

**Michigan State University
East Lansing, Michigan**

**Farrall Hall
Asbestos Inspection**

**September 2006
Project No. G06371**



Fishbeck, Thompson, Carr & Huber
engineers • scientists • architects • constructors

**MICHIGAN STATE UNIVERSITY
EAST LANSING, MICHIGAN**

**FARRALL HALL
ASBESTOS INSPECTION**

**SEPTEMBER 2006
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INTRODUCTION

Fishbeck, Thompson, Carr & Huber, Inc. (FTC&H) was retained by Michigan State University (MSU), Office of Environmental and Occupational Safety (OEOS), East Lansing, Michigan, to conduct an asbestos building inspection of Farrall Hall. FTC&H discussed the project with Mr. Andy Smith, MSU-OEOS, prior to beginning the field work. The inspection was conducted in accordance with the FTC&H proposal to MSU dated June 2, 2006.

CERTIFICATION

The asbestos building inspection was conducted by Mr. Steven M. Kimm, CPG, State-of-Michigan Accredited Asbestos Inspector No. A29671. The bulk asbestos samples were analyzed by Polarized Light Microscopy by EMSL Analytical, Inc. of Ann Arbor, Michigan (EMSL), which participates in the National Voluntary Laboratory Accreditation Program (Accreditation No. 101048-4).

INSPECTION PROCEDURES AND SAMPLING METHODOLOGY

The survey was a functional space (room by room) survey and was used to design the sampling plan. Materials of similar age and uniform color and texture were classified into homogeneous areas. The following rooms were not accessible during the inspection: Room 6 and Room 300A. In addition, there were two areas of newer construction omitted from the inspection by MSU: the eastern stairwell (S-1) area and Room 132. Room by Room Asbestos Building Inspection Forms are provided in Appendix 1.

A minimum of one bulk asbestos sample was collected from miscellaneous materials, three to seven samples were collected from surfacing materials, and thermal systems were sampled as necessary. Obvious asbestos-containing materials (ACMs) such as transite, aircell, or other labeled materials were not sampled. As required by MSU, the survey was limited to the building interior. Samples were not collected from roofing or exterior materials. In addition, samples were not collected from operating machinery or fire doors.

All samples were collected by a State-of-Michigan Accredited Building Inspector. The samples were collected from areas considered representative of each homogeneous area. Destructive sampling was not conducted, and the samples were collected from accessible materials. Where appropriate, non-permanent labels were used to mark the sampling sites. Where necessary, sampling locations were repaired.

Thirty-nine distinct homogeneous materials suspected of containing asbestos were identified during the inspection. The homogeneous materials are described on the table in Appendix 2. A total of forty-three bulk material samples (sixty-four total analyses) were collected from the homogenous materials for asbestos analysis. Bulk material samples were collected from suspect ACMs according to the protocol described in 29 CFR 1926.1101 (Occupational Safety and Health Administration Asbestos Construction Standard). Sample locations are described on the Bulk Sample Log (Appendix 3) and located on the drawings included as Appendix 4. Site photographs are included as Appendix 5.

RESULTS

The samples were transported to EMSL for analysis. The analytical data report provided by EMSL is included as Appendix 6.

Of the thirty-nine homogeneous materials sampled, a total of eleven homogenous materials are known (Aircell) or were identified to contain asbestos above 1% by weight. The asbestos-containing homogeneous materials include:

- Aircell piping insulation.
- Magnesium silicate insulation on expansion tank.
- Mud insulated fittings on Aircell piping.
- 9" x 9" vinyl floor tile, dark brown with white streaks (black mastic is non-ACM).
- 9" x 9" vinyl floor tile, medium gray with cream and gray streaks and swirls (insufficient amount of mastic to analyze, assumed ACM).
- 9" x 9" vinyl floor tile, medium gray with light-gray and medium-gray streaks and swirls streaks (yellow mastic is non-ACM).
- 12" x 12" vinyl floor tile, light gray with medium-gray and tan splotches (black mastic is ACM).
- 12" x 12" vinyl floor tile, dark brown with a few red streaks (black mastic is non-ACM).
- 12" x 12" vinyl floor tile, medium-dark brown with reddish-orange and cream streaks (insufficient amount of mastic to analyze, assumed ACM).
- 12" x 16" vinyl floor tile, dark brown (insufficient amount of mastic to analyze, assumed ACM).
- 6" black base molding (insufficient amount of mastic to analyze, assumed ACM).

Homogeneous materials assumed to be ACM include:

- Fire doors and caulking.
- Window caulking.
- Roofing materials.

- Black laboratory counter tops.
- Fume hoods (older style).
- Chalkboards.

Homogeneous materials that are non-ACM include:

- 12"x12" vinyl floor tile, light gray with medium and dark gray splotches.
- 4" black vinyl cove base, shiny finish and mastic.
- 4" black vinyl cove base with gray back and mastic.
- 2' x 2' white lay-in ceiling tile, pinholes and fissures, flat.
- 2' x 2' white lay-in ceiling tile, pinholes and fissures, recessed lip.
- 9" x 9" vinyl floor tile, brownish gray with red and white linear streaks.
- 1' x 1' glue-on ceiling tile, white, pinholes and glue pods.
- 4" medium-gray vinyl cove base and mastic.
- 2' x 4' white lay-in ceiling tile, pinholes and fissures perpendicular to long axis.
- 4" brown vinyl cove base and mastic.
- 6" black vinyl cove base and mastic.
- 6" brown vinyl cove base and mastic.
- Drywall and joint compound – northern section.
- Plaster – white.
- Drywall and joint compound – southern section.
- 4" medium-gray vinyl cove base.
- 12" x 12" vinyl floor tile, black with gray streaks.
- 12" x 12" vinyl floor tile, medium gray with light-gray, dark-gray, and tan streaks and mastic.
- 12" x 12" vinyl floor tile, gray and black, pebbled texture.
- Carpet glue.
- 2' x 6' white lay-in ceiling tile, grid pattern.

Estimated quantities of each homogeneous area by function space are provided on the Room by Room Asbestos Building Inspection Forms (Appendix 1). Estimates of total quantity in the building for each homogeneous area are provided on the table in Appendix 2. The quantities provided within this report are only estimates. Additional materials may exist within wall cavities, ceiling cavities, or other inaccessible areas that could not be evaluated as part of this survey.

CONCLUSIONS

Non-destructive testing was conducted to collect the bulk samples. The samples collected were small in size and from inconspicuous areas. Several samples of materials that were adhered using mastics did not contain a sufficient amount of mastic for the laboratory to analyze. The homogeneous areas of these samples include: cove base (8, 21, 23, and 34) and floor tile (29 and 31). If these materials are to be removed, additional samples of the mastic may need to be collected to determine if they are ACM.

The amount of mastic was also not sufficient to be analyzed on the floor tile – Homogeneous Area 33. This floor tile is installed as a system with two other types of floor tile (12 and 13). The mastic samples from these floor tiles collected from the same room as the Homogeneous Area 33 sample were nondetect. Therefore, the mastic for Homogeneous Area 33 is assumed to also be nondetect.

Friable and non-friable ACMs and assumed ACMs were discovered during this inspection. Significantly damaged materials that were observed during the inspection include:

- Aircell insulated piping risers in basement graduate offices are used as bulletin boards.
- 6" black base molding in Room 210.
- Aircell insulated piping above main walkway in Room 300.
- Aircell insulated piping riser in Room 102.



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