

November 19, 2002

REPORT: Full Building Survey

TO: Tim Nelson, Facilities Management's Asbestos Coordinator, 400 Donhowe Building
Dan Allen, Associate Director, Recreation Sports, 108 Cooke Hall

FROM: Bryan Angstman, Asbestos Group, Environmental Health and Safety, W-140 Boynton Health Service, 410 Church Street, S.E., Minneapolis, MN 55455

SUBJECT: Asbestos Material Survey - Cooke Hall
EH&S Project No: 056-96-038
Client Project No: for database

Scope of Work: A full building asbestos material survey was conducted on April 1, 1996 through May 1, 1996. The purpose of the survey was to identify asbestos-containing materials (ACM) as defined by the Environmental Protection Agency (EPA), the Occupational Health & Safety Administration (OSHA), and the Minnesota Department of Health (MDH). Any material that is greater than 1% asbestos is considered to be ACM. The intent of the survey was to identify both friable and non-friable suspect ACM, identify non-friable ACM that may become friable under demolition or renovation conditions, and to provide approximate cost estimates for the removal of identified ACM in Cooke Hall.

Project Description: One hundred sixty-four (164) bulk samples of suspect ACM were collected on-site and one hundred thirty-five (135) were analyzed via polarized light microscopy (PLM) by the University of Minnesota's Asbestos Laboratory 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. A previous limited asbestos building survey was performed in Cooke Hall by Delta Environmental Consultants on October 7, 1991. Information from the previous survey was included as part of this survey.

The following friable or potentially friable materials tested positive as ACM in the building:

- <4" white fibrous pipe insulation (PI)(1)
- <4" pipe fitting insulation (PFI) on white fibrous line (2)
- <4" aircell (PI)(3) Assumed
- <4" pipe fitting insulation (PFI) on aircell line (4) Assumed
- <4" felt w/tar PI 10/7/91 (5)
- <4" PFI on felt w/tar line 10/7/91 (6)
- <4" fibrous PFI on FG (10)
- 4"-8" white fibrous PI (11)
- 4"-8" PFI on white fibrous line (12)
- 4"-8" aircell (PI)(13) Assumed
- 4"-8" pipe fitting insulation (PFI) on aircell line (14) Assumed

- **4"-8" felt w/tar PI (15)**
- **4"-8" PFI on felt w/tar line (16)**
- **white fibrous tank (32)**
- **9"x9" floor tile, brown (41)**
- **9"x9" floor tile, red (42)**
- **9"x9" floor tile, off white w/grey specks (45)**
- **black border floor tile (90)**
- **2'x4' ceiling tile, pinhole, worm hole (120)**
- **roof tar (137)**
- **debris (139)**
- **cork wallboard w/tar (140) Assumed**
- **floor tile under carpet (202) Assumed**

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

- <4" fiberglass PI (9)
- 4"-8" fiberglass PI (19)
- 4"-8" fibrous PFI on FG (20)
- 9"-14" white fibrous pipe insulation (PI)(21)
- 9"-14" pipe fitting insulation (PFI) on white fibrous line (22)
- 9"-14" fiberglass pipe insulation (PI) (23)
- 9"-14" fibrous PFI on FG (24)
- black foam PI (25)
- fiberglass duct insulation (31)
- spray-on fireproofing white (33)
- ceiling plaster (34)
- wall plaster (35)
- red brick mortar (36)
- clay tile mortar (37)
- concrete block mortar (38)
- sheetrock & taping compound (39)
- baseboard adhesive (40)
- floor tile mastic (41.5)
- floor tile mastic (42.5)
- 9"x9" floor tile, grey w/white (43)
- floor tile mastic (43.5)
- 9"x9" floor tile, chocolate w/white streaks (46)
- floor tile mastic (46.5)
- 12"x12" floor tile, cream w/brown streaks (70)
- 12"x12" floor tile, beige w/white streaks (71)
- 12"x12" floor tile, bluegrey w/dark specks (72)
- floor tile mastic (72.5)
- 12"x12" floor tile, off white w/black specks (73)
- floor tile mastic (73.5)
- grey, white stair tread (91)
- stair tread mastic (91.5)
- 12"x12" ceiling tile, white pencilhole (100)
- 12"x12" ceiling tile, white deep fissured (101)
- 12"x12" ceiling tile, pencil/nail hole (102)
- 2'x2' ceiling tile, white pinhole fissured (110)
- 2'x2' ceiling tile, chicken scratch (111)
- canvass vibration joint (130)
- 4"x4" ceramic floor tile (136)
- subbasement tar (138)
- fiberglass batting (141)
- textured paint (142)

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

- floor tile mastic (45.5, 70.5, 71.5, 90.5)
- ceiling tile mastic (100.5, 101.5, 102.5) 10/7/91
- floor tile mastic (202.5) Assumed
- carpet adhesive (203)

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

Observations and Recommendations:

1. Department of Environmental Health & Safety (DEHS):

Room 10A located south of the pool was locked with a padlock and not accessible at the time of the survey. Limited observations were performed through the door window. Pipes with thermal insulation were observed through the window in the door to the room. Not all of the material could be observed or quantified. Observations and sampling should be performed to determine if asbestos-containing materials are located in the room. At the time of renovation and/or demolition, any areas where contained abatement would need to be performed, and those areas not having been accessed during this survey should be entered and surveyed by certified personnel.

The wall hatch in Room 30A contained fibrous pipe debris. The ventilation for Room 10 flows through this area. The debris in the wall hatch should be remediated.

2.0 Facilities Management:

Rooms 222, 222A, 222B, previously contained carpet which was stretched. The carpet has been removed, however the asbestos containing floor tile remains in damaged condition.

Observations above the ceiling in areas on the first and second floors were limited by access and ventilation equipment.

Ventilation system was leaking into the above ceiling area above Room 355.

3.0 General:

Although limited 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, or prior to roof removal or demolition.

All quantities in this survey are estimations and should not be considered exact measurements when used on abatement bids. Due to limited access points in the 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.

The floor tiles and mastics under carpet that were assumed to be asbestos containing were either inaccessible to sampling or unidentifiable. The floor tile and mastic under carpet should be sampled prior to being disturbed. DEHS suggests three samples of miscellaneous materials be taken and analyzed in accordance with OSHA regulations.

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.

MATERIAL TYPE	LOW RANGE	HIGH RANGE
• thermal system insulation	\$106,383	\$134,904
• floor coverings & mastic	\$52,978	\$105,956
• ceiling tile & mastic	\$39,852	\$79,704
• miscellaneous	\$7,254	\$7,657
TOTAL	\$206,467	\$328,221

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.

In accordance with OSHA regulations, areas which contain asbestos materials are required to be labeled at the access points (i.e. the outside of all mechanical core doors; Mechanical Rooms etc.)

If there is any further information required, or other questions arise regarding this request, please contact Bryan Angstman at 626-2328.

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