

ASBESTOS BUILDING INSPECTION REPORT

for

Michigan State University
Office of Environmental and Occupational Safety
East Lansing, Michigan 48823

at the

Engineering Building
(1961 and 1962 additions)
Building #81
East Lansing, Michigan 48823

Inspection conducted by

Fibertec Industrial Hygiene Services, Inc.
1914 Holloway Drive
Holt, Michigan 48842

Project #22858-1

Project dates: October 18-27, 2006

Final Report date: December 22, 2006

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INTRODUCTION

Fibertec Industrial Hygiene Services, Inc. (Fibertec IHS) was retained by the Michigan State University, Office of Environmental and Occupational Safety to perform an asbestos building inspection in the Engineering Building (1961 and 1962 additions) according to building prints provided. The project was discussed with Mr. Andy Smith of the Michigan State University, Office of Environmental and Occupational Safety prior to beginning the fieldwork. Mr. Smith requested a comprehensive asbestos building inspection including the collection of an appropriate number of bulk asbestos samples in accordance with the provisions of the Asbestos in Construction Standard.

The asbestos building inspection took place from October 18 through October 27, 2006. During the inspection, bulk asbestos samples were collected and quantities of suspect asbestos-containing materials were estimated.

CERTIFICATION

The asbestos building inspection was conducted by John Luna and John Walker, both State of Michigan Accredited Asbestos Building Inspectors. Mr. Luna and Mr. Walker also maintain accreditation as Asbestos Contractor Supervisors. A copy of their inspector credentials appear in Appendix A.

Adam Mittino, Sean Hillaker and Aimee Kniesel, trained Polarized Light Microscopists, analyzed all bulk asbestos samples in the Fibertec IHS Polarized Light Microscopy (PLM) laboratory. The Fibertec IHS PLM laboratory maintains current National Voluntary Laboratory Accreditation Program (NVLAP) accreditation (Lab Code 101510-0). A copy of the Fibertec IHS NVLAP certificate of accreditation can be found in Appendix B.

GENERAL INSPECTION PROCEDURES

In an effort to identify asbestos-containing material (ACM) at the Engineering Building (1961 and 1962 additions), an extensive inspection procedure was followed. A visual inspection of the building was combined with the collection of an appropriate number and distribution of bulk asbestos samples. Material sampling that would potentially compromise the weather tight integrity of the building envelope was not conducted (e.g., roofing materials and products) at the request of Michigan State University. The following rooms in the Engineering Building were not accessible during the inspection: Telephone rooms: 1315, 1412, 1205, 1236, 2202, 2236, 2259, 2315, 2428, 3204, 3236, and 3318. Other rooms not accessible include: B215, B222, B313, 1312, 1314, 1410E, 2300, 3200, 3200A, 3235A, and 3300.

Determination of suspect asbestos-containing material was based on visual examination, bulk sample analysis and material age. Specifically, materials similar in color and texture were classified into homogenous areas (e.g., plaster over drywall). An appropriate number of samples were collected from material in each homogenous area. The samples were analyzed by Polarized Light Microscopy (PLM) in the Fibertec IHS PLM Laboratory. When the results of analysis of all samples from a homogenous area indicate no asbestos present (less than or equal to one percent), the homogenous area is considered to be a non-asbestos containing material. When the results of analysis indicate asbestos present (in a quantity greater than one percent) in just one sample of those collected from a single homogenous area, the material in the entire homogenous area must be considered asbestos-containing.

Destructive testing (i.e., demolition) was not conducted as part of this asbestos building inspection. Quantities of ACM shown in pipe chases or other inaccessible areas have been estimated. Additionally, some asbestos-containing material hidden from view (e.g., pipe insulation in inaccessible pipe chases and between walls, floor leveling compound below floor tile, duct caulk on duct in mechanical shafts and vermiculite in cinderblock walls) may be present and may not have been accounted for as part of this inspection. Where floor tile was detected below carpet, the tile found at the room edge was presumed present in the entire room.

RESULTS OF VISUAL INSPECTION

Based on the inspection, 42 distinct suspect asbestos-containing materials were identified in the Engineering Building (1961 and 1962 additions). Some suspect asbestos-containing materials were sampled a number of times in different locations, plaster over drywall being an example. All suspect asbestos-containing materials observed at the time of the inspection are listed in the Room by Room Asbestos Building Inspection Forms.

BULK SAMPLE RESULTS

The information gathered from the inspection is included in Appendices C (Bulk Sample Log), D (Bulk Sample Analytical Report), E (Materials Sorted by Room), F (Non ACM Material), G (ACM Material), H (Assumed ACM Material) I (Photograph Log, J (Floor Plan Sketches and Asbestos Sample Locations) and K (Significantly Damaged ACM).

SUMMARY OF ASBESTOS-CONTAINING MATERIALS

The following materials were found to contain asbestos in the Engineering Building (1961 and 1962 additions):

- 9" x 9" green floor tile with white streaks (mastic is non ACM)
- 9" x 9" gray floor tile with black and cream streaks (mastic is non ACM)
- 9" x 9" light brown floor tile with cream and brown streaks (mastic is non ACM)
- 9" x 9" beige floor tile with pink, cream and brown swirl pattern (mastic is non ACM)
- 9" x 9" light green floor tile with green and gray streaks (mastic is non ACM)
- 12" x 12" dark brown floor tile with cream and green streaks (mastic is non ACM)
- 12" x 12" beige floor tile with marble pattern and associated mastic. Although the tile was found not to contain asbestos, the mastic was found to contain asbestos. As such, the tile will become contaminated by the mastic during removal and should be considered asbestos-containing material.
- 12" x 12" cream floor tile with marble pattern and associated mastic. Although the tile and yellow mastic were found not to contain asbestos, the black mastic was found to contain asbestos. As such, the tile will become contaminated by the mastic during removal and should be considered asbestos-containing material.
- 12" x 12" rust floor tile with marble pattern and associated mastic. Although the tile and yellow mastic were found not to contain asbestos, the black mastic was found to contain asbestos. As such, the tile will become contaminated by the mastic during removal and should be considered asbestos-containing material.
- 12" x 12" blue floor tile with marble pattern and associated mastic. Although the tile and yellow mastic were found not to contain asbestos, the black mastic was found to contain asbestos. As such, the tile will become contaminated by the mastic during removal and should be considered asbestos-containing material.
- 12" x 12" red floor tile with marble pattern and associated mastic. Although the tile and yellow mastic were found not to contain asbestos, the black mastic was found to contain asbestos. As such, the tile will become contaminated by the mastic during removal and should be considered asbestos-containing material.

The following materials were assumed to contain asbestos in the Engineering Building (1961 and 1962 additions):

- Fire doors and frames
- Chalkboards and associated glue pods
- Black laboratory sinks, countertops and tables
- Black drying rack
- Transite fume hood
- Roofing materials and products

The following materials were found not to contain asbestos in the Engineering Building (1961 and 1962 additions):

- Smooth plaster over drywall
- Black sink undercoating
- Gray sink undercoating
- 2' x 2' white lay-in ceiling tile with pin holes and fissures
- 2' x 4' white lay-in ceiling tile with pin holes
- 12" x 12" purple floor tile with marble pattern and associated mastic

12" x 12" white floor tile with black gray marble pattern and associated mastic
12" x 12" white floor tile with green marble pattern and associated mastic
12" x 12" white floor tile with green rust and tan specks and associated mastic
12" x 12" tan floor tile with marble pattern and associated mastic
12" x 12" gray floor tile with marble pattern and associated mastic
12" x 12" green floor tile with marble pattern and associated mastic
4" black cove molding and associated mastic
4" brown cove molding and associated mastic
4" gray cove molding and associated mastic
4" olive green cove molding and associated mastic
4" green cove molding and associated mastic
4" beige cove molding and associated mastic
6" black cove molding and associated mastic
Brown linoleum flooring with tan streaks and associated mastic
Peach linoleum flooring and associated mastic
Window and door frame caulk compound (interior)
Window and door frame caulk compound (exterior)
Building caulk compound
Gray ventilation duct mastic

CONCLUSION

Undamaged, non-friable (cannot be crumbled, pulverized or reduced to powder by hand pressure when dry) known or assumed asbestos-containing materials were discovered during the course of this inspection.

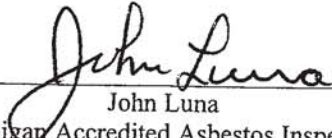
This facility inspection to determine the location of asbestos-containing materials was conducted in accordance with the provisions of the Asbestos in Construction Standard, the EPA Sampling Bulletin of September 30, 1994 and current industry standards.

RECOMMENDATIONS

Based on the information collected during this asbestos building inspection, the following recommendations are offered. These recommendations are based on the current regulatory framework, currently observed conditions and may have to be adjusted if change in regulations, ownership, emergency, or other factors substantially alter the condition, use or planned future use of the building.

1. Notify the building occupants, custodians, Physical Plant personnel and others who may encounter ACM during the routine execution of their assigned work of the presence of known or assumed asbestos-containing products in or on the building. This notification must be given to any outside contractors (*e.g.*, HVAC maintenance personnel) who work within or atop the building and may disturb the asbestos-containing material(s). Depending on the specific activity being performed, maintenance or repair personnel may need to utilize personal protective equipment or other engineering controls and comply with the provisions of various asbestos regulations.
2. Provide two-hour asbestos hazard awareness training including specific information regarding the quantity, condition and location of ACM for those individuals in the building who may encounter asbestos during the course of their work. Ensure that contractors performing work in the building have equivalent training (at a minimum) and provide appropriate documentation.
3. Plan for the proper removal of any asbestos-containing materials which may be impacted by renovation or demolition prior to any renovation or demolition within the facility. Inspect any rooms that were inaccessible during this inspection prior to any renovation or demolition. Sample and analyze any samples representing materials which were assumed to contain asbestos prior to renovation or demolition.
4. Label any ACM identified in routine maintenance areas, mechanical rooms, custodial closets, and inside ceiling access hatches at a minimum, in accordance with 29 CFR 1910.1200(7) (vii).

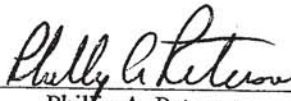
5. Repair or remove areas of ACM that may become significantly damaged. Ensure contractors performing the work are licensed, provide appropriate regulatory notification and conduct appropriate air monitoring, including final clearance monitoring.



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