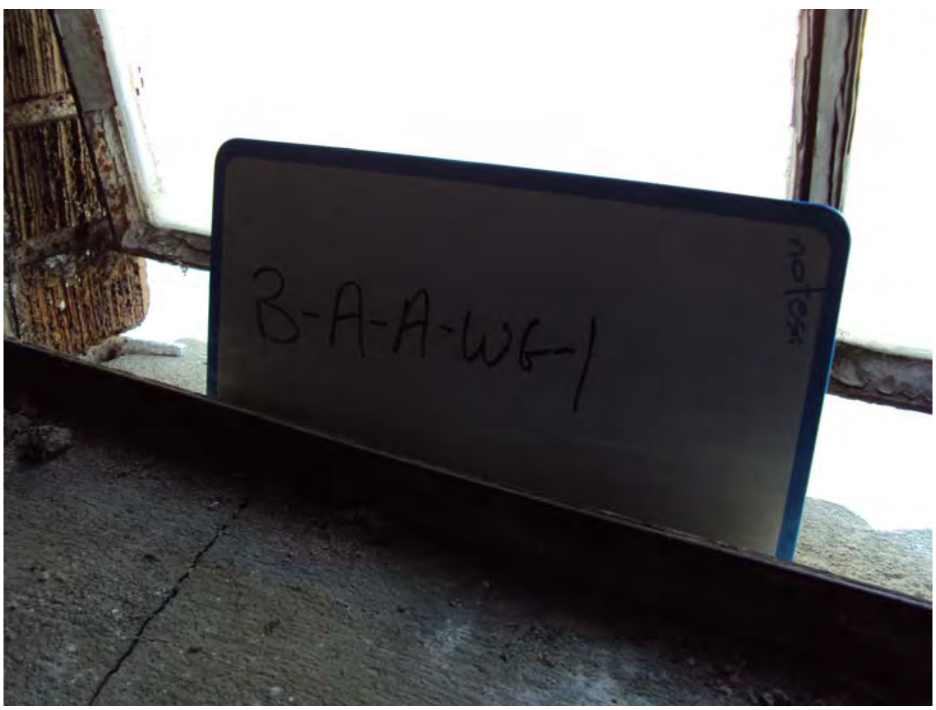
12x12 tan floor tile and associated mastic represented by sample numbers B-G-BAND-FTT-1, B-3-301-FTT-1 and B-3-309-FTT-1 located in the band room and rooms 301 and 309 of Building B.



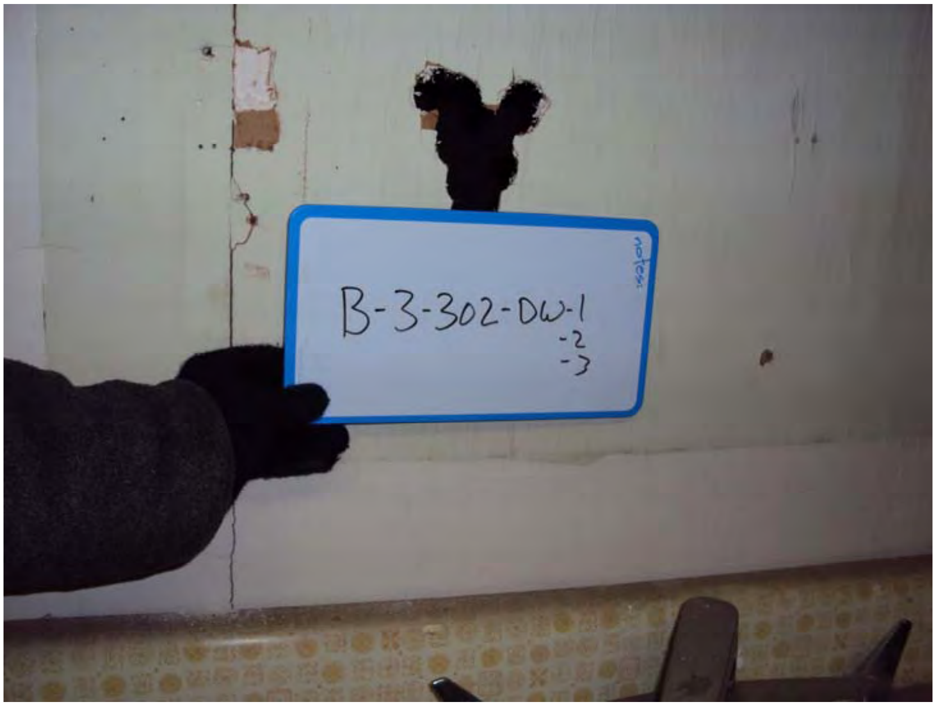
12x12 dark gray floor tile and associated mastic represented by sample numbers B-2-ECR-FTG2-1, B-1-109-FTG2-1 and B-2-ECR-FTG2-2 located on the 1st and 2nd floor of Building B.



2x4 ceiling tile represented by sample numbers B-3-HW-CT2-1, B-3-HW-CT2-2 and B-3-301-CT2-1 located on the 3rd floor of Building B.

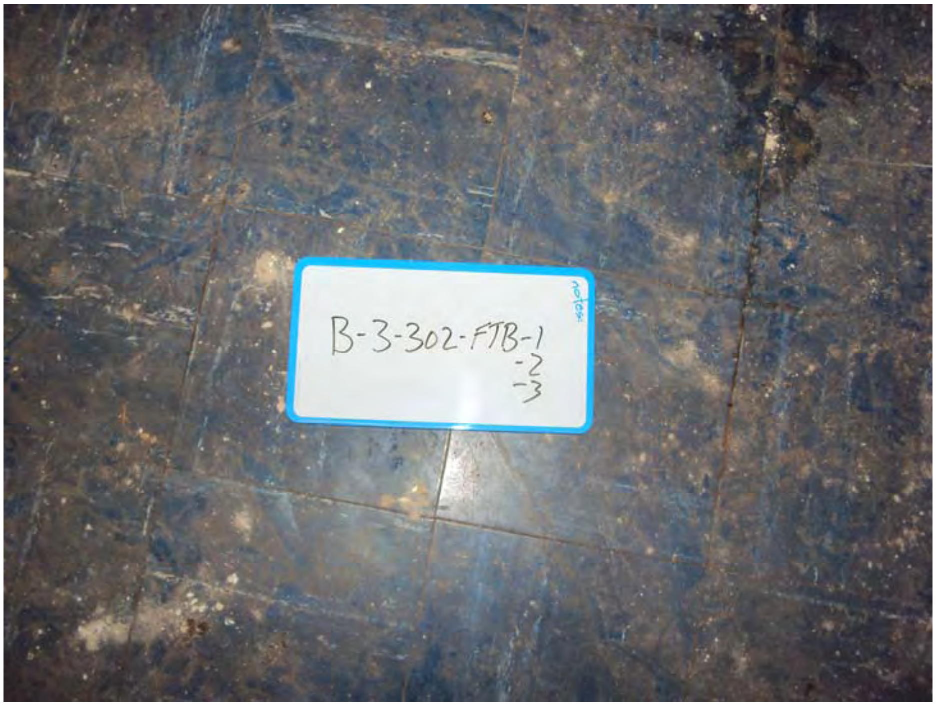


Window glazing represented by sample number B-A-A-WG-1 located in the attic of Building B.

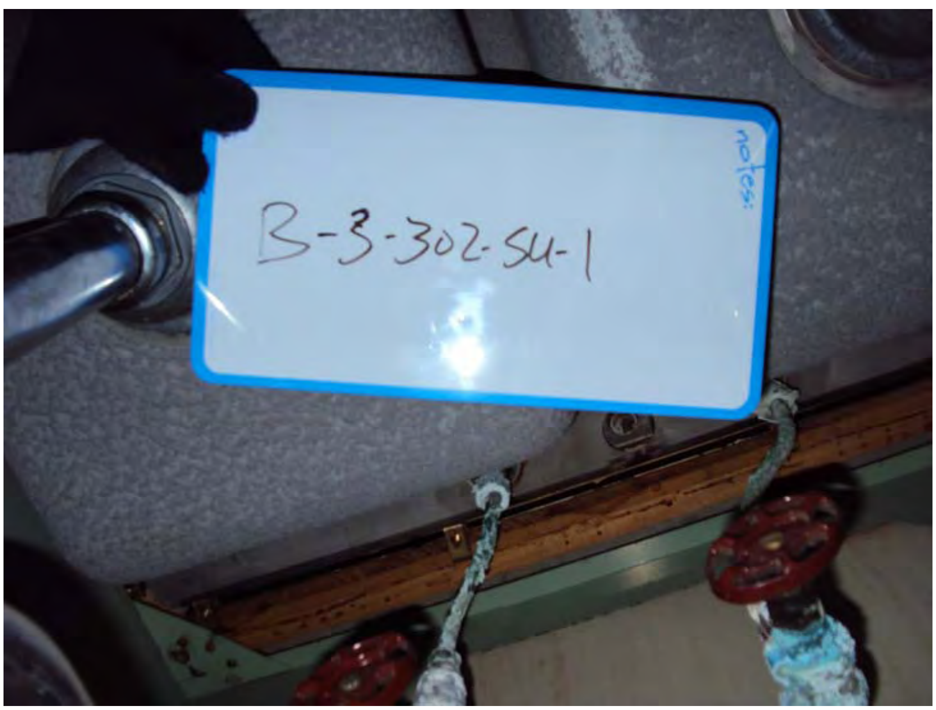


Drywall represented by sample number B-3-302-DW-1, 2 and 3 located in room 302 of Building B.

Joint compound represented by sample number B-3-302-JC-1, 2 and 3 located in room 302 of Building B.

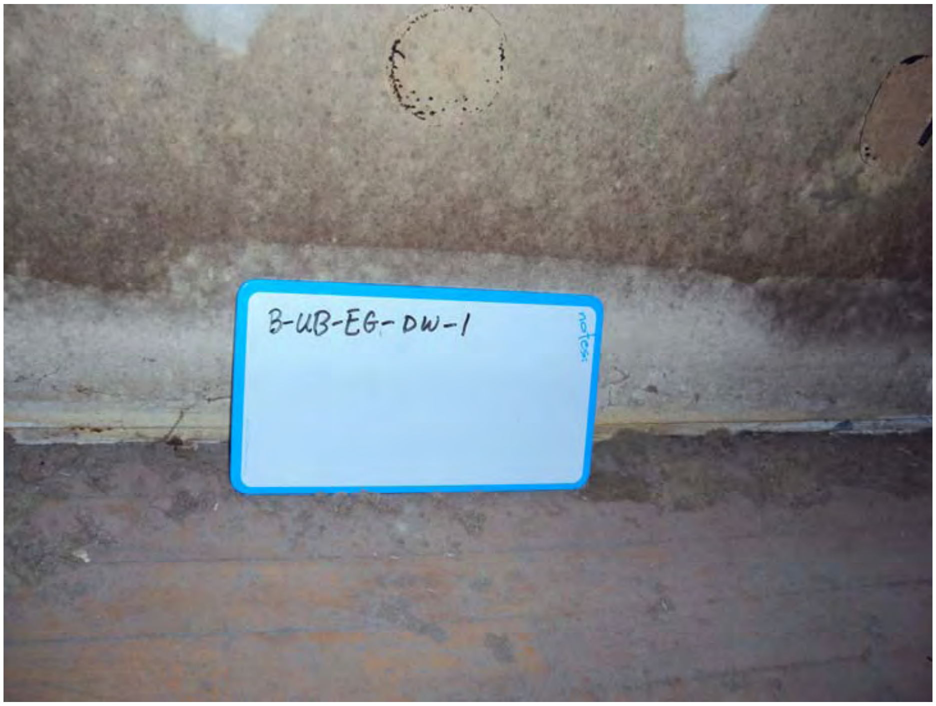


12x12 blue floor tile and associated mastic represented by sample numbers B-3-302-FTB-1, 2 and 3 located in room 302 of Building B.

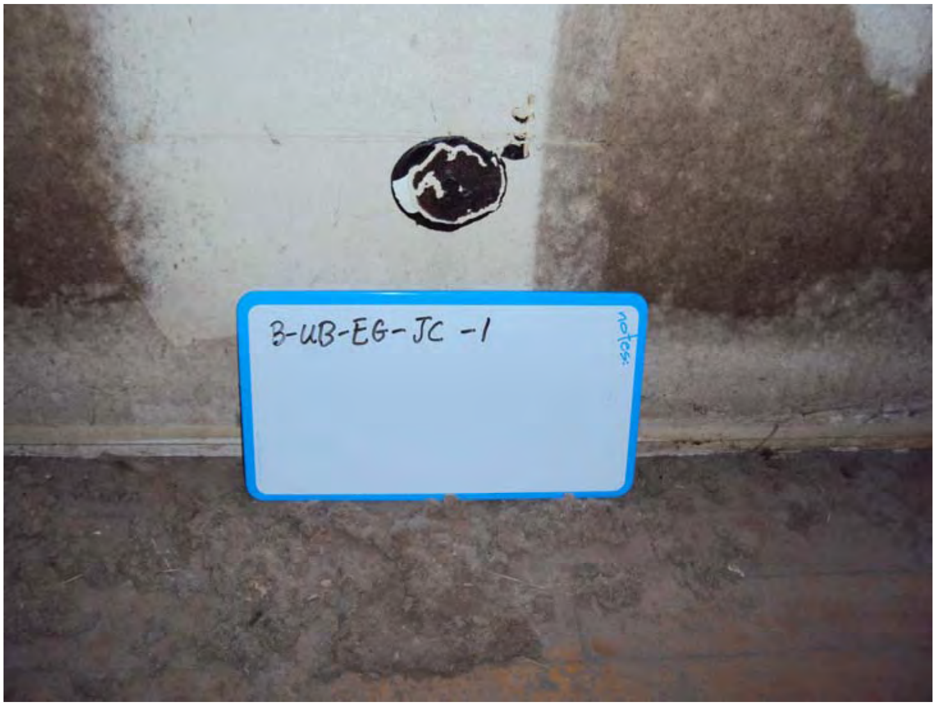


Sink underlayment represented by sample number B-3-302-SU-1 located in room 302 of Building B.

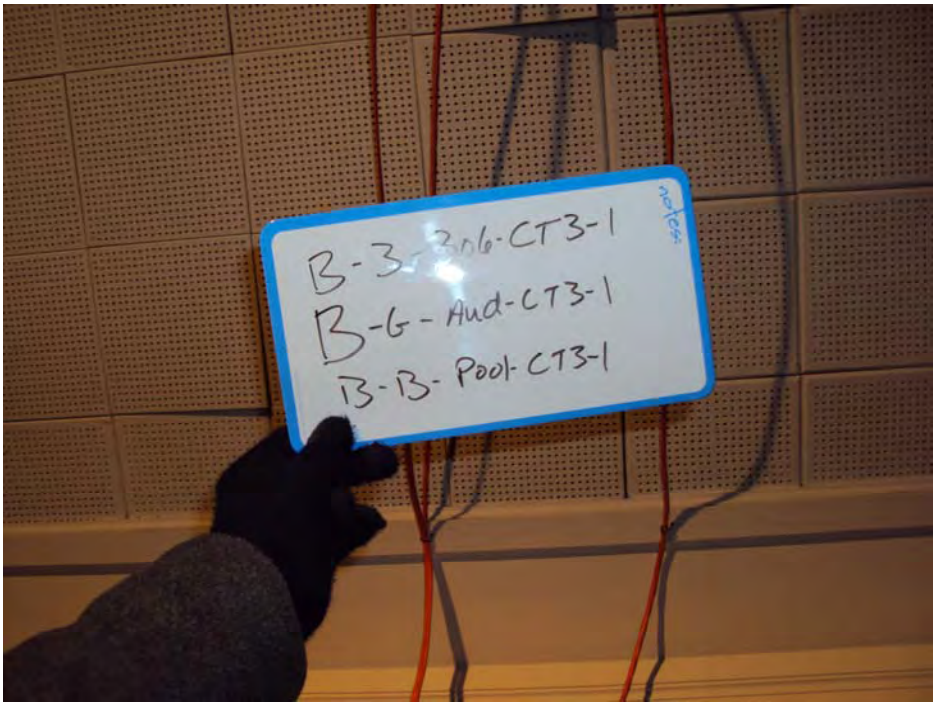
Cove base mastic represented by sample number B-3-ELE-CBM-1 located near the elevator on the 3rd floor of Building B.



Drywall represented by sample number B-UB-EG-DW-1 located in the upper boiler room of Building B.



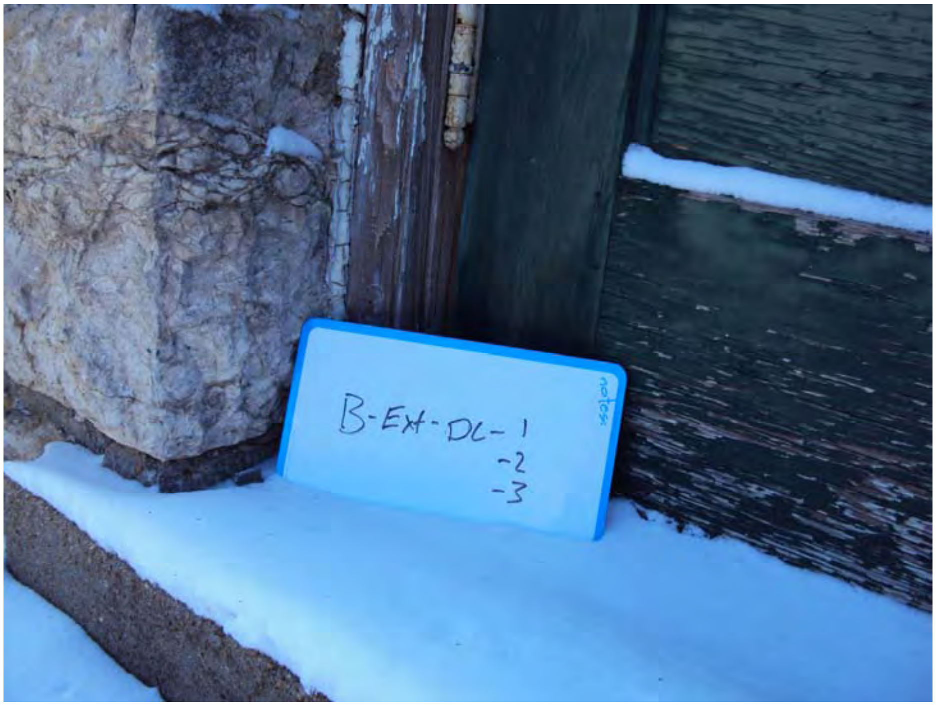
Joint compound represented by sample number B-UB-EG-JC-1 located in the upper boiler room of Building B.



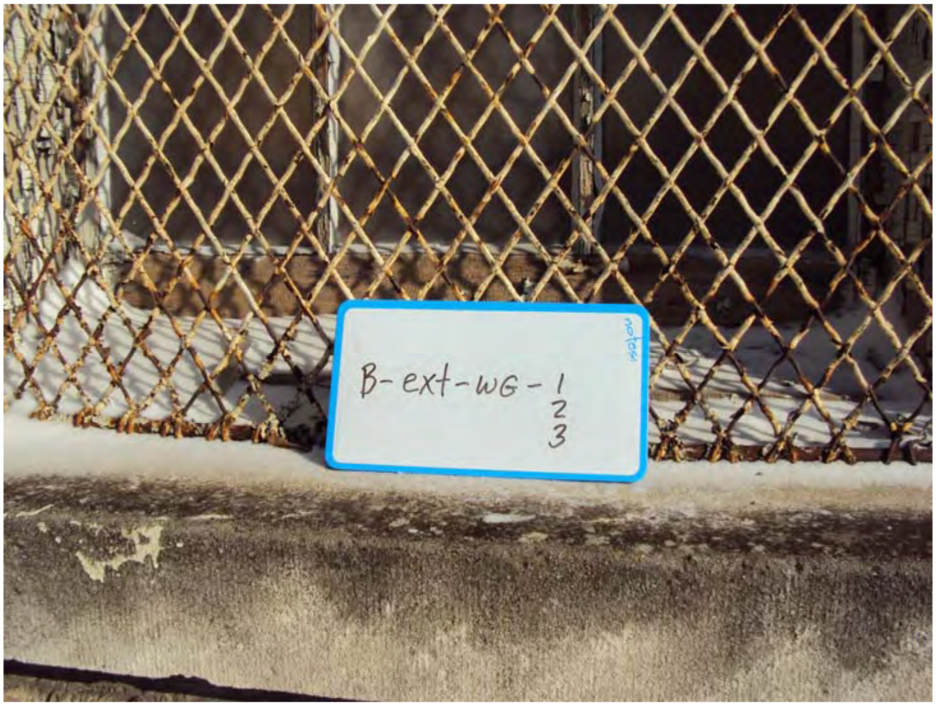
12x12 ceiling tile represented by sample numbers B-3-306-CT3-1, B-G-AUD-CT3-1 and B-B-Pool-CT3-1 located in the pool, auditorium and room 306 of Building B.

Ceiling tile mastic represented by sample numbers B-G-AUD-CT3M-1, 2 and 3 located in the auditorium of Building B.

Exterior window caulking represented by sample numbers B-EXT-WC-1, 2 and 3 located on the exterior windows of Building B.

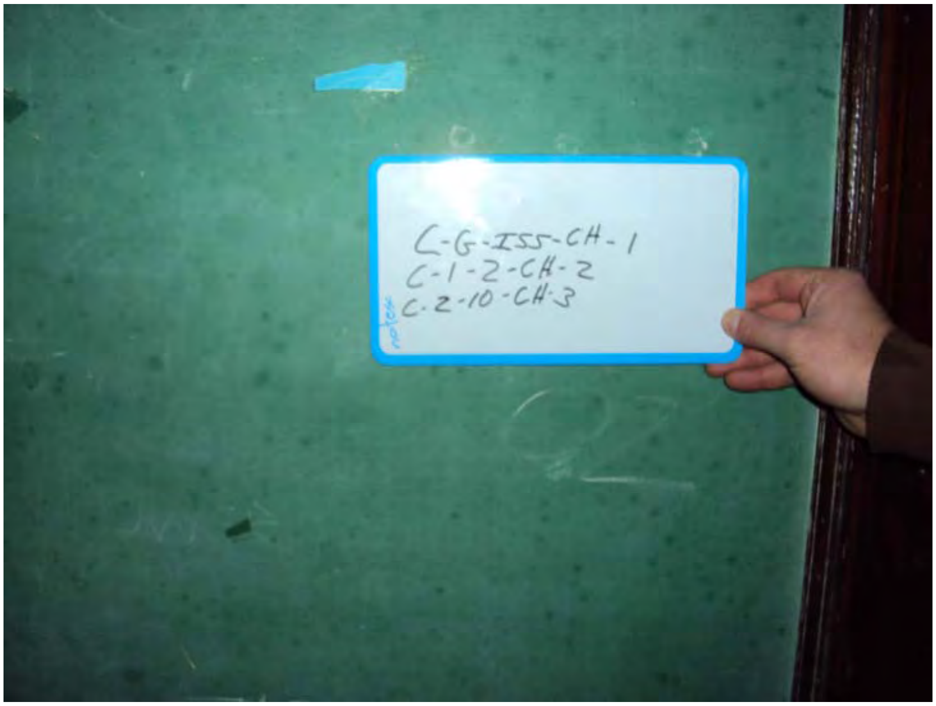


Exterior door caulking represented by sample numbers B-EXT-DC-1, 2 and 3 located on the exterior doors of Building B.

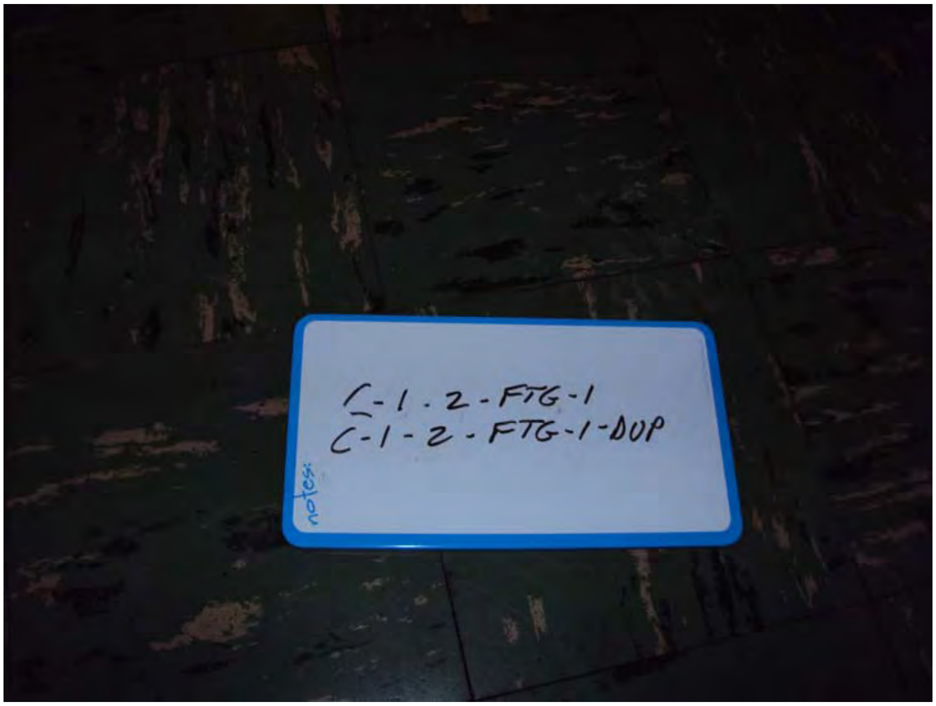


Exterior window glazing represented by sample numbers B-EXT-WG-1, 2 and 3 located on the exterior windows of Building B.

Window caulking represented by sample numbers C-G-ISS-WC-1, C-1-2-WC-2 and C-2-10-WC-3 located on the ground, 1st and 2nd floor of Building C.

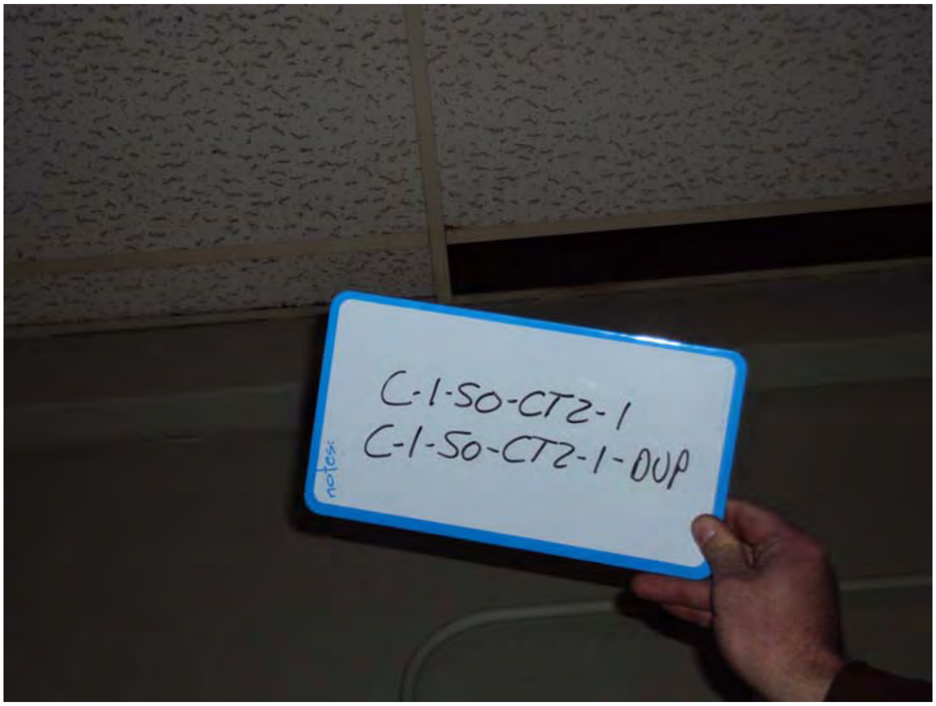


Chalkboard represented by sample numbers C-G-ISS-CH-1, C-1-2-CH-2 and C-2-10-CH-3 located on the ground, 1st and 2nd floor of Building C.

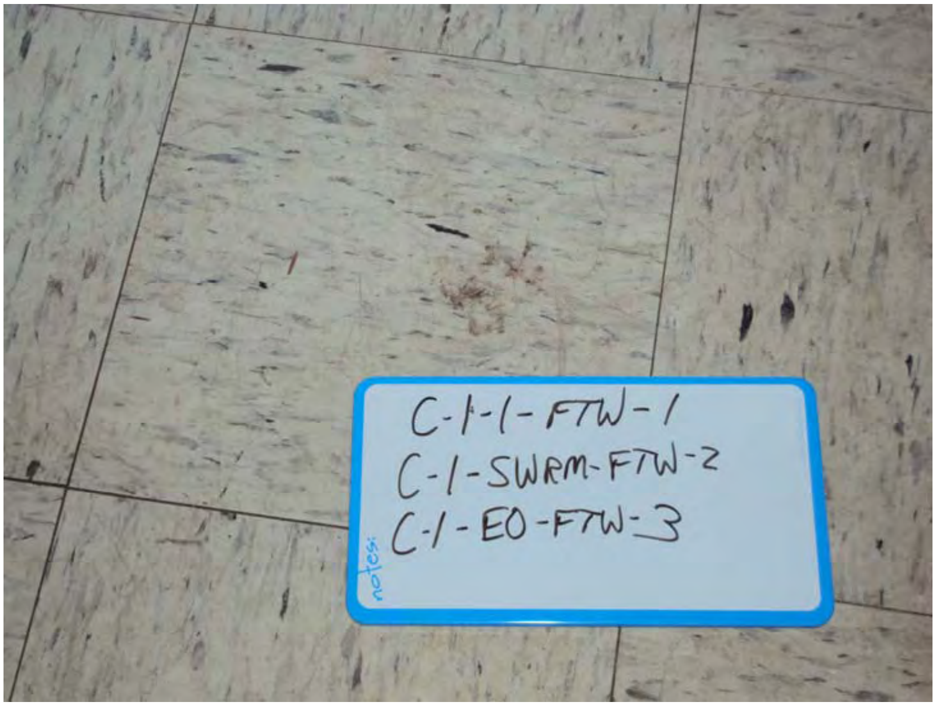


12x12 green floor tile and associated mastic represented by sample numbers C-1-2-FTG-1 and C-1-2-FTG-1-DUP located in room 2 of Building C.

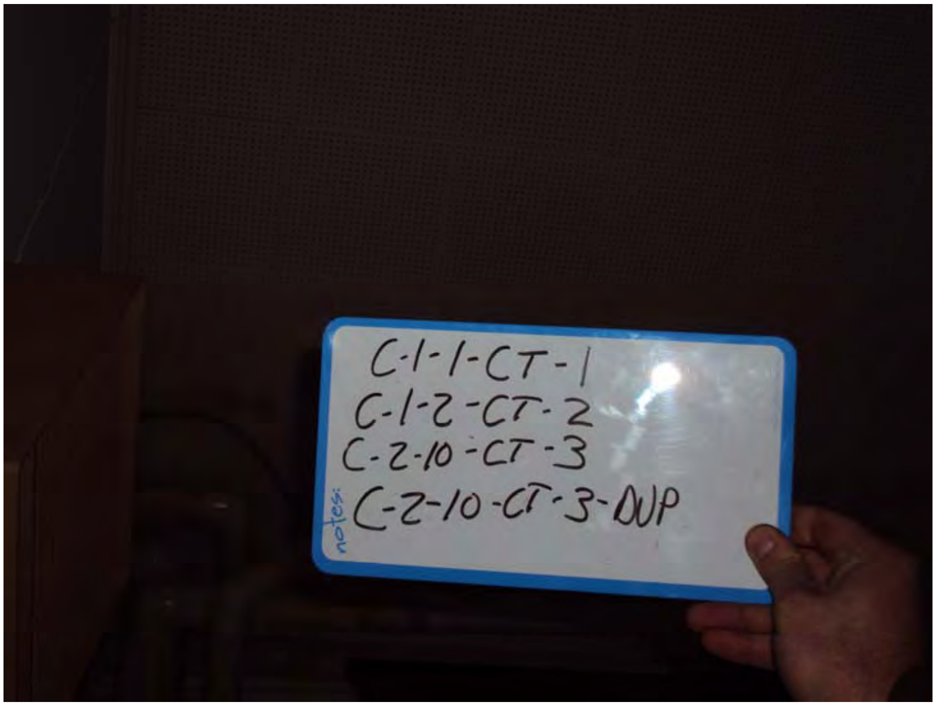
12x12 dark green floor tile and associated mastic represented by sample number C-1-2-FTG2-1 located in room 2 of Building C.



2x4 ceiling tile represented by sample numbers C-1-SO-CT2-1 and C-1-SO-CT2-1-DUP located on the 1st floor of Building C.



12x12 white floor tile and associated mastic represented by sample numbers C-1-1-FTW-1, C-1-SWRM-FTW-2 and C-1-EO-FTW-3 located on the first floor of Building C.

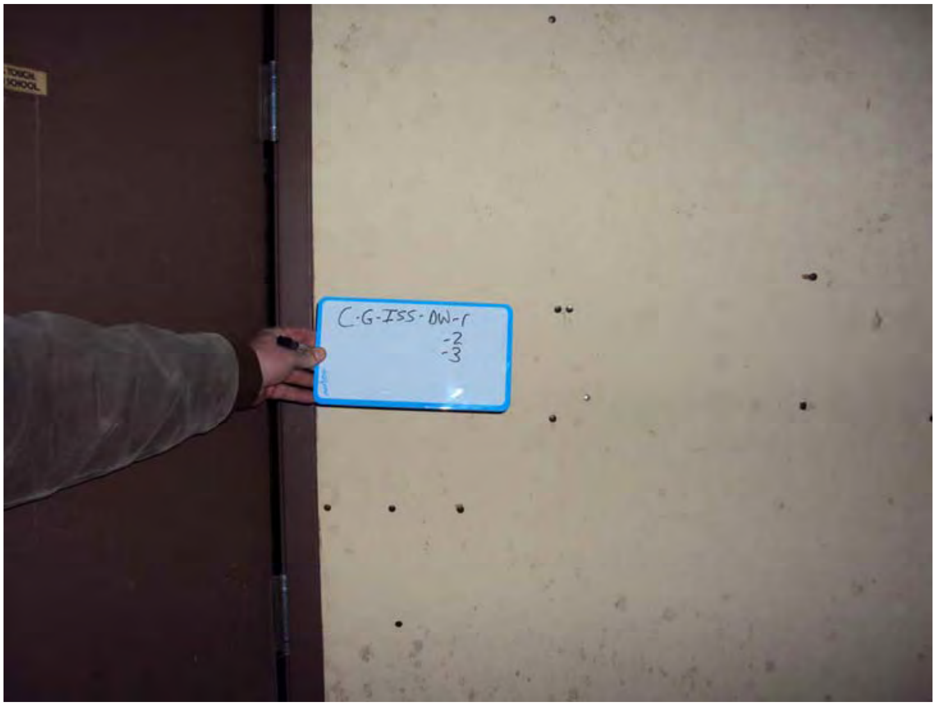


Ceiling tile represented by sample numbers C-1-1-CT-1, C-1-2-CT-2, C-2-10-CT-3 and C-2-10-CT-3-DUP located on the 1st and 2nd floor of Building C.

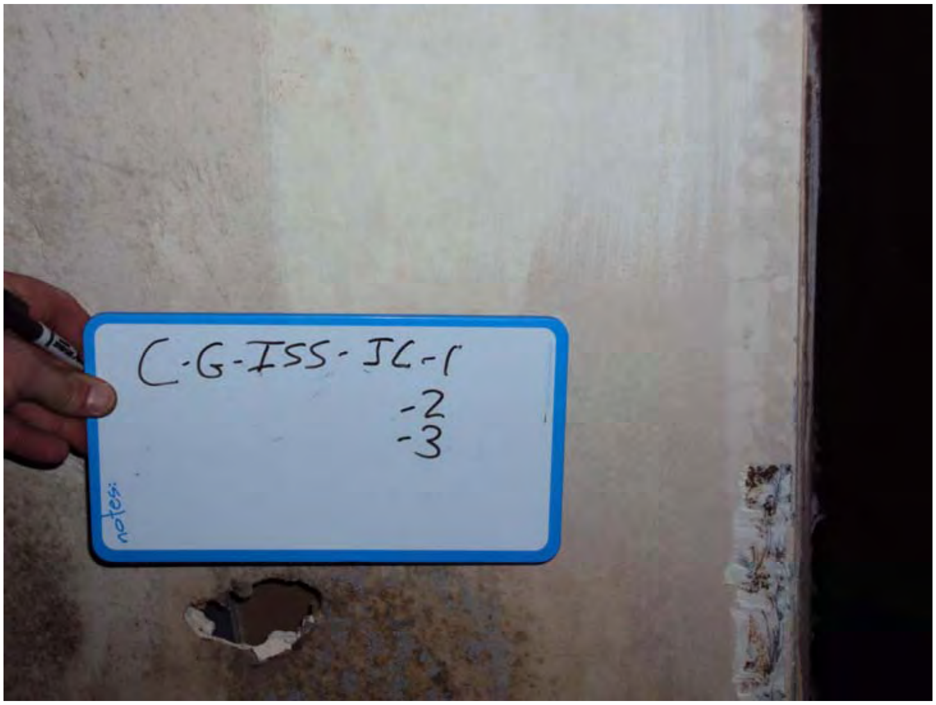
Plaster represented by sample numbers C-G-ST-PL-1, C-1-2-PL-2 and C-2-HW-PL-3 located on the ground, 1st and 2nd floor of Building C.

Plaster skim coat represented by sample numbers C-G-ST-PLSC-1, C-1-2-PLSC-2 and C-2-HW-PLSC-3 located on the ground, 1st and 2nd floor of Building C.

Vibration joint represented by sample numbers C-G-BR-VJ-1 and C-G-BR-VJ-1-DUP located in the boiler room of Building C.



Drywall represented by sample numbers C-G-ISS-DW-1, 2 and 3 located in the ISS room of Building C.

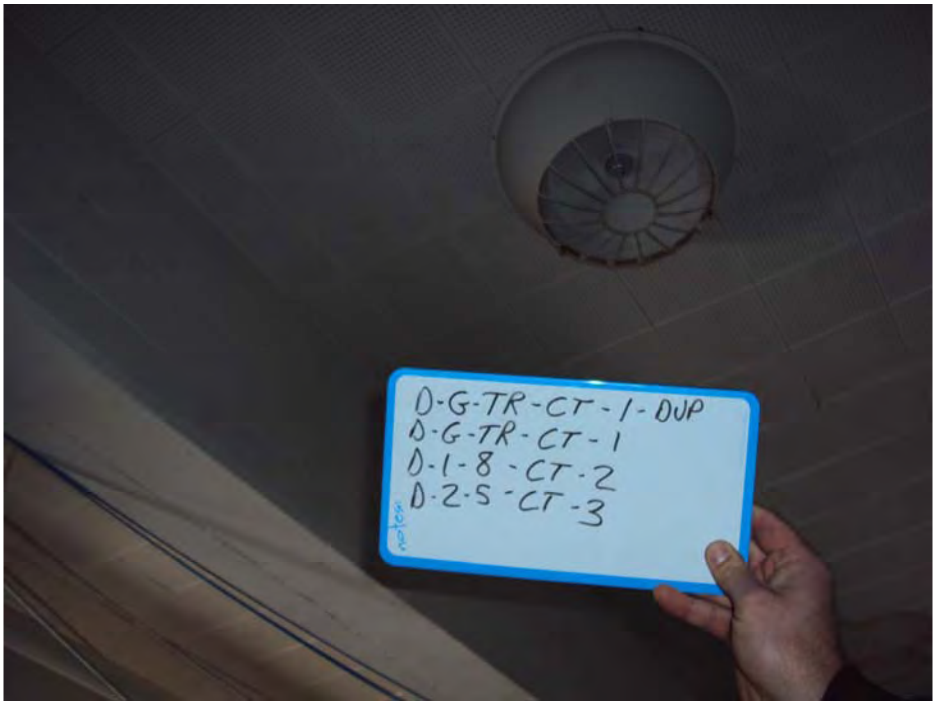


Joint compound represented by sample numbers C-G-ISS-DW-1, 2 and 3 located in the ISS room of Building C.

12x12 brown floor tile and associated mastic represented by sample numbers C-G-ISS-FTB-1 and C-G-ISS-FRB-1-DUP located in the ISS room of Building C.

Exterior window caulking represented by sample number C-EXT-WC-1 located on the exterior windows of Building C.

Carpet adhesive represented by sample number C-G-ISS-CA-1 located in the ISS room of Building C.

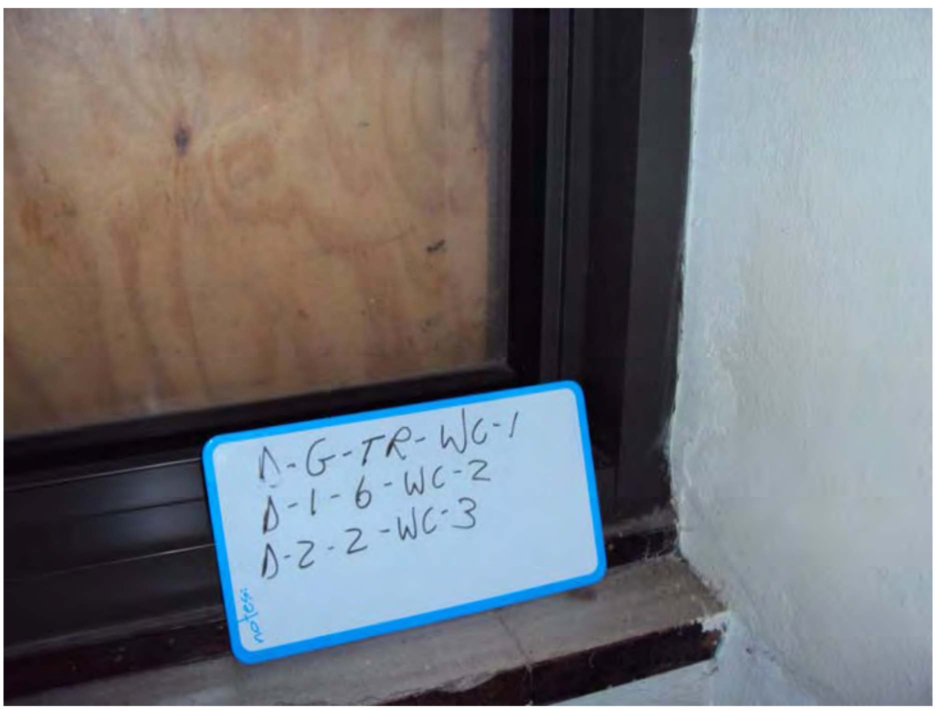


Ceiling tile represented by sample numbers D-G-TR-CT-1, D-G-TR-CT-1-DUP, D-1-8-CT-2 and D-2-5-CT-3 located on the ground, 1st and 2nd floor of Building D.

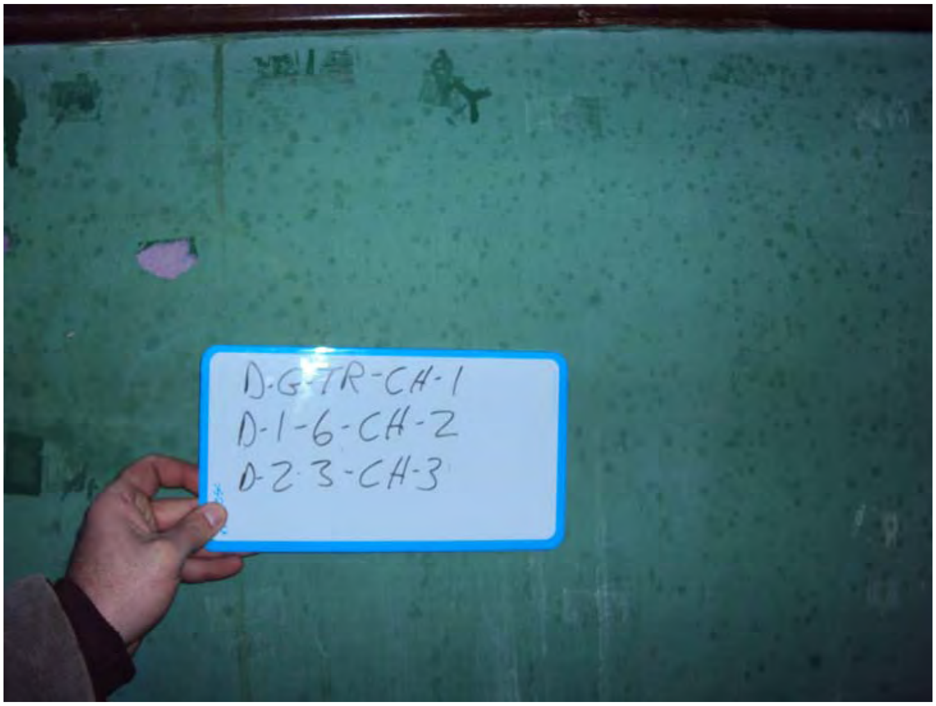
Ceiling tile mastic represented by sample number D-G-TR-CTM-1 located in the transition room of Building D.

Plaster represented by sample numbers D-G-ST-PL-1, D-1-4-PL-2 and D-2-7-PL-3 located on the ground, 1st and 2nd floor of Building D.

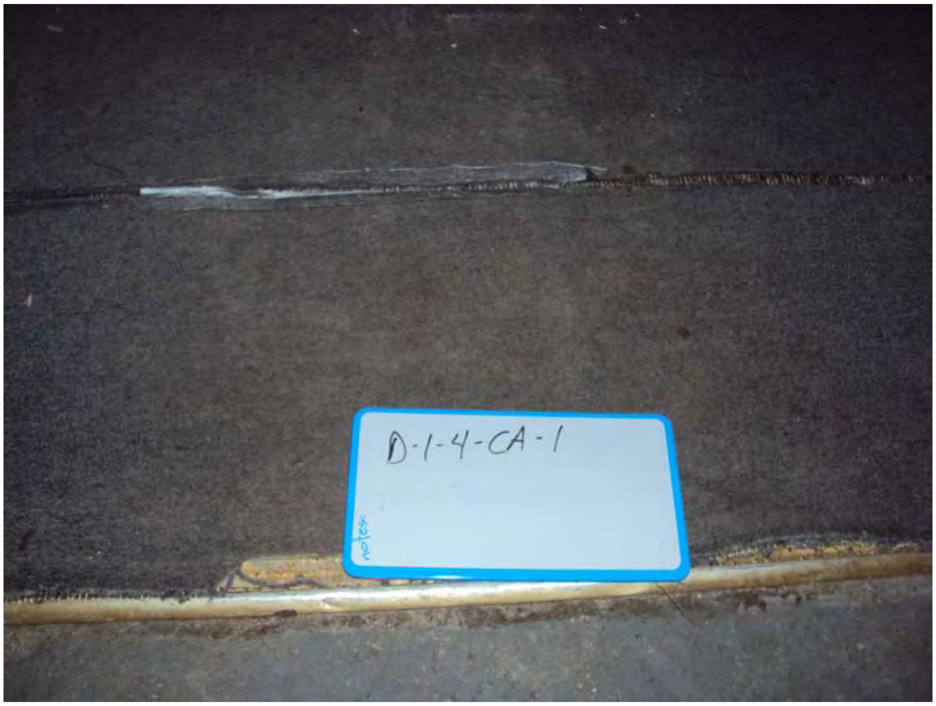
Plaster skim coat represented by sample numbers D-G-ST-PLSC-1, D-1-4-PLSC-2 and D-2-7-PLSC-3 located on the ground, 1st and 2nd floor of Building D.



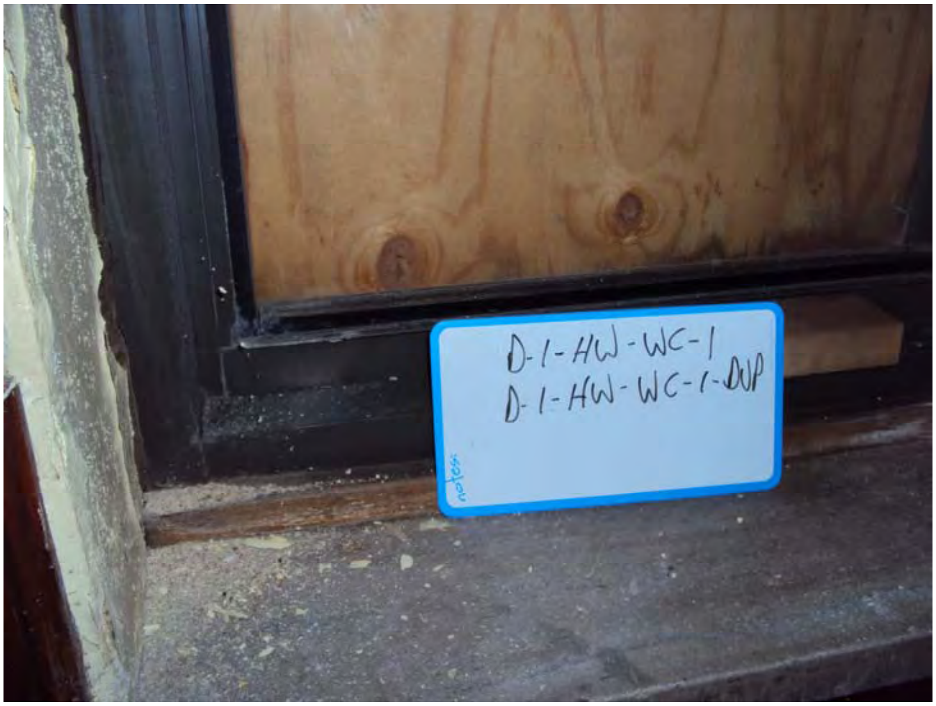
Window caulking represented by sample numbers D-G-TR-WC-1, D-1-6-WC-2 and D-2-2-WC-3 located on the ground, 1st and 2nd floor of Building D.



Chalkboard represented by sample numbers D-G-TR-CH-1, D-1-6-CH-2 and D-2-3-CH-3 located on the ground, 1st and 2nd floor of Building D.



Carpet adhesive represented by sample number D-1-4-CA-1 located in room 4 of Building D.



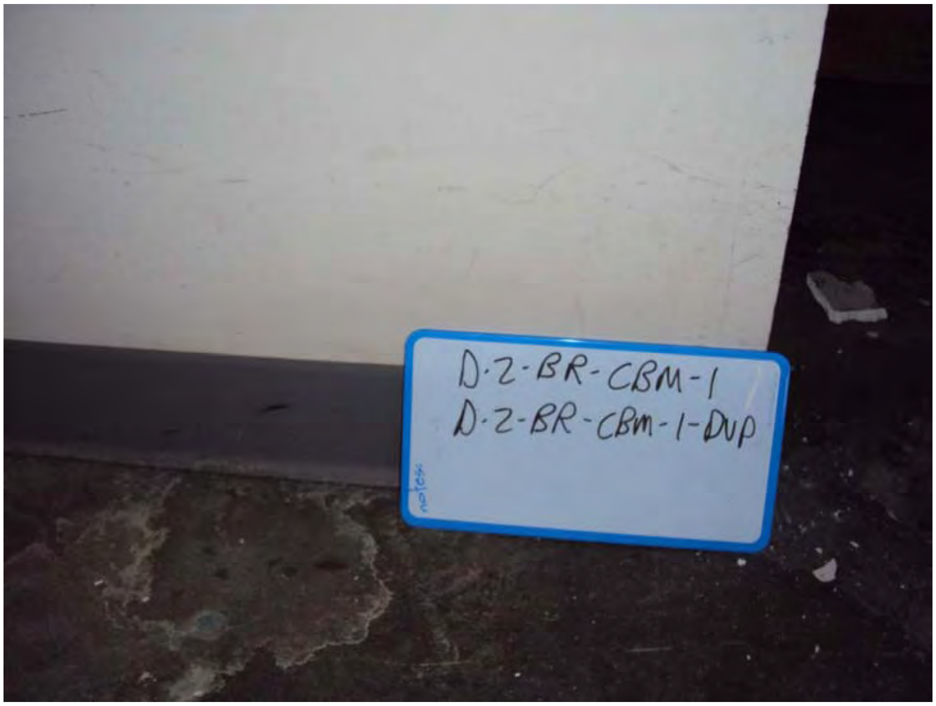
Window caulking represented by sample numbers D-1-HW-WC-1 and D-1-HW-WC-1-DUP located on the 1st floor of Building D.

Floor tile felt represented by sample number D-2-5-FTF-1 located on the 2nd floor of Building D.

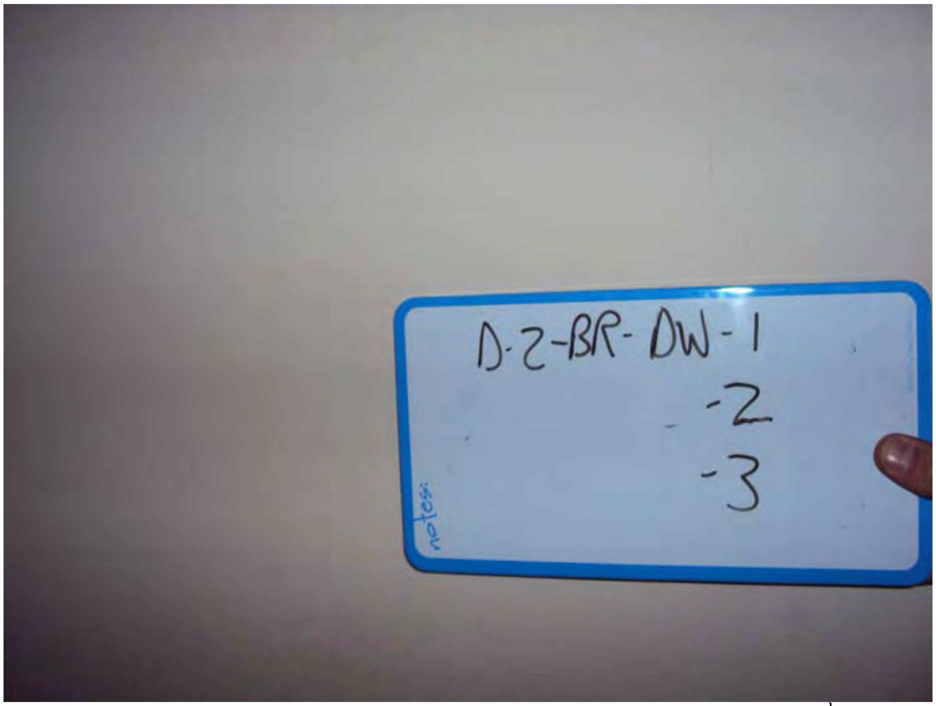
12x12 tan floor tile and associated mastic represented by sample numbers D-2-5-FTT-1 and D-2-5-FTT-1-DUP located on the 2nd floor of Building D.

Plaster represented by sample numbers D-G-HW-PL-1, D-1-HW-PL-2 and D-2-HW-PL-3 located on the ground, 1st and 2nd floor of Building D.

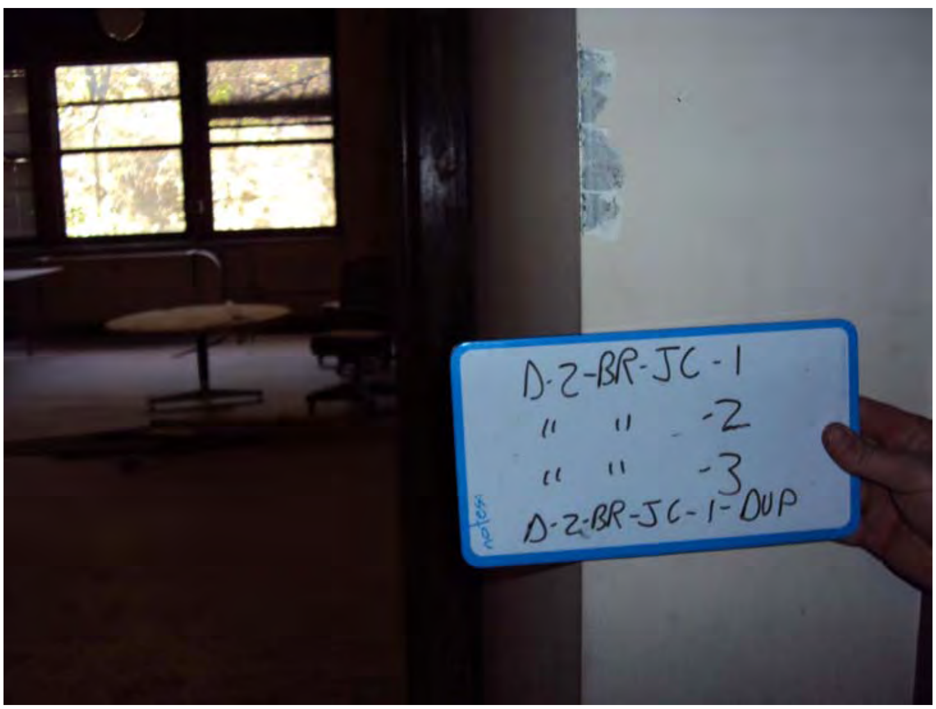
Plaster skim coat represented by sample numbers D-G-HW-PLSC-1, D-1-HW-PLSC-2 and D-2-HW-PLSC-3 located on the ground, 1st and 2nd floor of Building D.



Cove base mastic represented by sample numbers D-2-BR-CBM-1 and D-2-BR-CBM-1-DUP located in the bathroom on the 2nd floor of Building D.

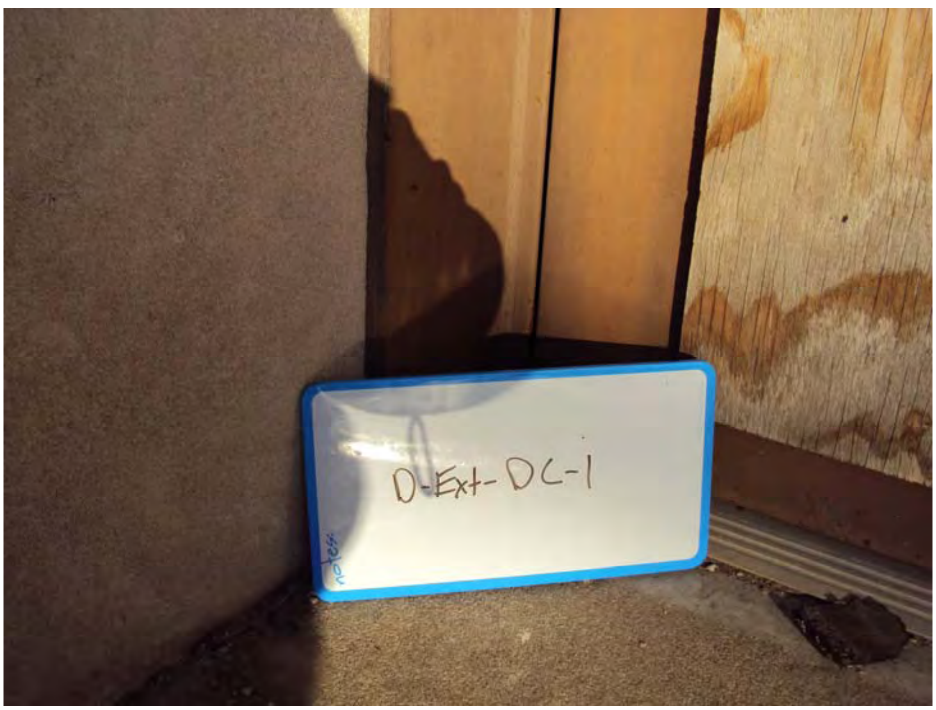


Drywall represented by sample numbers D-2-BR-DW-1, 2 and 3 located on the 2nd floor of Building D.

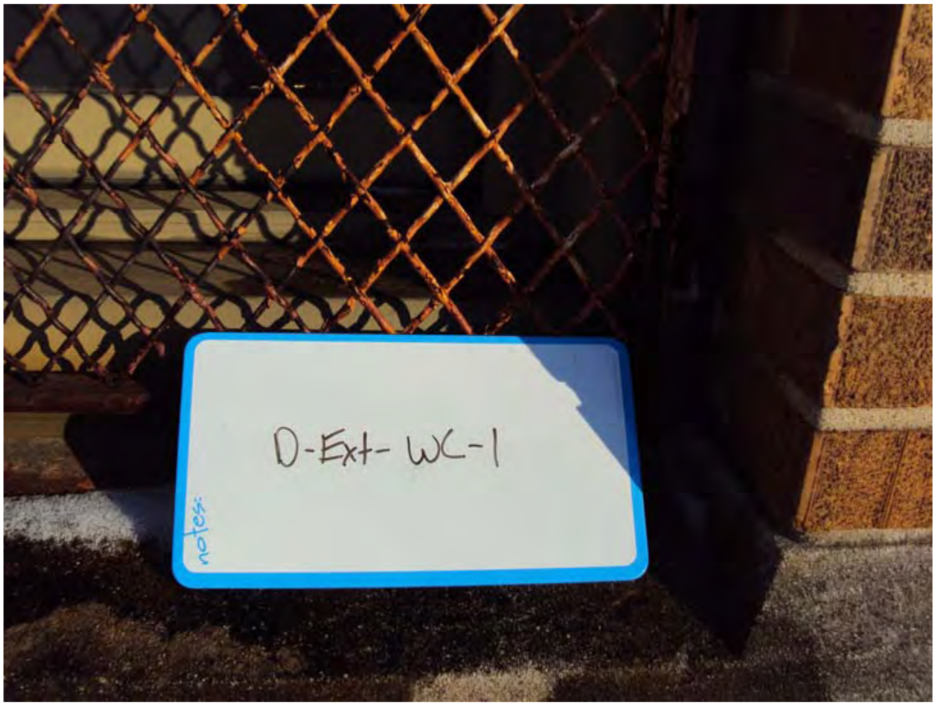


Joint compound represented by sample numbers D-2-BR-JC-1, 2, 3 and 1-DUP located on the 2nd floor of Building D.

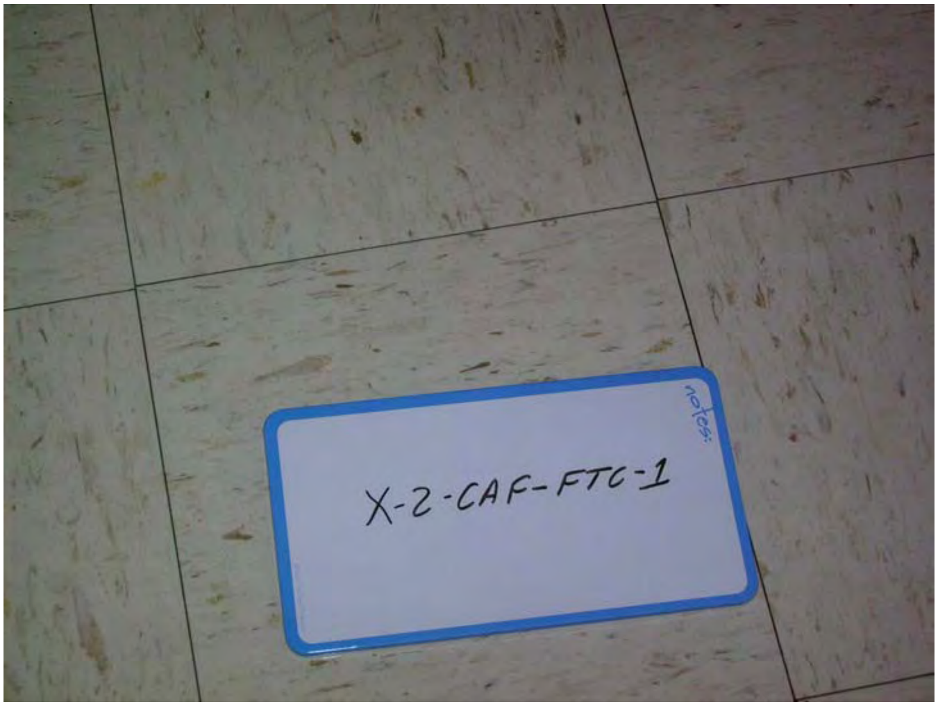
Cove base mastic represented by sample numbers D-2-1-CBM-1 and D-2-1-CBM-1-DUP located on the 2nd floor of Building D.



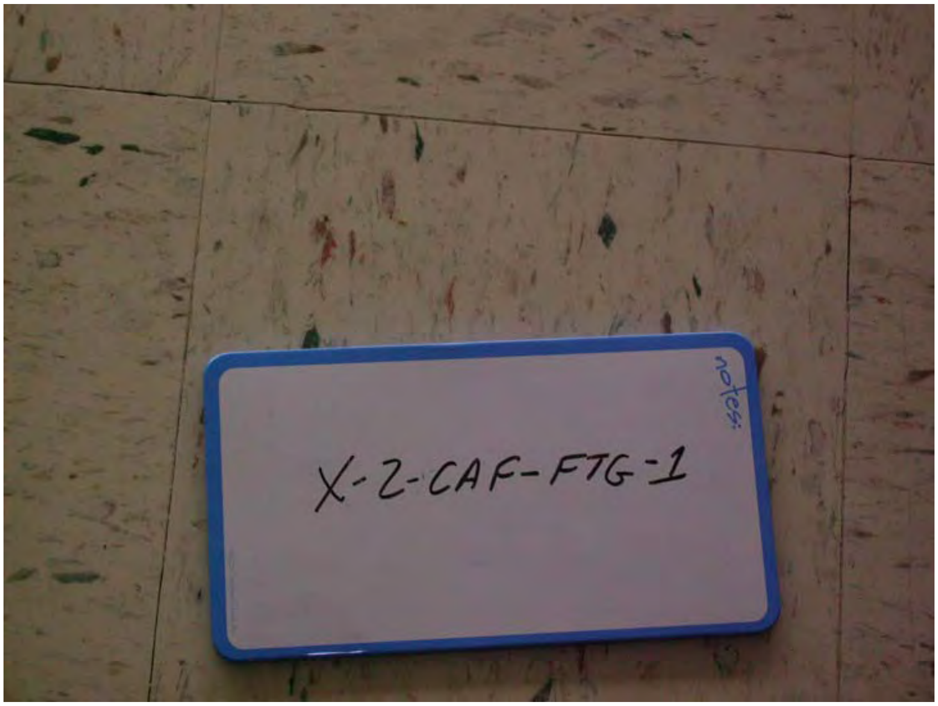
Exterior door caulking represented by sample number D-EXT-DC-1 located on the exterior doors of Building D.



Exterior window caulking represented by sample number D-EXT-WC-1 located on the exterior windows of Building D.



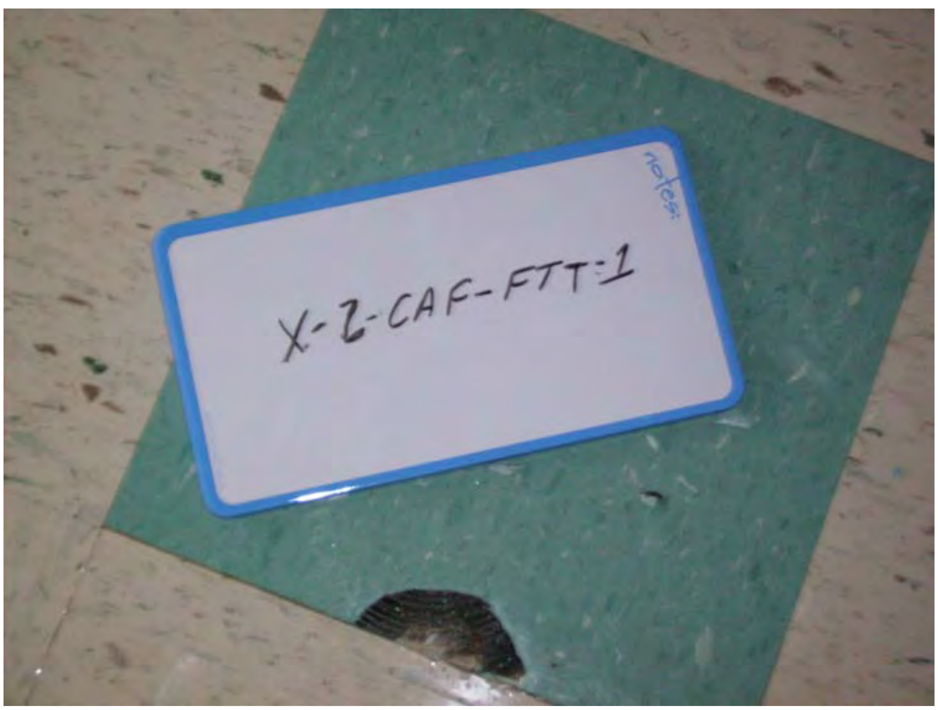
12x12 cream floor tile and associated mastic represented by sample number X-2-CAF-FTC-1 located in the cafeteria of the Annex Building.



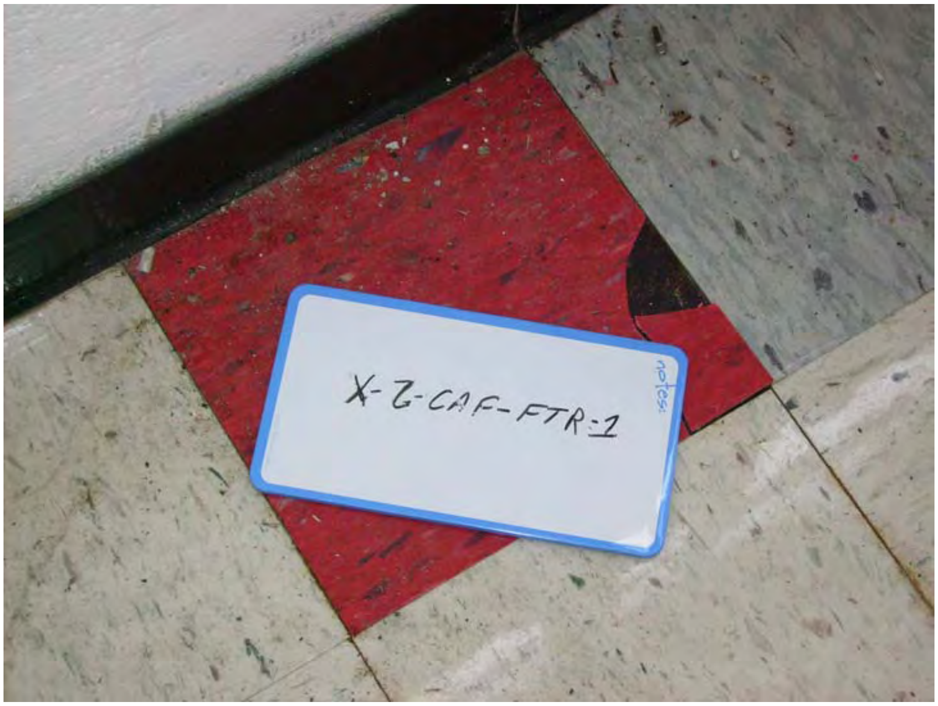
12x12 gray floor tile and associated mastic represented by sample number X-2-CAF-FTG-1 located in the cafeteria of the Annex Building.

12x12 green floor tile and associated mastic represented by sample number X-2-CAF-FTGR-1 located in the cafeteria of the Annex Building.

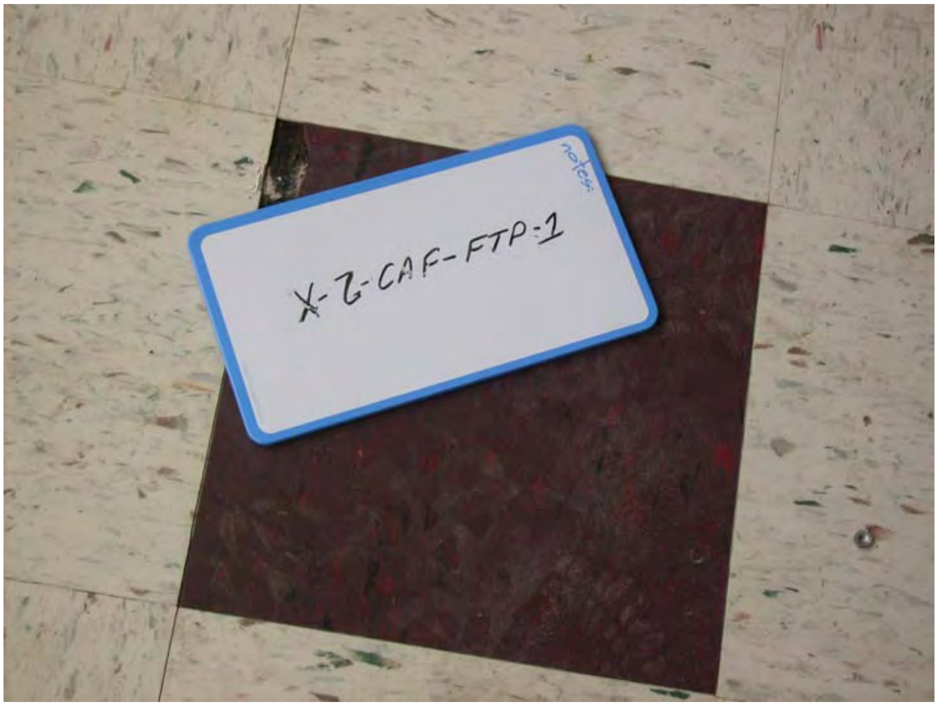
12x12 dark gray floor tile and associated mastic represented by sample number X-2-CAF-FTDRG-1 located in the cafeteria of the Annex Building.



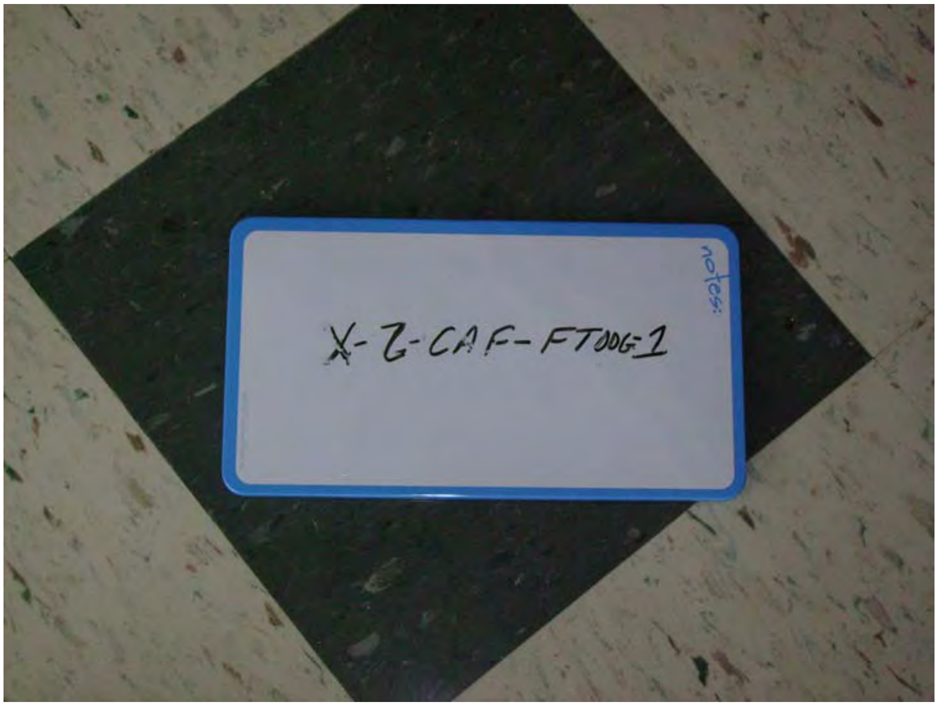
12x12 teal floor tile and associated mastic represented by sample number X-2-CAF-FTT-1 located in the cafeteria of the Annex Building.



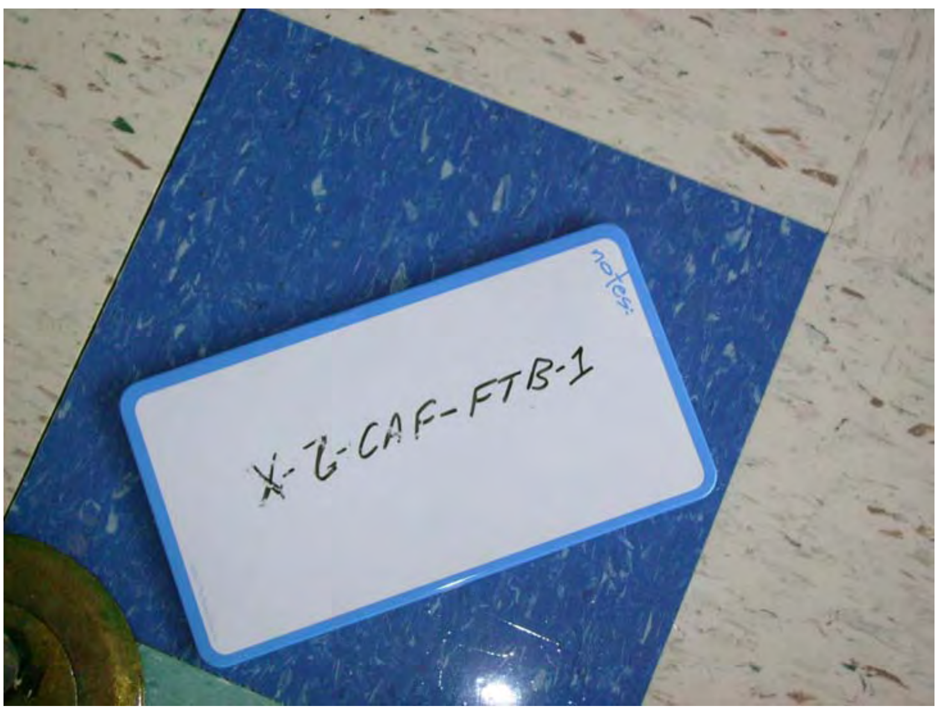
12x12 red floor tile and associated mastic represented by sample number X-2-CAF-FTR-1 located in the cafeteria of the Annex Building.



12x12 purple floor tile and associated mastic represented by sample number X-2-CAF-FTP-1 located in the cafeteria of the Annex Building.



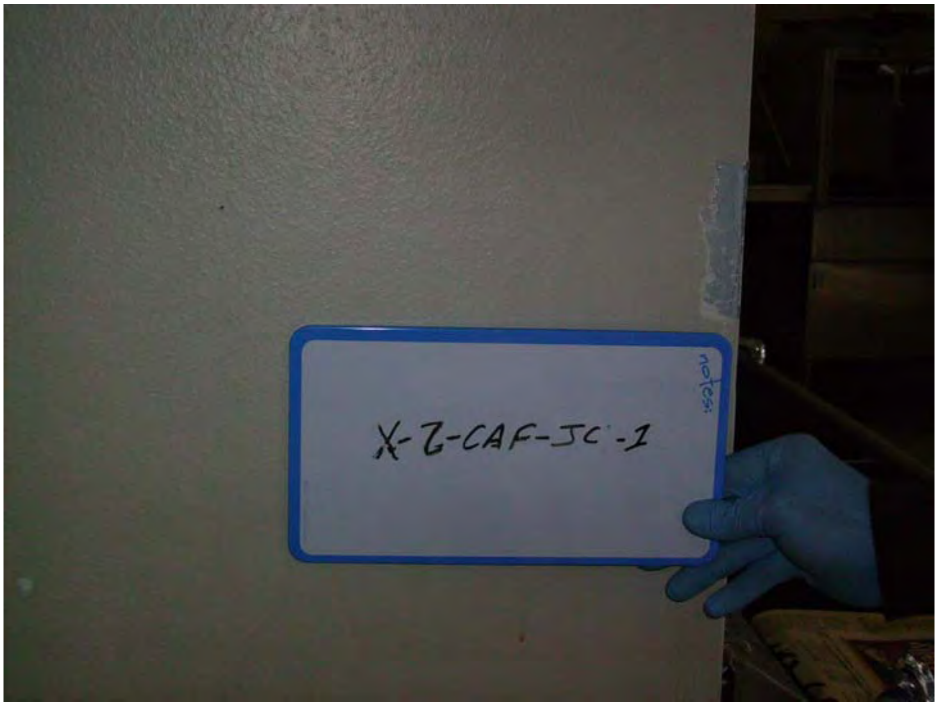
12x12 dark gray floor tile and associated mastic represented by sample number X-2-CAF-FTDDG-1 located in the cafeteria of the Annex Building.



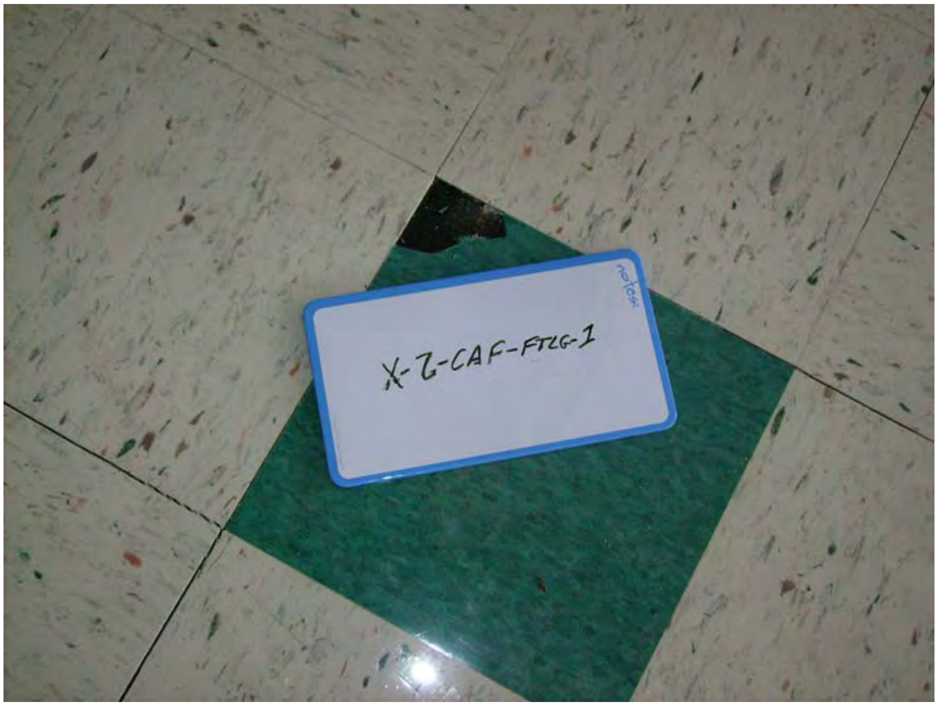
12x12 blue floor tile and associated mastic represented by sample number X-2-CAF-FTB-1 located in the cafeteria of the Annex Building.

Cove base mastic represented by sample number X-2-CAF-CBM-1 located in the cafeteria of the Annex Building.

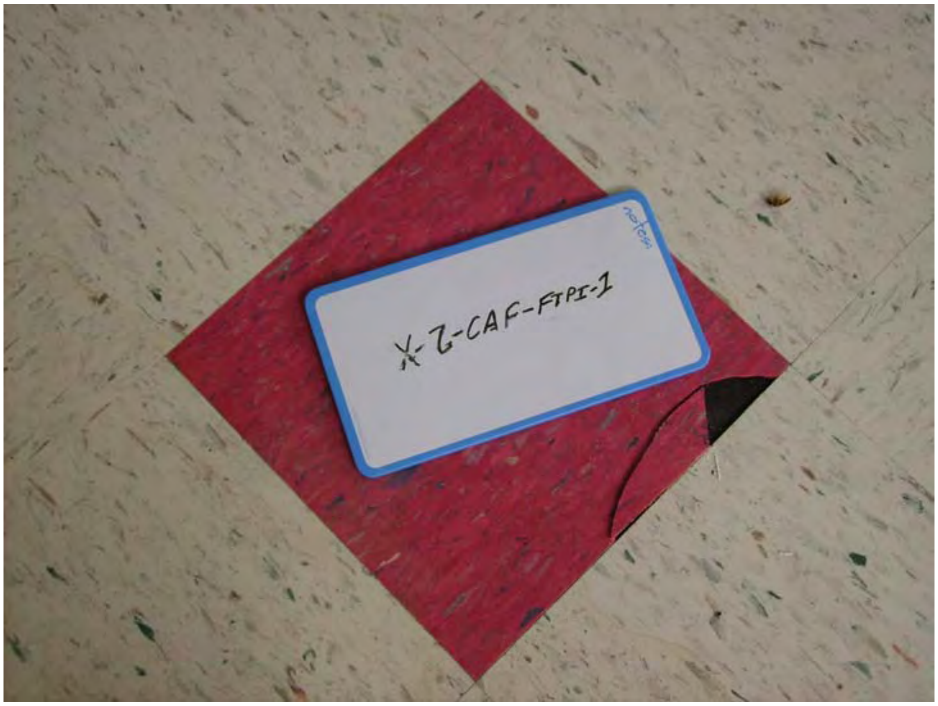
Drywall represented by sample number X-2-CAF-DW-1 located in the cafeteria of the Annex Building.



Joint compound represented by sample number X-2-CAF-JC-1 located in the cafeteria of the Annex Building.



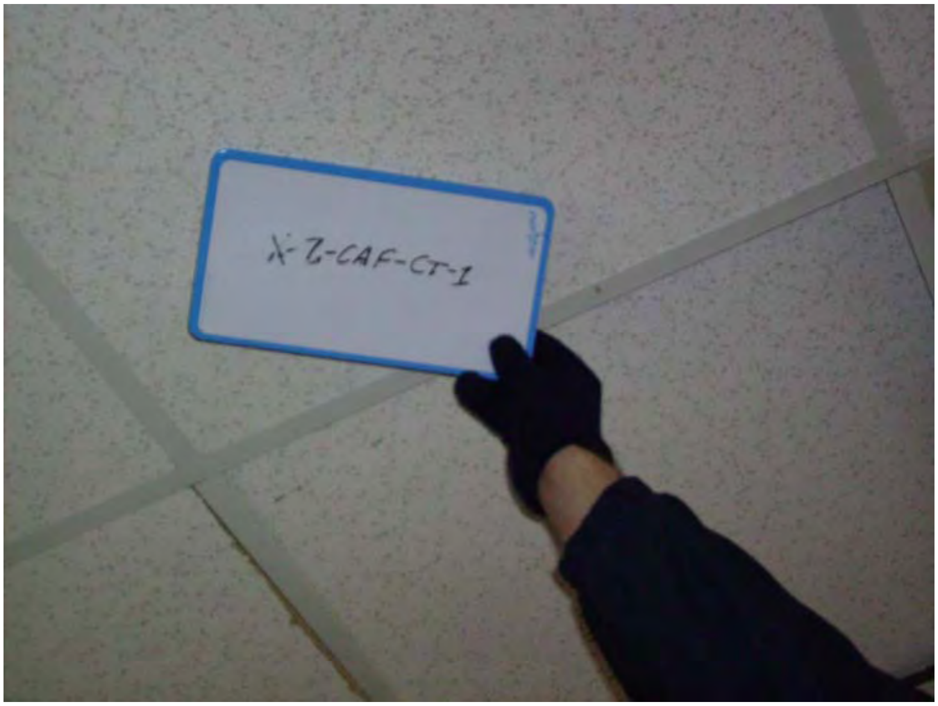
12x12 light green floor tile and associated mastic represented by sample number X-2-CAF-FTLG-1 located in the cafeteria of the Annex Building.



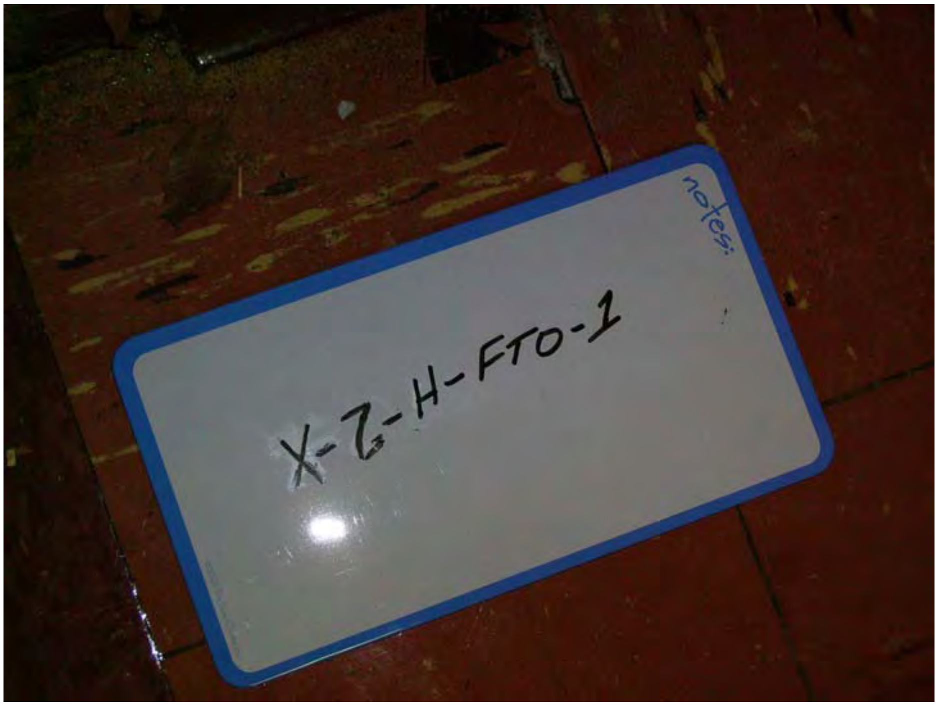
12x12 pink floor tile and associated mastic represented by sample number X-2-CAF-FTPI-1 located in the cafeteria of the Annex Building.

Plaster represented by sample number X-2-CAF-PL-1 located in the cafeteria of the Annex Building.

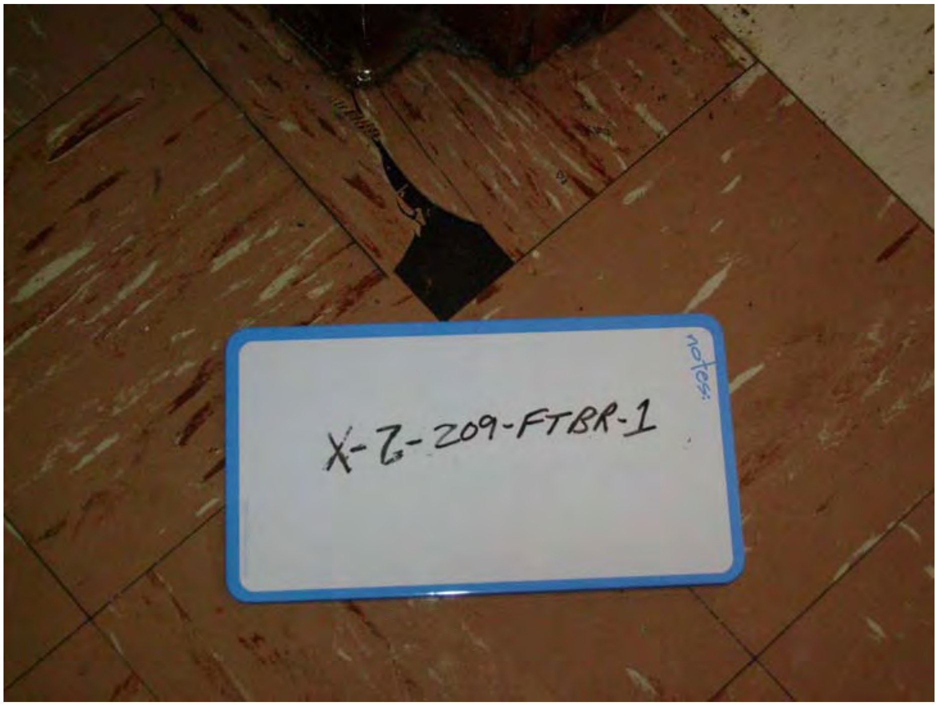
Plaster skim coat represented by sample number X-2-CAF-PLSC-1 located in the cafeteria of the Annex Building.



2x4 ceiling tile represented by sample number X-2-CAF-CT-1 located in the cafeteria of the Annex Building.

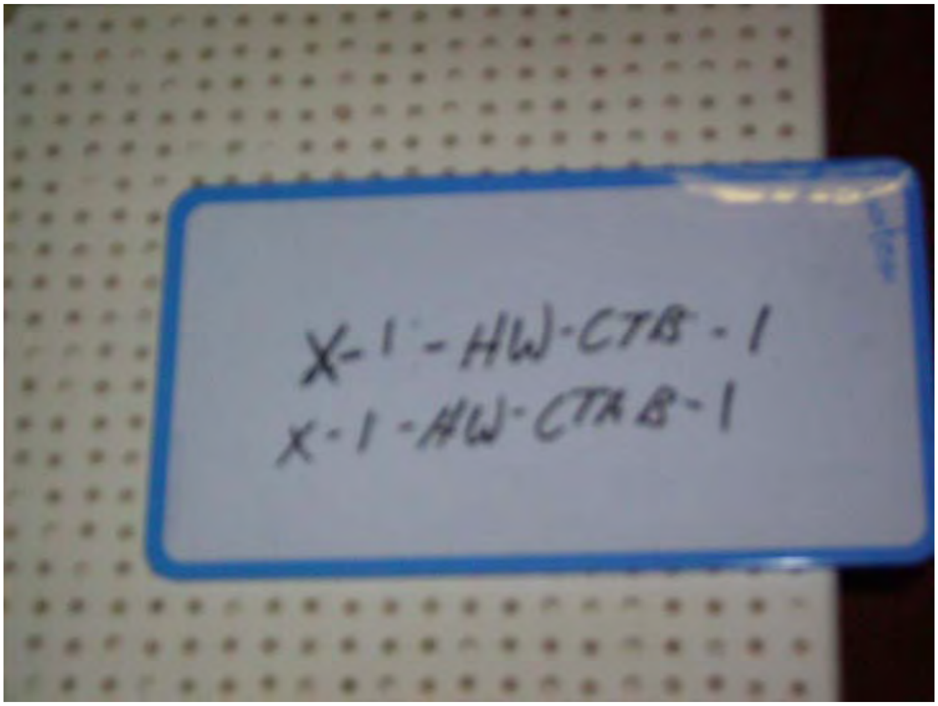


12x12 orange floor tile and associated mastic represented by sample number X-2-CAF-FTO-1 located in the cafeteria of the Annex Building.

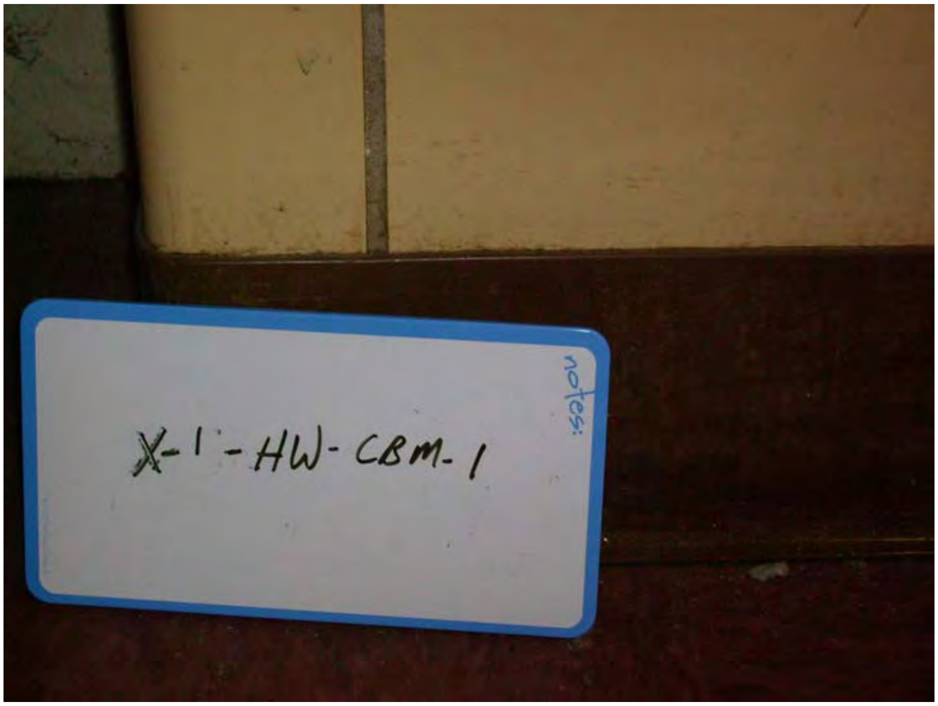


9x9 brown floor tile and associated mastic represented by sample number X-2-CAF-FTBR-1 located in the cafeteria of the Annex Building.

12x12 ceiling tile with small holes and associated mastic represented by sample numbers X-2-HW-CTS-1 and X-2-HW-CTAS-1 located in the hallway of the 2nd floor of the Annex Building.

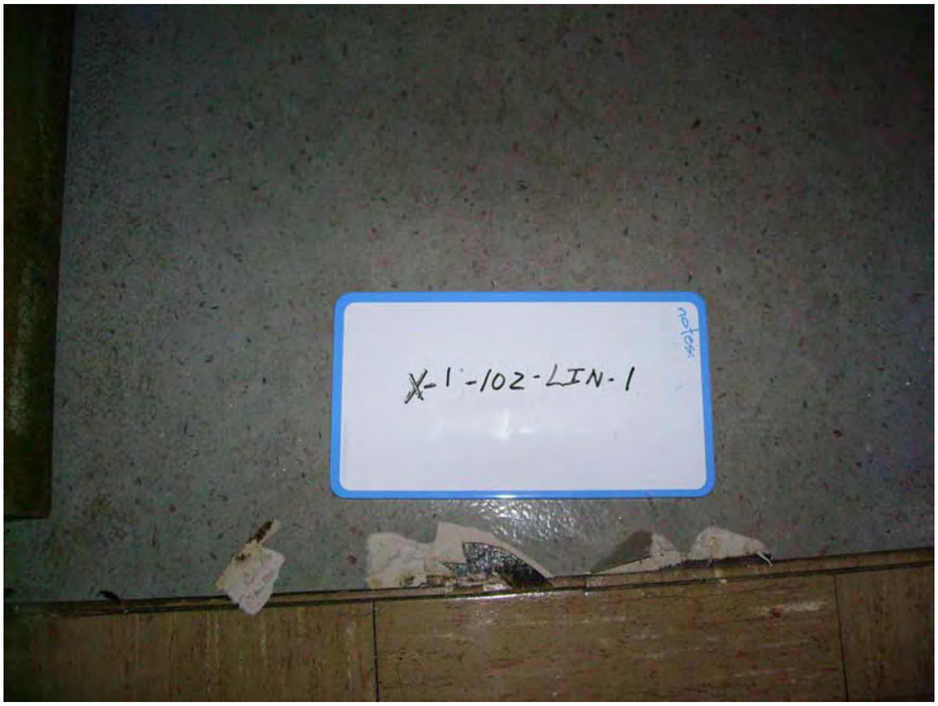


12x12 ceiling tile with large holes and associated mastic represented by sample numbers X-2-HW-CTB-1 and X-2-HW-CTAB-1 located in the hallway of the 1st floor of the Annex Building.

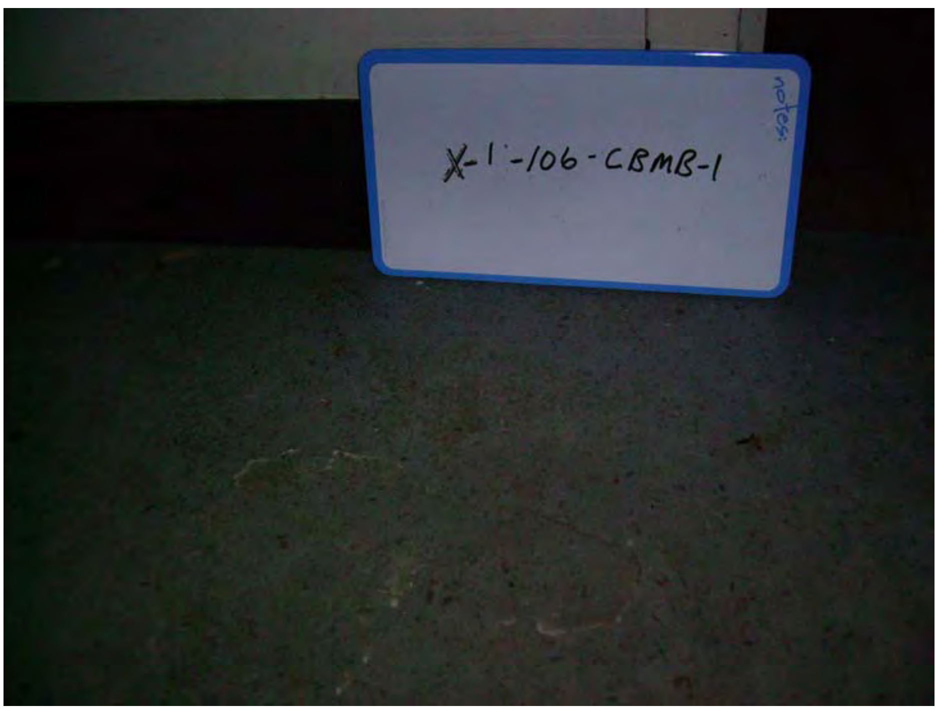


Cove base mastic represented by sample number X-1-HW-CBM-1 located in the hallway of the 1st floor of the Annex Building.

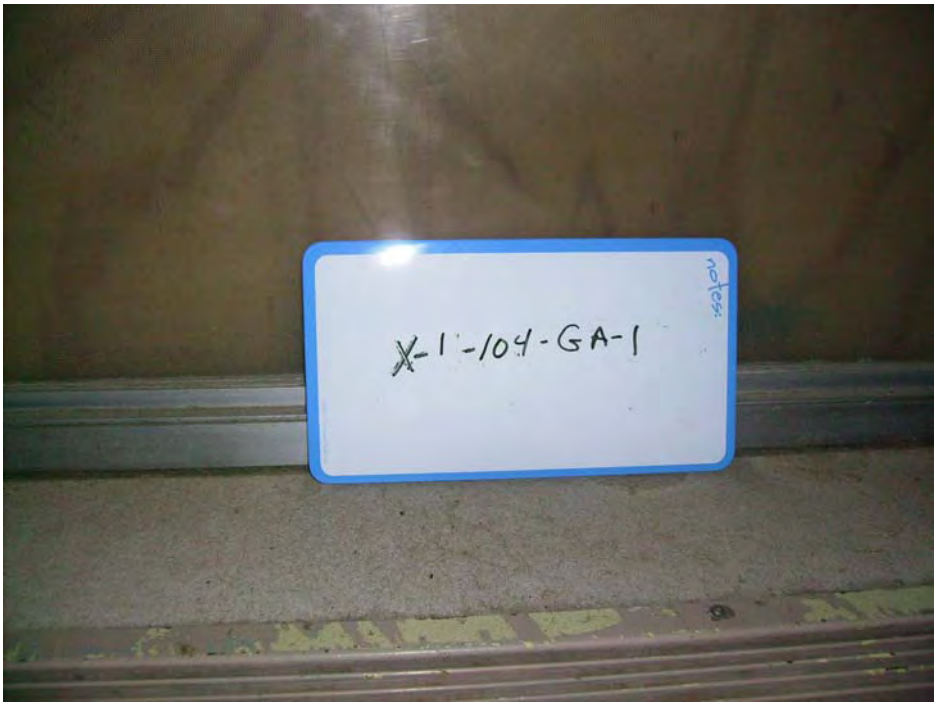
Cove base mastic represented by sample number X-1-102-CBM-1 located in room 102 of the Annex Building.



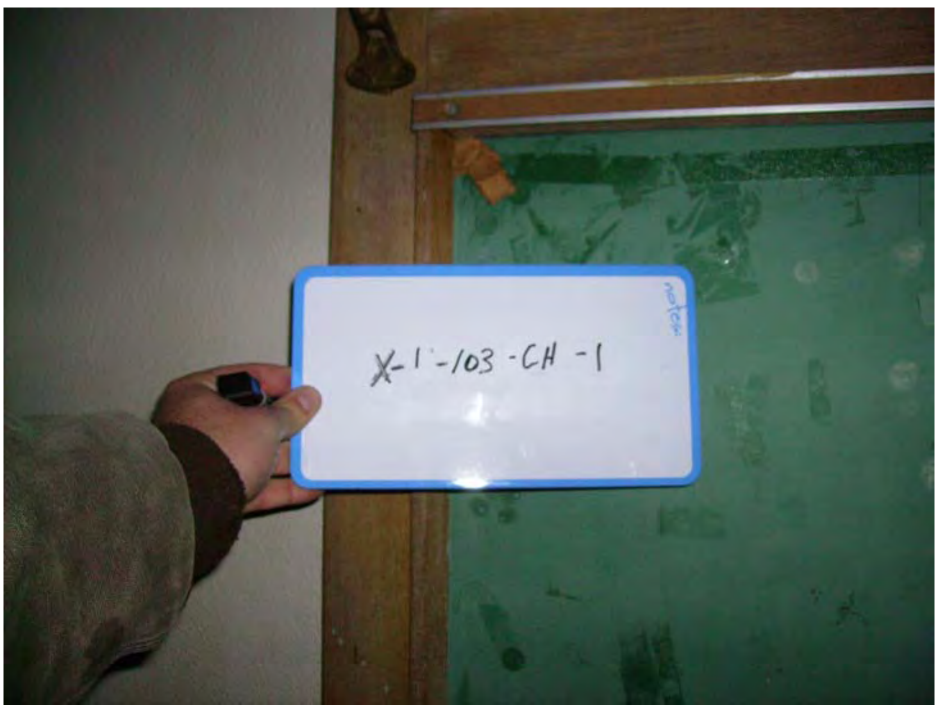
Linoleum represented by sample number X-1-102-LIN-1 located in room 102 of the Annex Building.



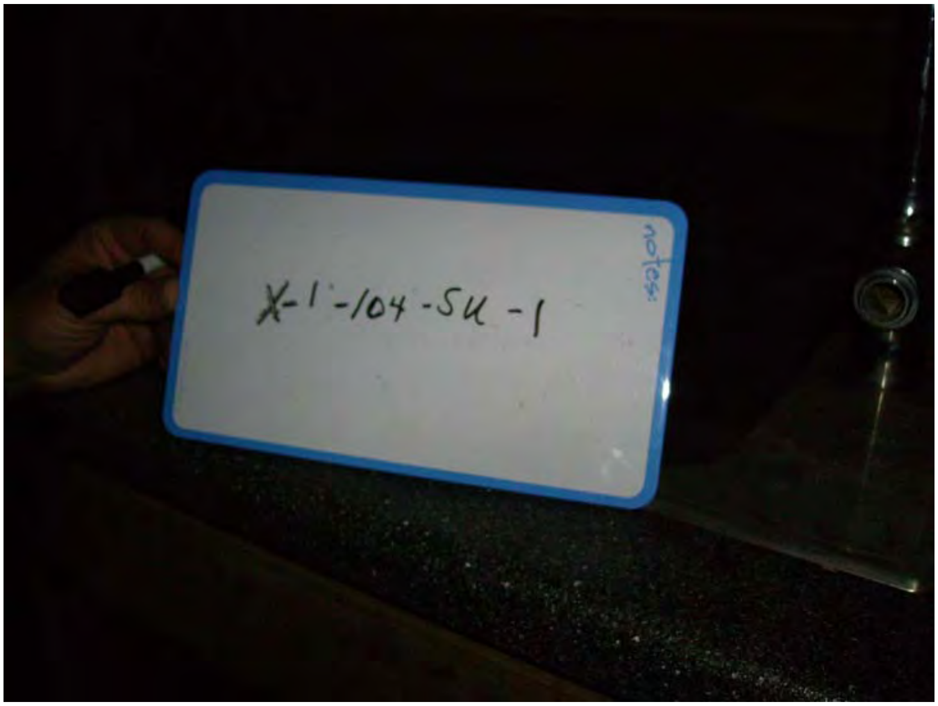
Black cove base mastic represented by sample number X-1-102-CBMB-1 located in room 106 of the Annex Building.



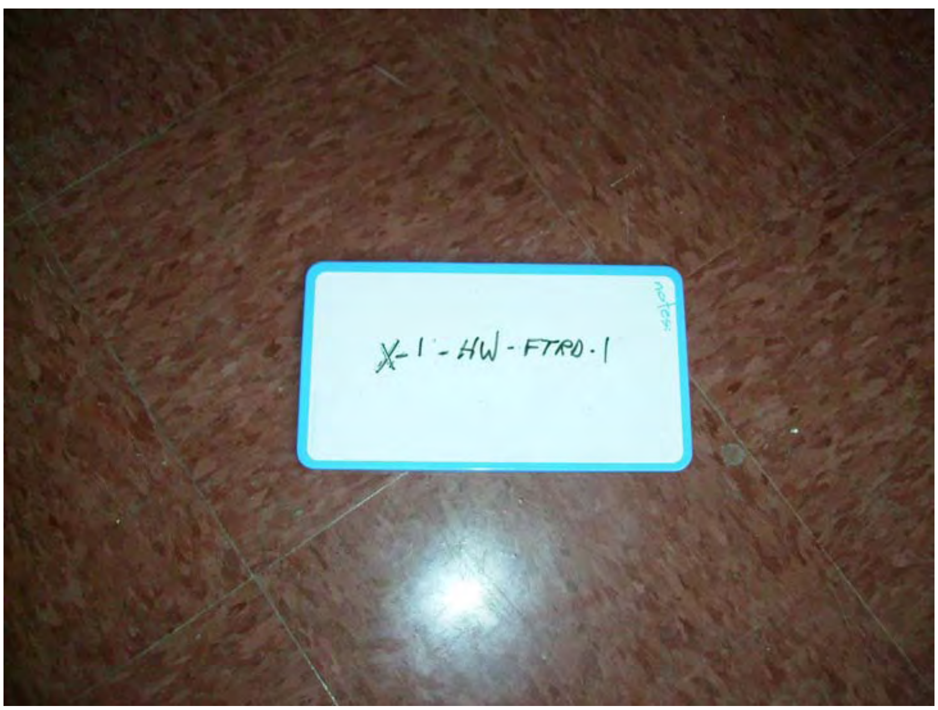
Window glazing represented by sample number X-1-104-GA-1 located in room 104 of the Annex Building.



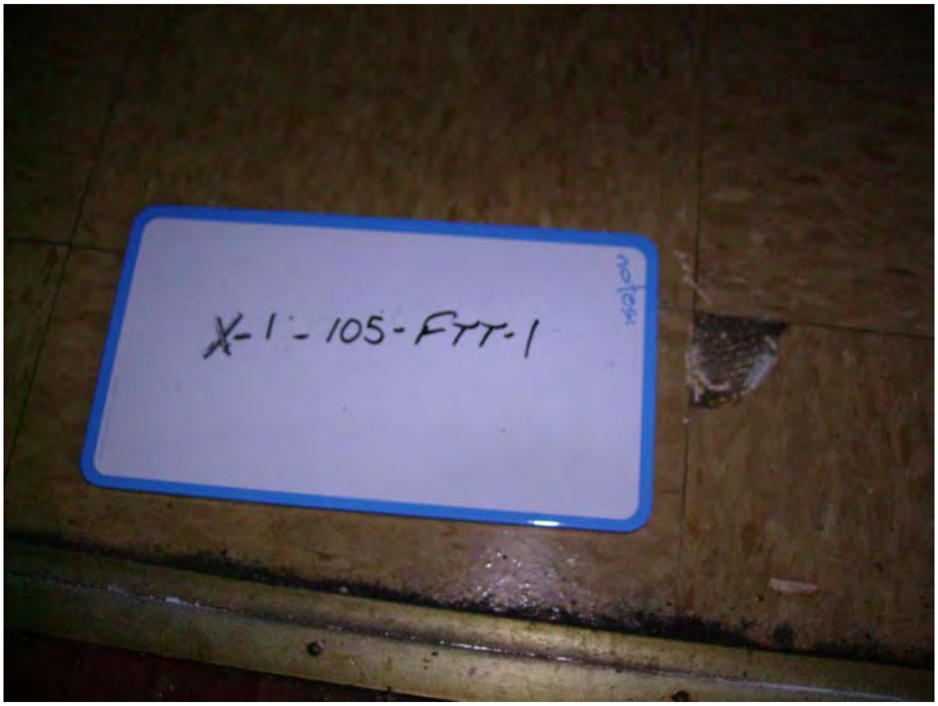
Chalkboard represented by sample number X-1-103-CH-1 located in room 103 of the Annex Building.



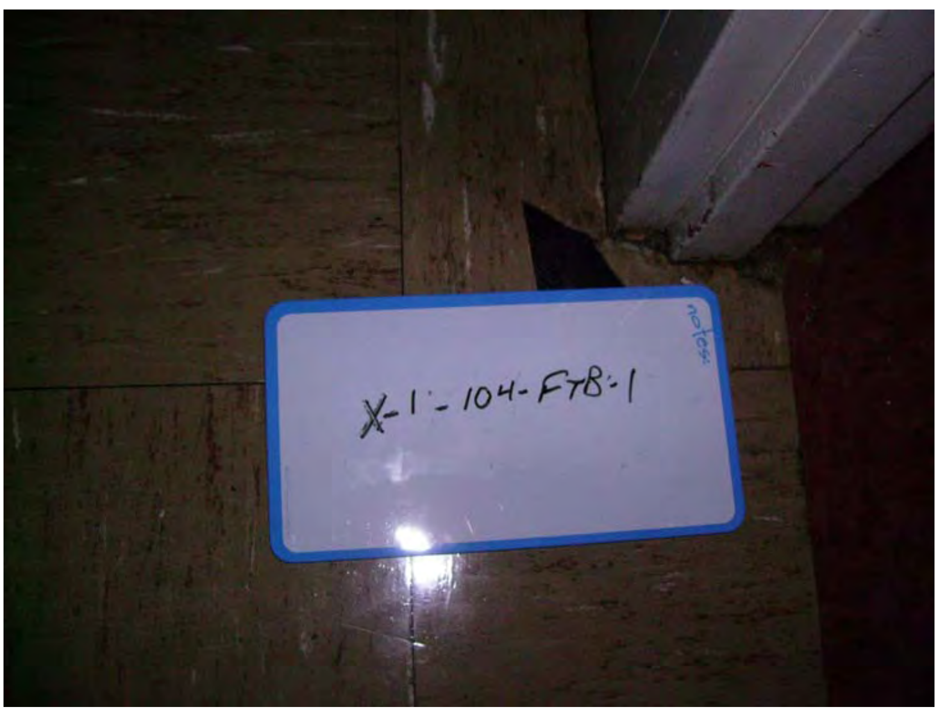
Sink underlayment represented by sample number X-1-104-SU-1 located in room 104 of the Annex Building.



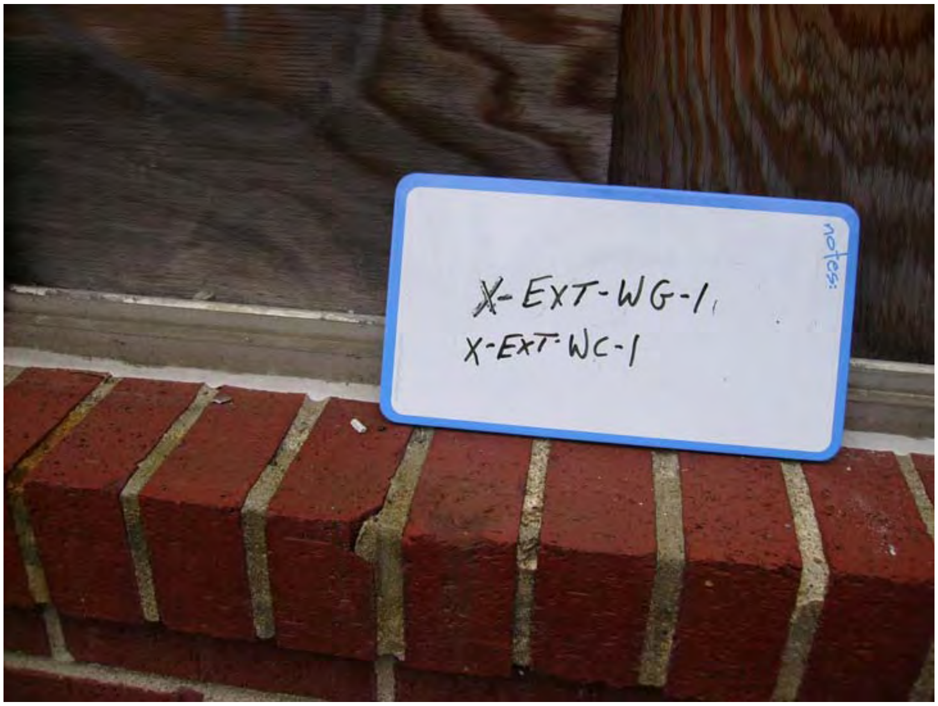
12x12 red floor tile and associated mastic represented by sample number X-1-HW-FTRD-1 located in the hallway of the first floor of the Annex Building.



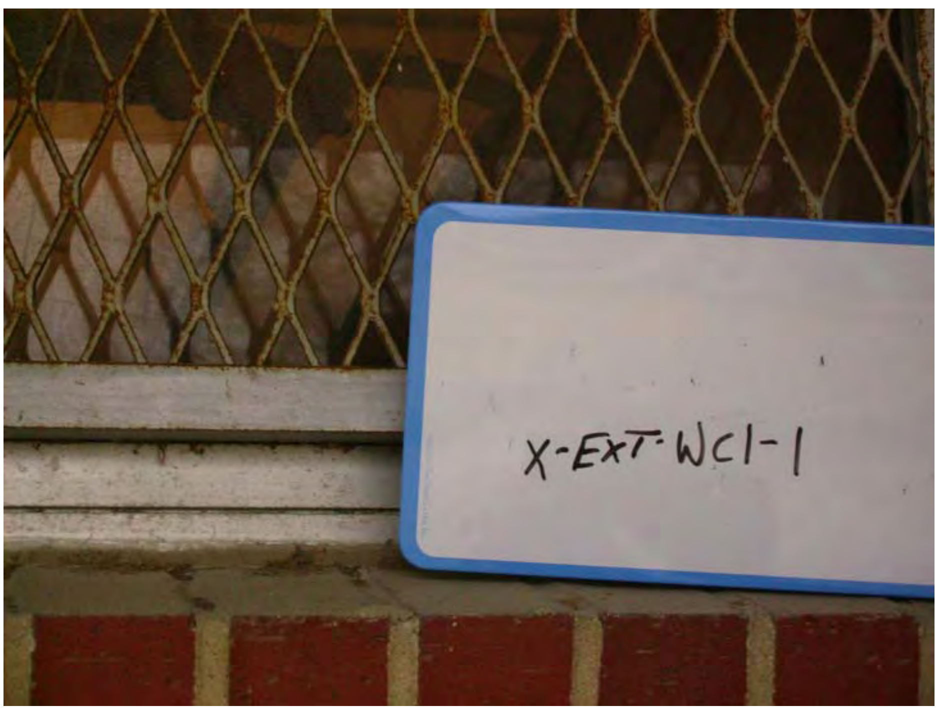
12x12 tan floor tile and associated mastic represented by sample number X-1-105-FTT-1 located in room 105 of the first floor of the Annex Building.



12x12 brown floor tile and associated mastic represented by sample number X-1-105-FTB-1 located in room 104 of the first floor of the Annex Building.

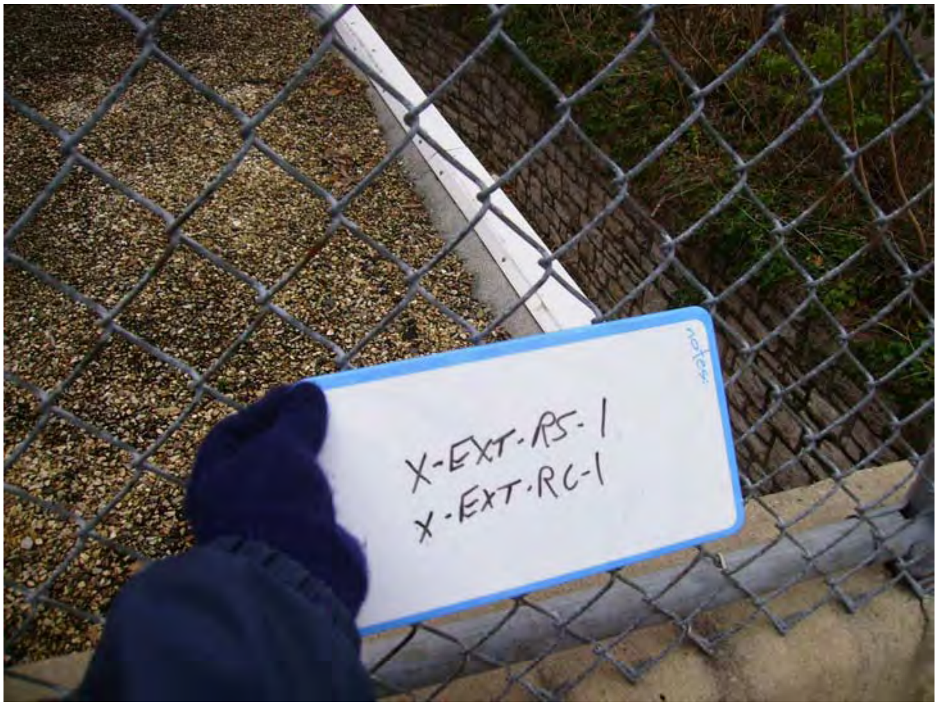


Exterior window glazing represented by sample number X-EXT-WG-1 located on the exterior windows of the Annex Building.



Exterior window caulking represented by sample number X-EXT-WC1-1 located on the exterior windows of the Annex Building.

Sink underlayment represented by sample number X-1-100-SU-1 located in room 100 of the Annex Building.



Exterior roof caulking and roof shingles represented by sample numbers X-EXT-RS-1 and X-EXT-RC-1 located on the roof of the Annex Building.

APPENDIX H

FUNGAL IDENTIFICATION LIST

Fungal Identification List

Fungal Identification	Description
Alternaria	Extremely widespread and ubiquitous. It is commonly found in outdoor samples. It is often found in carpets, textiles, and on horizontal surfaces in building interiors. Often found on window frames. It is considered a moisture indicator with optimum growth rate at high water activity (aw>0.90). *Alternaria alternata* is found in house dust, damp walls, gypsum board, wallpaper, humidifier water, textiles, cereals, fruits, etc.
Ascospores	*Ascospores* refer to a category of spore types rather than a mold genus. Ascospores are considered a wet weather spore. Typically found in outdoor environments, some are commonly found indoors, such as *Ascotricha, Chaetomium, Eurotium, Nectria*, etc., which may be commonly encountered on wet building materials.
Aspergillus/Penicillium-like	Some species of *Aspergillus* and *Penicillium* are common indoor contaminants. Commonly found in house dust. Grows in water-damaged buildings on wallpaper, wallpaper glue, decaying fabrics, moist chipboards, and behind paint. Also found in blue rot of apples, dried foodstuffs, cheeses, fresh herbs, spices, dry cereals, nuts, onions, and oranges.
Basidiospores	Typically outdoor fungi, except a few are indoor wood inhabiting fungi. The relationship of these organisms to human-occupied spaces suggests a common presence of this genera of fungi in the indoor environments. Should be considered allergenic.
Beltrania	Typically outdoor fungus. *Beltrania* species comprise a very small proportion of the fungal biota. May be identified in air by spore trap samples. (Spores have distinctive morphology.) Natural habitat includes dead leaves and plant litter of semi-tropical and tropical plants.
Bipolaris/Dreschlera	Typically outdoor fungi, a few species are occasionally isolated from indoor dust. Found on grasses, grains, and decaying food.
Botrytis	Typically outdoor fungi. Often found in culturable outdoor samples but occasionally isolated from indoor dust and other materials. It is parasitic on plants and soft fruits. Found in soil and vegetables. Possibly associated with allergic symptoms.
Cercospora	Typically outdoor fungi. Parasite of higher plants, causing leaf spot. Common outdoors in agricultural areas, especially during harvest. Does not grow on laboratory media since it is not wholly saprophytic. Commonly found as parasites on higher plants.
Chaetomium	Often found indoors, especially in water-damaged buildings, on wet paper products, textile, drywall, wood, and other cellulosic materials. Often isolated with *Stachybotrys*. It is found on a variety of substrates containing cellulose including paper and plant compost. It can be readily found on damp or water-damaged paper in sheetrock.

Fungal Identification	Description
Cladosporium	Common and important allergen. Very common in air, outdoors and indoors. Minimum water activity requirement = 0.85. Isolates of this species have been identified from wet building materials, floor and carpet dust, acrylic wall paint, wall papers, and also food products like bakery products and cereals. Common in indoor environments, often found on wet surface due to water condensation. Wet building materials like gypsum boards and insulation are common sites of isolation. It is commonly found on the surface of fiberglass duct liner in the interior of supply ducts. A wide variety of plants are food sources for this fungus. It is found on dead plants, woody plants, food, straw, soil, paint and textiles.
Curvularia	Occasionally found indoors on food and cellulosic materials. Indoor occurrences have been identified from floor and mattress dust, wall paper, paint, painted wood, and food products like cereals.
Epicoccum	Occasionally found indoors. Minimum water activity for growth is 0.86. Isolates of the fungus have been identified from floor, carpet, and mattress dust. It is found in plants, soil, grains, textiles, and paper products.
Ganoderma	The basidiospores of *Ganoderma* are mostly found outdoors. Indoor occurrence of *Ganoderma* spores may be due to influx of outdoor air. Growth and fruitbody formation of the fungus in indoor environment is rare, but may occur on rotting wood frames.
Myxomycetes/Periconia/ Rust/Smut	*Myxomycetes* display characteristics of fungi and protozoans. In favorable (wet) conditions they exhibit motile, amoeba-like cells, usually bounded only by a plasma membrane, that are variable in size and form. During dry spells, they form a resting body (sclerotium) with dry, airborne spores. These fungi are not known to produce toxins, but can cause hay fever and asthma. They're occasionally found indoors, but mainly reside in forested regions on decaying logs, stumps, and dead leaves. Typically outdoor. If found indoors, most likely due to air exchange and dust deposition, but occasionally found in well-rotted wood and living or preserved plants indoors. *Periconia* typically found in soil, blackened and dead herbaceous stems, leaf spots, grasses, rushes, and sedges. Almost always associated with other fungi. Rarely found growing indoors. Rusts and Smuts fungi are associated with plant diseases. Rusts usually attack vegetative regions (i.e., leaves and stems) of plants; Smuts usually are associated with the reproductive structures (seeds). They can cause hay fever and asthma. Rusts do not grow indoors unless their host plants are present.
Nigrospora	Occasionally found in indoor air, maybe influx from outdoors; can also be isolated from house dust. Especially abundant in warm climates.
Oidium	Predominantly an outdoor fungus.
Pestalotiopsis/ *Pestalotia*-like	Typically found on many substrates, including ceiling tile and linoleum. However, may have little effect on the indoor air because in many genera, the spores are not readily disseminated by air currents.

Fungal Identification	**Description**
Pithomyces	Typically outdoor fungi, rarely found indoors on paper or decaying wood. Grows on dead grass in pastures.
Stachybotrys	Commonly found indoors in water-damaged buildings, on wet wallpaper, gypsum board, textiles, carpet, and other cellulosic materials. Water activity requirement for optimal growth Aw > 0.90 Aw (water activity) 0.94, optimum Aw (water activity) >0.98. Several strains of this fungus (*S. atra, S. chartarum and S. alternans* are synonymous) may produce a trichothecene mycotoxin Satratoxin H, which is poisonous by inhalation. The toxins are present on the fungal spores. This is a slow growing fungus on media. It does not compete well with other rapidly growing fungi. The dark-colored fungi grow on building material with a high cellulose content and a low nitrogen content. Areas with relative humidity above 55% and subject to temperature fluctuations are ideal for toxin production. This organism is rarely found in outdoor samples. It is usually difficult to find in indoor air samples unless it is physically disturbed. The spores are in a gelatinous mass. Appropriate media for the growth of this organism have a high cellulose content and a low nitrogen content. The spores die readily after release. The dead spores are still allergenic and toxigenic.
Stemphylium	Occasionally found indoors. Reported to be allergenic. Isolated from dead plants and cellulose materials.
Torula	Occasionally found indoors on cellulosic materials, e. g., paper, wood, straw. Found in soil, dead vegetation, wood, grasses, nuts, oats, and air samples. Also found indoors on cellulose.
Ulocladium	Commonly found indoors on wet paper, drywall, paint, wood, and textiles. Water activity for optimal growth >0.90. Major allergen. Isolated from dead plants and cellulose materials. Found on textiles.
Other hyaline spores	Fungal spores that are hyaline (colorless) and non-distinctive. This spore category is used on laboratory reports of clear pore types that cannot be distinguished into other, specific spore types or groups. Because these spores lack any distinct morphological characteristics, the spores alone cannot be identified by direct examination.
Other colored spores	Spores that are colored, but otherwise lack distinctive morphological characteristics. This spore category is used in laboratory reports for colored spores that cannot be identified as specific spore types. Because these spores lack any distinctive morphological characteristics, the spores alone cannot be identified using direct examination.
Hyphal fragments	*Hypha* is often fragmented during disturbance and dispersal. In air samples, *hyphae* are often fragmented into very short pieces with obvious signs of breakage at both sides