

May 24, 1994

REPORT: Full Building Survey

TO: Linda McCracken-Hunt, Project Development, 100 Shops Building  
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FROM: John Allen, Asbestos Group, Environmental Health and Safety, B-7 U-Tech Building,  
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SUBJECT: Asbestos Material Survey - Pattee Hall  
EH&S Project No: 003-94-017  
Client Project No: For Data Base

**Scope of Work:** A full building asbestos material survey was conducted on March 9 through March 22, 1994. The purpose of the survey was to identify asbestos-containing materials (ACM) as defined by the Environmental Protection Agency (EPA). Any material that is greater than 1% asbestos is considered to be ACM. The intent of the survey was to identify both friable and nonfriable suspect ACM, identify nonfriable ACM that may become friable under demolition or renovation conditions, and to provide approximate cost estimates for the removal of identified ACM prior to renovation of Pattee Hall.

**Project Description:** Bulk samples of suspect ACM were collected on-site and analyzed via polarized light microscopy (PLM) for asbestos content. Results of analyses are listed in Appendix I of this report. Appendix I is formatted to provide a room by room inventory of suspect ACM, the asbestos content of each material listed, and friability. An explanation of the tables and abbreviations used in the tables is included with Appendix I. Appendix II is a room by room listing of only those suspect materials that tested >1% asbestos. Minnesota Department of Health (MDH) Asbestos Rules regulate only friable ACM (material may be reduced to powder or dust under hand pressure) while the EPA regulates ACM that may become friable under demolition or renovation conditions.

The following friable or potentially friable materials tested positive as ACM:

- <4" white fibrous pipe insulation and associated pipe fitting insulation
- <4" felt with tar insulation and associated pipe fitting insulation
- <4" aircell pipe insulation
- <4" fibrous pipe fitting insulation on fiberglass with tar
- 4"-8" white fibrous pipe insulation and associated pipe fitting insulation
- 9"x9" floor tile, light grey with black and tan
- 9"x9" floor tile, tan with beige
- 9"x9" floor tile, beige with grey and tan
- 9"x9" floor tile, beige with brown and cream
- 12"x12" floor tile, light grey with grey and white
- 12"x12" floor tile, light grey with black and white
- 12"x12" floor tile, white with black and grey
- 12"x12" floor tile, black with tan
- 12"x12" floor tile, light grey with white
- 12"x12" floor tile, white with beige

The following suspect materials tested none detected (ND) as ACM:

- <4" fiberglass with tar pipe insulation
- <4" fibrous pipe fitting insulation on fiberglass

- ceiling plaster
- wall plaster
- 12"x12" ceiling tile, pegboard
- 12"x12" ceiling tile, random hole
- 12"x12" ceiling tile, fissured
- 12"x12" ceiling tile, nail hole fissured
- 2'x2' ceiling tile, pinhole crater
- 2'x2' ceiling tile, pinhole fissured
- 2'x2' ceiling tile, nail hole fissured
- 2'x4' ceiling tile, pinhole fissured
- 9"x9" floor tile, grey with tan and charcoal
- 12"x12" floor tile, white with tan
- 12"x12" floor tile, tan with grey and white
- 12"x12" floor tile, toffee with black
- 12"x12" floor tile, white with black and light grey
- 12"x12" floor tile, grey with tan and black
- brown flooring
- grey flooring
- baseboard adhesive, brown
- concrete block mortar
- red brick mortar
- red clay tile mortar
- grey duct mastic
- fiberboard
- tar on fiberglass batting
- pipe putty
- attic tar paper
- fiberglass duct insulation
- canvass vibration joints
- wall tile adhesive

The following nonfriable with low potential to become friable materials tested positive as ACM:

- **floor tile adhesive**
- **ceiling tile adhesive**

The following material tested less than 1% asbestos:

- sheetrock and taping compound

For room locations of above noted materials, refer to Appendices.

#### **Observations and Recommendations:**

1. Department of Environmental Health & Safety (DEHS);  
Please refer to condition assessments for specific damaged areas. In general, materials were found to be in good to excellent shape and do not pose significant health concerns to the building occupants.
2. Facilities Management;  
In some rooms throughout the building, carpeting is covering the asbestos containing floor tile. This should be noted in case the carpeting is removed during any proposed renovation project. If the floor tile comes up with the carpet, the carpet should then be removed by the Facilities Management Asbestos Abatement Unit.

Ceiling tile adhesive was found above the suspended ceiling tiles at the west end of the building on both the 1st and 2nd Floors. Since asbestos containing ceiling tile adhesive was found in various parts of the building, the ceiling tile adhesive above the suspended ceiling tiles was considered asbestos containing. If renovation is scheduled in these areas, additional testing is recommended.

In a previous survey conducted by Delta Environmental Consultants on April 12, 1990, two wall plaster samples were analyzed as asbestos containing. EH&S took two samples in approximately the same location as well as seven additional samples throughout the building, all of which came back as none detected for asbestos. It is recommended that additional plaster samples be taken prior to any demolition of plaster walls.

3. General;

In the Appendices, reference sample numbers with the preface **R** refer to samples referenced from previous surveys conducted by Delta Environmental Consultants. The original sample date is given following the material description.

Due to limited access points in the plaster ceilings and walls, some pipe chases were completely inaccessible or only slightly visible. As a result, the quantities listed reflect the visibility available at the time of the survey.

Although no roof sampling was done, complete roof sampling is recommended at a time when a qualified roofing contractor is on-site to patch core sample holes in roofing.

Rooms 5 C, 13 A, 125, 152, and 221 were inaccessible at the time of the survey.

**Cost Information:** The approximate cost for the removal of all ACM is itemized below. These figures are based on the assumption that all friable and potentially friable ACM are going to be removed. For project specific removal costs, contact this office with your project requirements and unit costs can be calculated for the impacted areas.

<u>MATERIAL TYPE</u>	<u>LOW RANGE</u>	<u>HIGH RANGE</u>
• thermal system insulation	<b>\$34,563</b>	<b>\$44,811</b>
• floor tile & adhesive	<b>13,584</b>	<b>27,168</b>
• ceiling tile adhesive	<b>14,144</b>	<b>28,288</b>
<b>TOTAL</b>	<b>\$62,291</b>	<b>\$100,267</b>

All ACM removal must be performed by a Minnesota licensed asbestos abatement contractor. All asbestos removal shall be performed within the specified procedures as outlined in the University of Minnesota Technical Specification for Asbestos Abatement. Please note that removal costs are highly variable and dependent on such factors as contractor availability, accessibility of work areas and site specific work plans.

Air monitoring is required for many asbestos-related projects. Environmental Health and Safety (EH&S) is available to provide this service. The estimated cost for EH&S to complete air monitoring requirements for specific projects will be made available upon request. The cost of air monitoring is a function of contractor on-site days and may vary dependent upon project specific scope of work. EH&S will provide labor, equipment and project oversight as necessary. Project management and contract administration will be provided by the Facilities Management Project Development Group.

EH&S also recommends that throughout the general renovation activities associated with this building, precautions and work practices should be implemented to minimize nuisance dust levels. Dust suppression techniques (misting the air with water and keeping materials wet) should be required of the general contractor.

If there is any further information required, or other questions arise regarding this request, please contact John Allen at 627-4861.

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