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ASBESTOS BUILDING INSPECTION REPORT

for

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

at the

Natural Science Building
Building #24
East Lansing, Michigan 48823

Inspection conducted by:

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

Project #19417-1

Project dates: July 6– July 20, 2004

Final Report date: September 17, 2004

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INTRODUCTION

Fibertec Industrial Hygiene Services, Inc. (Fibertec IHS) was retained by the Michigan State University Office of Environmental Safety to perform an asbestos building inspection in the Natural Science Building. The project was discussed with Mr. Thomas Grover and Ms. Mary Lindsey-Frary of the Michigan State University Office of Radiation, Chemical and Biological Safety and the Office of Environmental and Occupational Safety, respectively, prior to beginning the fieldwork. Mr. Grover and Ms. Lindsey-Frary 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 July 6 to July 20, 2004. During the inspection, bulk samples were collected and quantities of suspect asbestos-containing materials were estimated.

CERTIFICATION

The asbestos building inspection was conducted by John Luna and Adam Cobb, State of Michigan Accredited Asbestos Building Inspectors. Mr. Luna and Mr. Cobb also maintain accreditation as Asbestos Contractor Supervisors.

John Sink and Sean Hillaker, trained Polarized Light Microscopists, analyzed all bulk asbestos samples in the Fibertec IHS Polarized Light Microscopy (PLM) laboratory, which maintains current National Voluntary Laboratory Accreditation Program (NVLAP) accreditation (Lab Code 101510-0).

GENERAL INSPECTION PROCEDURES

In an effort to identify asbestos-containing material (ACM) at the Natural Science Building, an extensive inspection procedure was followed. A visual inspection of the ground, 1st, 2nd, 3rd, 4th floors and the attic area, was combined with the collection of an appropriate number and distribution of bulk samples. Material sampling that would potentially compromise the weather tight integrity of the building envelope was not conducted (e.g., window glazing compound, roofing) per the request of Michigan State University (including any outside sampling). The following rooms in the Natural Science Building were not accessible during the inspection: 2, 29, 33A, 54A, 128A, 128D, 132, 147A, 147A, 203A, 219A, 238, 238A, 239, 239A, 239B, 241, 241A, 241B, 301B, 326B, 326C, 338A, 340B, 340D, 341, 342B, 350A, 419A, 430, 438A, 449 and 449A.

Determination of suspect asbestos-containing material was based on visual examination, bulk sample analysis, material age and professional experience. Specifically, materials similar in color and texture were classified into homogenous areas (*e.g.*, 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, above drywall ceilings or other inaccessible areas have been estimated. Additionally, some asbestos-containing material hidden from view (e.g., pipe insulation in inaccessible pipe chases, 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.

RESULTS OF VISUAL INSPECTION

Based on the inspection, 65 distinct suspect asbestos-containing materials were identified in the Natural Science Building. Some suspect asbestos-containing materials were sampled a number of times in different locations, ceiling plaster 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 (Room By Room Asbestos Building Inspection Forms), F (Photograph Log), G (Floor Plan Sketches) and H (Significantly Damaged ACM).

SUMMARY OF ASBESTOS-CONTAINING MATERIALS

The following materials were found to contain asbestos in the Natural Science Building:

Steam/condensate pipe straight insulation
Steam/condensate pipe joint insulation
Corkboard ceiling panels and associated tar
Domestic water pipe straight insulation
Domestic water pipe joint insulation
9" x 9" black floor tile with cream and rust streaks
9" x 9" dark brown floor tile with cream and rust streaks
1' x 2' black floor tile and associated mastic
9" x 9" tan floor tile with cream, pink, and black streaks
9" x 9" black floor tile with cream and green streaks
9" x 9" chocolate brown floor tile with black and white streaks
Fan duct insulation (thermal system insulation)
9" x 9" white floor tile with brown streaks and associated mastic
12" x 12" chocolate brown floor tile with white and brown streaks
Glue pods on 12" x 12" white ceiling tile with pin holes
9" x 9" gray floor tile with white streaks and associated mastic
Pink sink undercoating

The following materials were found not to contain asbestos in the Natural Science Building:

Steam/condensate pipe joint insulation on fiberglass straight pipe insulation
Black duct/fan expansion cloth
2' x 2' white drop-in ceiling tile with fissures
9" x 9" light green floor tile with white streaks and associated mastic
4" black cove molding and associated mastic
Drywall
Drywall joint compound
12" x 12" light brown marble pattern floor tile and associated mastic
6" black cove molding and associated mastic
12" x 12" tan floor tile with cream and rust streaks and associated mastic
2' x 2' white lay-in ceiling tile with pin holes and fissures
Plaster
2' x 2' white drop-in ceiling tile with pin holes and fissures
4" cream cove molding and associated mastic
12" x 12" tan floor tile with cream, pink and black streaks and associated mastic
12" x 12" white floor tile with black and gray streaks and associated mastic
9" x 9" beige floor tile with cream swirls and associated mastic
Black sink undercoating with smooth texture
4" brown cove molding and associated mastic
2' x 2' white lay-in ceiling tile with pin holes
4" gray cove molding and associated mastic

2' x 4' white lay-in ceiling tile with pin holes and fissures
12" x 12" beige floor tile with cream swirl pattern and associated mastic
6" maroon cove molding and associated mastic
12" x 12" black floor tile and associated mastic
12" x 12" gray floor tile with white streaks and associated mastic
12" x 12" white ceiling tile with fissures and associated glue pods
Green duct/fan expansion cloth
6" brown cove molding and associated mastic
12" x 12" light cream marble floor tile and associated mastic
6" cream cove molding and associated mastic
2' x 2' white drop-in textured ceiling tile
White sink undercoating
Brown glue pods
12" x 12" tan floor tile with cream and black specks and associated mastic
12" x 12" white ceiling tile with uniform holes and associated glue pods
12" x 12" white ceiling tile with pin holes
12" x 12" blue marble pattern floor tile and associated mastic
Black sink undercoating with rough texture
12" x 12" aqua blue marble pattern floor tile and associated mastic
Spray-on ceiling insulation
Wood pattern linoleum and associated mastic
6" tan cove molding and associated mastic

The following materials were assumed to contain asbestos in the Natural Science Building:

Fire doors and frames
Black slate lab tops
Interior and exterior window glazing/caulk compound
Transite vent fume hood
Chalkboards and associated glue pods
Roofing products

CONCLUSION

Undamaged and damaged, non-friable (cannot be crumbled, pulverized or reduced to powder by hand pressure when dry) known or assumed asbestos-containing materials as well as damaged and undamaged, friable known 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 (and 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 currently observed conditions and may have to be adjusted if change of 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.

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). In the case of the Natural Science Building, labels have already been placed in mechanical room entrances, and should be placed on the inside of ceiling and pipe chase access hatches as well.

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

John Luna
Michigan Accredited Asbestos Inspector
Card #A4665

Adam Cobb
Michigan Accredited Asbestos Inspector
Card #A29543

Phillip A. Peterson
Vice President