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April 14, 2016

Mr. Ryan Allen  
Minnesota Department of Administration  
Real Estate and Construction Services  
309 Administration Building  
50 Sherburne Avenue  
St. Paul, MN 55155

**Re: Pre-Demolition Asbestos and Hazardous Building Material Survey  
Building 17 South and a Portion of Building 18, Minnesota Veterans Home, Minneapolis,  
MN**

Dear Ryan:

Landmark Environmental, LLC (Landmark) and Applied Environmental Sciences, Inc. (AES) conducted a Pre-Demolition Asbestos Survey (Survey) at the above-referenced property (Property). The attached report included in Attachment A summarizes the asbestos containing material (ACM) and hazardous building material survey results, includes the applicable federal and state regulation summary, includes the laboratory reports for samples collected and analyzed, and a list of hazardous building materials and the location. This Pre-Demolition Asbestos Survey supplements the Preliminary Survey conducted in May 2014 included as Attachment B. The Survey results document ACM and hazardous building materials located in the buildings necessary for removal prior to demolition.

Landmark recommends that prior to demolition, a licensed asbestos abatement company properly removes regulated ACM in accordance with the regulations and that hazardous building materials also be properly removed from the buildings and properly managed and recycled and/or disposed in accordance with applicable regulations.

Once again, we appreciate the opportunity to work with you and provide environmental services to you. If you have any questions or comments, please feel free to contact me at (952) 666-2420.

Sincerely,

Sherry Van Duyn, PE  
President

Enclosures  
Attachment A Pre-Demolition Asbestos and Hazardous Building Material Survey, April 12, 2016  
Attachment B Preliminary Asbestos Survey, May 2014

Level K

C16 - 0021

Consultant's Report



**Attachment A**

**Pre-Demolition Asbestos and  
Hazardous Building Material Survey  
April 12, 2016**





**ENVIRONMENTAL HEALTH SURVEY REPORT  
PRE-DEMOLITION HAZARDOUS MATERIALS SURVEY**

**OF**

**BUILDING 17 - SOUTH  
MINNEAPOLIS VETERANS HOME  
MINNEAPOLIS, MINNESOTA**

**PREPARED FOR**

**LANDMARK ENVIRONMENTAL, L.L.C.  
2042 WEST 98<sup>TH</sup> STREET  
BLOOMINGTON, MINNESOTA 55431**

**APRIL 12, 2016**

**A·E·S**

**Applied Environmental Sciences, Inc.**



Applied Environmental Sciences, Inc.

8441 Wayzata Blvd. - Suite 103 - Minneapolis, MN 55426

**ENVIRONMENTAL HEALTH SURVEY REPORT  
PRE-DEMOLITION HAZARDOUS MATERIALS SURVEY**

**AT**

**BUILDING 17 - SOUTH  
MINNEAPOLIS VETERANS HOME  
MINNEAPOLIS, MINNESOTA**

Date of Survey: April 4-6, 2016

Conducted by: Mark Meier, Asbestos Building Inspector MN #AI-3893  
Applied Environmental Sciences, Inc.  
8441 Wayzata Blvd., Suite #103  
Minneapolis, MN 55426  
(763) 545-5510

Aaron Kuck, Asbestos Building Inspector MN #AI-12661  
Eric Gabrielson, Asbestos Building Inspector MN #AI-10463  
Shannon Russell, Asbestos Building Inspector MN #AI-13125  
Landmark Environmental, LLC  
2042 W. 98<sup>th</sup> Street  
Bloomington, MN 55431  
(952) 887 9605

I hereby certify that the survey and inspection referenced by this report, and the report itself, were conducted in accordance with intent of the AHERA regulations to the best of my ability and knowledge.

Mark Meier, Asbestos Building Inspector

I have reviewed this report and hereby certify that the information contained within satisfies the intent of the AHERA regulations to the best of my ability and knowledge.

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Patrick DiBartolomeo, CIH, CSP  
Certification # 2204

## 1.0 EXECUTIVE SUMMARY

Applied Environmental Sciences, Inc. (AES) was retained by Landmark Environmental, LLC to perform a pre-demolition hazardous materials survey of Building 17 South and a portion of Buildings 18 at the Minneapolis Veterans Home located in Minneapolis, Minnesota. The surveyed area is scheduled to be demolished in the future.

Survey procedures conducted by AES complied with the applicable Occupational Safety and Health Administration (OSHA), Minnesota Pollution Control Agency (MPCA), and Minnesota Department of Health (MDH) standards for surveys of buildings to be demolished. AES performed an asbestos survey of the building, but compile a list of other hazardous materials (e.g., those assumed to contain PCBs, mercury, CFCs) present on the property.

A preliminary asbestos survey of the building was conducted by AES and Landmark in 2014. Sample results from the preliminary survey were used on this pre-demolition survey.

AES took 122 bulk asbestos samples as part of the 2014 preliminary survey. The contracted laboratory separated these 122 samples into 123 individual layer samples and analyzed 122 layer samples. One sample (Sample 24) was not analyzed due to an insufficient amount of material present for the laboratory to analyze. This material was resampled during the pre-demolition survey.

The pre-demolition survey was conducted on April 4-6, 2016.

AES took 172 bulk asbestos samples as part of 2016 survey. The contracted laboratory separated these 172 samples into 174 individual layer samples and analyzed 173 layer samples. One sample (Sample 223) was not analyzed due to an insufficient amount of material present for the laboratory to analyze.

The results of the combined surveys are as follows:

1. Suspect building materials found to contain asbestos include – **white sink undercoating, pink sink undercoating, metal wall panel adhesive, 12" x 12" floor tile and floor tile mastic**. Asbestos-containing material should not be cut, drilled, sanded or disturbed.
2. Building materials assumed to contain asbestos during the survey include – **electric panels**. Asbestos-containing material should not be cut, drilled, sanded or disturbed. Coolers were observed during the survey, but are to be removed intact from the building prior to demolition by a contractor to be reused. If plans change, the coolers should be inspected prior to demolition.
3. No lead paint was sampled as part of this project. If building materials that are painted are to be reused or recycled as part of the project, they must be sampled to determine lead content.
4. Prior to demolition, all hazardous and special waste must be recycled or removed from the building according to Local, State, and Federal regulations. Caulk, which tested positive for asbestos content requires testing for PCB content as well. Since no caulk samples were found to be asbestos-containing, no PCB caulk samples were taken.
5. Relevant State of Minnesota, EPA and OSHA regulations are included in Appendix I.

6. The asbestos bulk sampling sheets are included in Appendix II.
7. The estimated quantity and location of identified positive materials are included in Appendix III.
8. Minnesota Department of Health certifications are included in Appendix IV.
9. A diagram, with the portions of the buildings included in the survey highlighted, has been included in Appendix V.
10. A complete list of building hazardous and special wastes observed in the buildings is included in Appendix VI.
11. Fire door sign off letters from the manufacturers have been included in Appendix VII.

*This survey identifies materials as they existed on the day of the survey. Conditions may change over time.*

*This survey should not be used as a bidding document. The ACM quantities provided are estimates and must be verified prior to abatement firm bidding. AES recommends using a licensed asbestos project designer to design and bid projects.*

### ***1.1 SUMMARY OF ACM BY TYPE, QUANTITY AND SAMPLE NUMBER***

The approximate quantity of ACM found in the building is listed below:

**Thermal System Insulation – None found**

**Surfacing Material – None found**

#### **Miscellaneous Materials**

Floor tile mastic (under ACM tiles)	Samples 65, 81, 142 & 166	2,780	square feet
White sink undercoating	Sample 112	3	sinks
Pink sink undercoating	Sample 113	1	sink
Metal wall panel adhesive	Sample 120	120	square feet
12" x 12" floor tile, white with olive	Samples 80 & 141	80	square feet
12" x 12" floor tile, gray with tan	Sample 165	740	square feet

#### **Assumed Materials**

Electric panels	125	panels
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For a full description of sample results and sample locations, see Appendix II.

The estimated quantity and location of asbestos-containing materials are included in Appendix III.

### ***1.2 SUMMARY OF DETERIORATED LEAD-BASED PAINT***

No lead paint was sampled as part of this project. If building materials that are painted are to be reused or recycled as part of the project, they must be sampled to determine lead content.

### ***1.3 SUMMARY OF HAZARDOUS MATERIALS***

Prior to demolition, all hazardous and special waste must be recycled or removed from the building according to Local, State, and Federal regulations. A contractor was removing all fluorescent light bulbs and ballasts from the building at the time of the inspection. Therefore, these materials were not included in the inspection.

Caulk, which tested positive for asbestos content requires testing for PCB content as well. Since no caulk samples were found to be asbestos-containing, no PCB caulk samples were taken.

A complete list of building hazardous and special wastes observed in the buildings is included in Appendix VI.

## **2.0 METHODS**

### **2.1 ASBESTOS SURVEY APPROACH**

The procedures used for this survey meet the sampling standards of EPA's Asbestos Hazard Emergency Response Act (AHERA), the OSHA asbestos standard and the EPA NESHAP rule for demolitions.

AES' approach to this survey was to identify, assess, sample and quantify all suspect asbestos-containing materials within the building. Electrical wiring and panels were not sampled. AES does not perform bulk sampling of electrical equipment unless it has been shut down and tagged by a licensed electrician. An attempt was made to locate and identify materials inside walls, doors, ducts, roofs or other areas which require destructive entry.

The quantity of each assessed material was estimated, and may be unreliable.

The survey was conducted by accredited asbestos building inspectors and supervised by Board Certified Industrial Hygienists.

AES conducted the pre-demolition inspection in Building 6 (walkway to Building 17), Building 15 (Elevator Lobby and Hallway), Building 17 (South) and Building 18.

#### **2.1.1 ASBESTOS SURVEY LIMITATIONS**

An attempt was made to locate and identify materials inside walls, doors, ducts, roofs or other areas which require destructive entry. The possibility exists that as other walls, doors, ducts, etc. are opened during the abatement and demolition of the building, suspect materials may be found. If suspect materials are encountered during demolition, the demolition should stop until these materials can be tested and, if necessary, removed by a licensed asbestos contractor.

*The rooftop-cooling tower was observed and the exterior of it was inspected. The cooling tower was in use at the time and could not be fully inspected on the inside. Cooling towers have been found to contain ACM in the past.*

*No access was gained into the 4<sup>th</sup> floor elevator lobby side room, and therefore was not inspected. This area should be inspected prior to demolition.*

Quantities of all materials are estimates and should be verified by bidding demolition contractors.

This survey identifies materials as they existed on the day of the survey. Conditions and quantities may change over time.

#### **2.1.2 BULK ASBESTOS SAMPLING**

Samples were collected utilizing random sampling procedures. Similar systems and materials were grouped into "homogeneous areas of building materials." Multiple random samples were taken of materials in accordance with the EPA-AHERA guidelines. Sample locations were determined using a random sampling process for each homogeneous material.

<u>AMOUNT OF MATERIAL</u>	<u>MINIMUM # OF SAMPLES</u>
Less than 1,000 square feet	3
Between 1,000 and 5,000 square feet	5
Greater than 5,000 square feet	7

Samples were collected by carefully removing a small representative sample of the suspect material and sealing it in a plastic bag. The sample was identified with a sample number.

### **2.1.3 BULK ASBESTOS ANALYSIS**

The bulk samples were analyzed by polarized light microscopy (PLM) with dispersion staining, EPA method 600/R-93/116. Bulk samples were viewed under a stereoscope. Samples were prepared in various Cargille refractive index oils and examined under the polarizing microscope. The samples were evaluated under crossed polars for extinction angle, sign of elongation and morphology. Quantity determinations are made by visual estimation.

EPA NESHAP-Asbestos Rule 40 CFR Part 61 states that samples found to contain less than 10% asbestos by visual estimation may be further quantified by point count analysis.

The Asbestos Rule also states that all multi-layer systems, except for wall systems where joint compound was used only at the joints and nail holes, must be analyzed as separate materials. If any layer contains greater than one-percent asbestos, that layer must be treated as asbestos-containing. This requires all layers in a multi-layered system to be treated as asbestos-containing if the layers cannot be separated without disturbing the asbestos-containing layer.

In each homogeneous sampling area, once a positive sample was identified, the remaining samples were not analyzed. Asbestos samples will be held for thirty (30) days after the date of this report.

### **2.2 HAZARDOUS MATERIALS SURVEY APPROACH**

AES's approach to this survey was to visually inspect each room for building components assumed to contain hazardous and special wastes that must be removed from the building or recycled properly prior to demolition. Quantities of these materials are estimates and should be verified by bidding demolition contractors. A contractor was removing all fluorescent light bulbs and ballasts from the building at the time of the inspection. Therefore, these materials were not included in the inspection.

### **2.3 LEAD SURVEY APPROACH**

No lead paint was sampled as part of this project. If building materials that are painted are to be reused or recycled as part of the project, they must be sampled to determine lead content.

### **2.4 CHAIN OF CUSTODY PROCEDURES**

To ensure that samples collected in the field are neither lost nor their identity confused, all samples, from the point of collection to receipt in the laboratory, follow these procedures. Each sample is first assigned a unique and distinct sampling number. After a sample is placed into a plastic bag, that unique number is assigned to that bag. This same number is assigned to the chain of custody. The inspector signs the chain of custody sheet before it, along with the samples, is delivered to the lab. Upon receipt of the samples, the lab analyst verifies that each sample matches the corresponding chain of custody sample number and signs and dates the chain of custody.

## **2.5 QUALIFICATIONS**

Asbestos sample analysis for the pre-demolition survey was conducted by EHS Laboratory in Richmond, Virginia. EHS is accredited by the National Voluntary Accreditation Program (NVLAP lab code 101882-0).

The survey was conducted by accredited asbestos building inspectors and supervised by Board Certified Industrial Hygienists.

## **3.0 DISCUSSION**

### **3.1 SUMMARY OF NON-ASBESTOS-CONTAINING MATERIAL**

Suspect ACM is considered negative for asbestos when all samples of the material are found to contain one percent or less asbestos.

Suspect material found to be negative includes:

1. Floor tile, 12" x 12" (Sample 1).
2. Floor tile mastic (Sample 2).
3. Sheetrock and joint compound (Sample 3).
4. Ceiling tile, 2' x 4' (Sample 4).
5. Baseboard (Sample 5).
6. Baseboard adhesive (Sample 6).
7. White fireproofing (Sample 7).
8. Door caulk (Sample 8).
9. Window glazing (Sample 9).
10. Floor tile, 12" x 12" (Samples 14, 12, 21, 23 & 27).
11. Floor tile mastic (Samples 15, 13, 22 & 28).
12. Ceiling tile, 2' x 2' (Samples 16 & 25).
13. Fireproofing (Sample 17).
14. Stair tread (Sample 10).
15. Stair tread adhesive (Sample 11).
16. Sheetrock and joint compound (Sample 20).
17. Mesh on interior walls above ceiling (Sample 18).
18. Brown fire stop putty (Sample 19).
19. Sink undercoating (Sample 26).
20. Floor tile, 12" x 12" (Samples 29, 39, 41, 46, 64 & 72).
21. Floor tile mastic (Samples 30, 40, 42, 47 & 73).
22. Baseboard (Samples 31, 43, 48, 66 & 86).
23. Baseboard adhesive (Samples 32, 44, 49, 67 & 87).
24. Ceiling tile, 2' x 2' (Samples 33, 37, 45, 51, 55, 63, 71 & 79).
25. Sheetrock and joint compound (Sample 36).
26. Fire stop putty (Sample 34).
27. Stucco like material on exterior walls and in loading dock (Sample 35).
28. Fireproofing (Sample 38).
29. Linoleum (Samples 50, 68, 69, 70, 74, 75, 76 & 78).
30. Window caulk (Sample 52).
31. Textured ceiling (Samples 53 & 54).
32. Floor sheeting (Sample 57).
33. Ceiling tile, 2' x 2' (Sample 58).
34. Baseboard (Sample 59).



35. Baseboard adhesive (Sample 60).
36. Window caulk (Sample 61).
37. Sheetrock and joint compound (Sample 62).
38. Gray duct sealant (Sample 77).
39. Floor tile, 2' x 2' gray with circles (Sample 82).
40. Floor tile mastic (Sample 83).
41. Stair tread (Sample 84).
42. Stair tread adhesive (Sample 85).
43. Hard fittings on fiberglass (Sample 88).
44. Black baseboard and adhesive (Samples 100 & 101).
45. Brown window caulk (Sample 102).
46. Fiberglass wall panel adhesive (Sample 103).
47. 2" brown ceramic floor tile mortar and grout (Samples 104 & 105).
48. 4" white ceramic wall tile mortar and grout (Samples 106 & 107).
49. Tan chair rail adhesive (Sample 108).
50. Tan windowsill adhesive (Sample 109).
51. Linoleum, darker with blue and red (Sample 110).
52. Linoleum, white with brown spots (Sample 111).
53. 12" x 12" floor tile, darker tan mottled & mastic (Samples 114 & 115).
54. 12" beige ceramic floor tile mortar and grout (Samples 116 & 117).
55. 4" multicolor ceramic wall tile mortar and grout (Samples 118 & 119).
56. Linoleum, tan marble (Sample 121).
57. Wainscoting adhesive, tan (Sample 122).
58. Wainscoting adhesive, blue (Sample 123).
59. 12" floor tile, cream & mastic (Samples 124 & 125).
60. 2" tan ceramic floor tile mortar and grout (Samples 126 & 127).
61. 6" tan and purple ceramic wall tile mortar & grout (Samples 128 & 129).
62. 2' x 2' ceiling tile, white with holes (Sample 130).
63. Gray duct sealant (Sample 131).
64. Gray floor sheeting & adhesive (Samples 132 & 133).
65. Tan wall panel adhesive (Sample 134).
66. Plaster like patch (Sample 135).
67. Tan adhesive on fiberglass pipe insulation (Sample 136).
68. Green baseboard & adhesive (Samples 137 & 138).
69. Fire door, 1.5 hour rating (Sample 139).
70. 2' x 2' ceiling tile, white reveal with dents and holes (Sample 140).
71. White door insulation (Sample 143).
72. Fire door frame insulation (Sample 144).
73. 4" cream ceramic wall tile mortar and grout (Samples 145 & 146).
74. Plaster (Samples 147 & 158).
75. 2' x 2' ceiling tile, white wavy (Sample 149).
76. Gray sink undercoating (Sample 150).
77. 2' x 2' ceiling tile, white light rough (Sample 151).
78. Adhesive on foam (Sample 152).
79. Black tarpaper (Sample 153).
80. 2' x 2' ceiling tile, white reveal with texture (Sample 154).
81. Linoleum, white with blue (Sample 155).
82. Round column texture (Sample 156).
83. Linoleum, orange (Sample 157).
84. Darker gray duct sealant (Sample 159).
85. Hard white coating on conduit (Sample 160).
86. Fiberglass wall panel adhesive (Sample 161).
87. White duct sealant (Sample 162).
88. 2' x 4' ceiling tile, white sheetrock (Sample 163).

89. 2' x 2' ceiling tile, white with dents and holes (Sample 164).
90. 2' x 2' ceiling tile, white chicken track (Sample 167).
91. Fire door, white Warnock Heresy 30-min (Sample 168).
92. 2" light tan ceramic floor tile mortar & grout (Samples 169 & 170).
93. 4" light tan ceramic wall tile mortar & grout (Samples 171 & 172).
94. 12" x 12" floor tile, cream with tan & mastic (Samples 173 & 174).
95. Built up roofing materials (Samples 175 & 185).
96. Roof flashing (Samples 176 & 186).
97. White duct caulk (Sample 177).
98. Gray duct caulk (Sample 178).
99. White cloth vibration dampener (Sample 179).
100. Black hole filler (Samples 180 & 189).
101. Flashing sealant (Samples 181 & 187).
102. Tan metal flashing sealant (Samples 182 & 190).
103. White metal flashing sealant (Samples 183 & 188).
104. Cream metal flashing sealant (Sample 184).
105. Tan caulk on cooling tower (Sample 191).
106. Rubber roof membrane adhesive (Sample 192).
107. Black rubber roof sealant (Sample 193).
108. Vibration damper (Sample 194).
109. White duct sealant (Sample 195).
110. Light gray duct sealant (Sample 196).
111. Darker gray duct sealant (Sample 197).
112. Black duct sealant (Sample 198).
113. Tan flashing sealant (Sample 199).
114. Stucco (Sample 200).
115. 2' x 4' ceiling tile, white with dents and holes (Sample 201).
116. 2' x 2' ceiling tile, white with deep fissures (Sample 202).
117. Navy baseboard & adhesive (Samples 204 & 205).
118. Hard white pipe insulation (Sample 206).
119. 2' x 2' ceiling tile, white rough (Sample 207).
120. 12" x 12" floor tile, cream with tan floor tile & mastic (Samples 208 & 209).
121. 12" x 12" floor tile, pink mottled & mastic (Samples 210 & 211).
122. 6" brown ceramic floor tile mortar and grout (Samples 212 & 213).
123. 2' x 2' ceiling tile, black with dents and holes (Sample 214).
124. 2" cream ceramic floor tile mortar & grout (Samples 215 & 216).
125. 4" cream ceramic wall tile mortar and grout (Samples 217 & 218).
126. Sheetrock and joint compound (Sample 219).
127. Tan adhesive behind sheetrock (Sample 220).
128. 6" cream ceramic wall tile mortar and grout (Samples 221 & 222).
129. Black mastic (Samples 223 & 24 (resampled)).
130. 2' x 2' ceiling tile, white with deep fissures (Sample 224).
131. Window glazing, white soft (Sample 225).
132. Gray fireproofing with white (Sample 226).
133. 2' x 2' ceiling tile, white with fissures (Sample 227).
134. 12" x 12" floor tile, gray with brown and white & mastic (Samples 228 & 229).
135. Fire door, Warnock Hersey 1.5 hour rating (Sample 230).
136. Black tar on exterior block wall (Sample 231).
137. Black felt and tar on exterior foundation (Sample 232).
138. Gray roof sealant (Sample 233).
139. Caulk on roof around columns (Sample 234).
140. Caulk, shingles to siding (Sample 235).
141. Shingles and ice dam sheet (Samples 236, 237 & 238).
142. Black interior of window caulk (Sample 239).

- 143. Black door caulk (Sample 240).
- 144. Window caulk, tan (Sample 241).
- 145. White hole filler (Sample 242).
- 146. Tan with black window caulk (Sample 243).
- 147. Tan door caulk (Sample 244).
- 148. Gray caulk expansion joint (Sample 245).
- 149. Gray siding on corridor (Sample 246).

### 3.2 RECOMMENDATIONS

#### 3.2.1 ASBESTOS

This survey was conducted to locate asbestos-containing materials that must legally be removed prior to demolition of the building. The EPA/MPCA NESHAP regulations require that asbestos-containing materials which are friable, or will become friable during demolition, must be removed from the building prior to demolition by a licensed asbestos abatement contractor.

Suspect building materials found to contain asbestos include – **white sink undercoating, pink sink undercoating, metal wall panel adhesive, 12" x 12" floor tile and floor tile mastic.** Asbestos-containing material should not be cut, drilled, sanded or disturbed.

Building materials assumed to contain asbestos include – **electric panels.** Asbestos-containing material should not be cut, drilled, sanded or disturbed.

*The possibility exists that asbestos-containing floor tile mastic exists under the ceramic floor tile in the kitchen office area. One sample (Sample 170) was found to contain <1% asbestos.*

*The rooftop-cooling tower was observed and the exterior was inspected. The cooling tower was in use at the time and the interior of it could not be fully inspected. Cooling towers have been found to contain ACM in the past.*

*No access was gained into the 4<sup>th</sup> floor elevator lobby side room, and therefore was not inspected. This area should be inspected prior to demolition.*

#### 3.2.2 HAZARDOUS MATERIALS

Prior to demolition, all hazardous and special waste must be recycled or removed from the building according to Local, State, and Federal regulations. A contractor was removing all fluorescent light bulbs and ballasts from the building at the time of the inspection. Therefore, these materials were not included in the inspection. A complete list of building hazardous and special wastes observed in the buildings is included in Appendix VI.

#### 3.2.3 LEAD

No lead paint was sampled as part of this project. If building materials that are painted are to be reused or recycled as part of the project, they must be sampled to determine lead content.

*This survey should not be used as a bidding document. The ACM quantities provided are estimates and must be verified prior to abatement firm bidding. AES recommends using a licensed asbestos project designer to design and bid projects.*

## **APPENDIX I**

## **1.0 STANDARDS REGULATING ASBESTOS**

### **1.1 MINNESOTA**

The State of Minnesota enforces two asbestos-related rules that affect building owners. One rule states that friable asbestos-containing materials must be maintained in a good state of repair. The second rule states that an inspection survey for asbestos must be performed prior to the undertaking of either a renovation or demolition project where there is reason to suspect asbestos might be present. These rules are enforced by Minnesota OSHA.

Minnesota Department of Health regulations require building owners to keep records of all asbestos abatement or asbestos maintenance work performed at their facility for the current calendar year. These records must be retained for three years.

### **1.2 EPA**

The EPA has specific rules governing the disposal of asbestos-containing materials (ACM), removal of ACM before building demolition and notification before removal of ACM. The Minnesota Pollution Control Agency enforces these rules.

EPA's Asbestos Hazard Emergency Response Act (AHERA), which regulates asbestos in schools, states that any building material containing greater than one percent asbestos must be inspected and managed.

### **1.3 EPA/ASHARA**

The Asbestos School Hazard Abatement Reauthorization Act (ASHARA) requires that any asbestos inspection, whether done visually or by taking samples, must be done by accredited asbestos building inspectors. The regulation also stipulates that asbestos abatement projects must be designed and performed by accredited individuals.

### **1.4 OSHA**

OSHA standards 1910.1001 (general industry), 1926.1101 (construction), and 1915.1001 (shipbuilding) regulate occupational exposures to asbestos. These standards regulate asbestos abatement, building inspections, maintenance work and custodial activities. The permissible exposure limit (PEL) for asbestos is 0.1 fibers per cubic centimeter as an eight-hour, time-weighted average (8-hour TWA).

### **1.5 EPA/NESHAP**

The Asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP) (40 CFR 61, Subpart M) addresses milling, manufacturing and fabrication operations, demolition and renovation activities, waste disposal issues, active and inactive waste disposal sites and asbestos conversion processes.

The terms friable and nonfriable are used to make the distinction between building materials that would readily release asbestos fibers when damaged or disturbed and those materials unlikely to result in significant fiber release when disturbed.

Friable asbestos-containing material (ACM) is defined by the EPA as any material containing more than one percent asbestos that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure.

Nonfriable ACM is any material containing more than one percent asbestos that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

The EPA defines two categories of nonfriable ACM, Category I and Category II nonfriable ACM. Category I nonfriable ACM is any asbestos-containing packing, gasket, resilient floor covering or asphalt roofing product which contains more than one percent asbestos. Category II nonfriable ACM is any material, excluding Category I nonfriable ACM, containing more than one percent asbestos, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

“Regulated Asbestos-Containing Material” (RACM) is (a) friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation activities.

## **2.0 STANDARDS REGULATING LEAD**

### **2.1 OSHA**

OSHA standards apply to any employee disturbing (creating dust or fumes) materials covered with lead-based paint. OSHA regulates lead as an airborne contaminant. Airborne concentrations during disturbance will vary with both the concentration of lead paint and with the operation (manual demolition, sanding, etc.). OSHA requires the contractor to show proof that the operations disturbing lead-based paint in any concentration will not exceed the action level of 30  $\mu\text{g}/\text{m}^3$  or the Permissible Exposure Limit (PEL) of 50  $\mu\text{g}/\text{m}^3$ .

### **2.2 MPCA**

The MPCA requires that paint must be removed from the site as part of the building demolition. If building materials that are painted are to be recycled or reused as part of the project, they must be sampled to determine lead content.

## **3.0 HAZARDOUS AND SPECIAL WASTE**

### **3.1 MPCA**

The MPCA requires that all solid, hazardous, or other special waste be recycled or removed and properly disposed of prior to demolition.

## APPENDIX II



Environmental Hazards Services, L.L.C.

7469 Whitepine Rd  
Richmond, VA 23237

Telephone: 800.347.4010

## Asbestos Bulk Analysis Report

Report Number: 16-04-00833

Client: Applied Env. Sciences  
8441 Wayzata Blvd.  
Suite 103  
St. Louis Park, MN 55426

Received Date: 04/07/2016  
Analyzed Date: 04/07/2016, 04/08/2016  
Reported Date: 04/08/2016

Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Client Number:  
24-1221

Fax Number:  
763-545-7883

# Laboratory Results

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-001	88D		Beige Powdery; Fibrous; Homogenous	NAD	25% Cellulose 15% Fibrous Glass 60% Non-Fibrous
16-04-00833-002	88E		Beige Powdery; Fibrous; Homogenous	NAD	15% Cellulose 10% Fibrous Glass 75% Non-Fibrous
16-04-00833-003	100		Brown Vinyl-Like; Homogenous	NAD	100% Non-Fibrous
16-04-00833-004	101		Tan Adhesive; Homogenous	NAD	2% Cellulose 98% Non-Fibrous
16-04-00833-005	102		Brown Rubbery; Homogenous	NAD	100% Non-Fibrous



## Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 16-04-00833

Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-006	103		Yellow/Clear Adhesive; Homogenous	NAD	100% Non-Fibrous
16-04-00833-007	104		Gray Granular; Homogenous	NAD	100% Non-Fibrous
16-04-00833-008	105		Black Granular; Homogenous	NAD	100% Non-Fibrous
16-04-00833-009	106		White Rubbery/Granular; Homogenous	NAD	100% Non-Fibrous
16-04-00833-010	107		White Rubbery; Homogenous	NAD	100% Non-Fibrous
16-04-00833-011	108		White Paint-Like; Tan Adhesive; Inhomogenous	NAD	2% Cellulose 98% Non-Fibrous
16-04-00833-012	109		Beige Adhesive; Homogenous	NAD	100% Non-Fibrous
16-04-00833-013	110		Beige W/ Blue/Red Streaks Vinyl-Like; Homogenous	NAD	100% Non-Fibrous

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Client Number: 24-1221

Report Number: 16-04-00833

Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-014	111		Beige Vinyl-Like; Homogenous	NAD	100% Non-Fibrous
16-04-00833-015	112		Light Purple Paint-Like; Homogenous	2% Chrysotile	98% Non-Fibrous
Total Asbestos: 2%					
16-04-00833-016	113		Light Pink Paint-Like; Homogenous	2% Chrysotile	98% Non-Fibrous
Total Asbestos: 2%					
16-04-00833-017	114		Tan Vinyl; Homogenous	NAD	4% Cellulose 96% Non-Fibrous
16-04-00833-018	115		Yellow Adhesive; Homogenous	NAD	8% Cellulose 92% Non-Fibrous
16-04-00833-019	116		Beige Granular; Homogenous	NAD	100% Non-Fibrous
16-04-00833-020	117		Brown Granular; Homogenous	NAD	100% Non-Fibrous
16-04-00833-021	118		Beige Cementitious; Homogenous	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 16-04-00833

Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-022	119		Brown Granular; Homogenous	NAD	100% Non-Fibrous
16-04-00833-023	120		Black Brittle; Homogenous	4% Chrysotile	96% Non-Fibrous
Total Asbestos: 4%					
16-04-00833-024	121		Light Brown Vinyl-Like; White Fibrous; Inhomogenous	NAD	10% Synthetic 90% Non-Fibrous
16-04-00833-025	122		Tan Adhesive; Homogenous	NAD	100% Non-Fibrous
16-04-00833-026	123		Blue Adhesive; Homogenous	NAD	100% Non-Fibrous
16-04-00833-027	124		Light Brown Vinyl; Homogenous	NAD	100% Non-Fibrous
16-04-00833-028	125		Clear Adhesive; Homogenous	NAD	4% Cellulose 96% Non-Fibrous
16-04-00833-029	126		Gray Granular; Homogenous	NAD	100% Non-Fibrous

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Client Number: 24-1221

Report Number: 16-04-00833

Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-030	127		Beige Granular; Homogenous	NAD	100% Non-Fibrous
16-04-00833-031	128		Tan Rubbery/Granular; Homogenous	NAD	100% Non-Fibrous
16-04-00833-032	129		Brown Granular; Homogenous	NAD	100% Non-Fibrous
16-04-00833-033	130		White Paint-Like; Brown Powdery; Fibrous; Inhomogenous	NAD	10% Cellulose 85% Fibrous Glass 5% Non-Fibrous
16-04-00833-034	131A		Gray Pliable-Like; Homogenous	NAD	100% Non-Fibrous
16-04-00833-035	131B		Gray Pliable-Like; Homogenous	NAD	100% Non-Fibrous
16-04-00833-036	132		Gray Vinyl-Like; Homogenous	NAD	100% Non-Fibrous
16-04-00833-037	133		Cream Adhesive; Homogenous	NAD	5% Cellulose 95% Non-Fibrous

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Client Number: 24-1221

Report Number: 16-04-00833

Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-038	134		Tan Adhesive; Homogenous	NAD	2% Cellulose 98% Non-Fibrous
16-04-00833-039	135A		Beige Powdery; Gold Platelets; Brown Fibrous; Inhomogenous	Trace <1% Trem/Actin*	25% Cellulose 75% Non-Fibrous
Total Asbestos: Trace <1%					
<1% *Tremolite/Actinolite Series Asbestos present in beige powdery/gold platelets material.					
16-04-00833-040	135B		Beige Chalky; Gold Platelets; Brown Fibrous; Inhomogenous	Trace <1% Trem/Actin*	20% Cellulose 80% Non-Fibrous
Total Asbestos: Trace <1%					
<1% *Tremolite/Actinolite Series Asbestos present in beige powdery/gold platelets material.					
16-04-00833-041	135C		White Granular; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-042	135D		Tan Granular; Vermiculite; Inhomogeneous	Trace <1% Trem/Actin*	100% Non-Fibrous
Total Asbestos: Trace <1%					
<1% *Tremolite/Actinolite Series Asbestos present in tan granular material.					
16-04-00833-043	135E		Tan Granular; Vermiculite; Inhomogeneous	Trace <1% Trem/Actin*	100% Non-Fibrous
Total Asbestos: Trace <1%					
<1% *Tremolite/Actinolite Series Asbestos present in tan granular material.					
16-04-00833-044	136		Tan Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-045	137		Green Vinyl; Homogeneous	NAD	100% Non-Fibrous

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Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-046	138		Brown Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-047	139		Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-048	140		Brown Fibrous; White Paint-Like; Inhomogeneous	NAD	60% Cellulose 10% Fibrous Glass 30% Non-Fibrous
16-04-00833-049	141		Tan Vinyl; Homogeneous  Total Asbestos: 2%	2% Chrysotile	98% Non-Fibrous
16-04-00833-050	142		Black Adhesive; Homogeneous  Total Asbestos: 4%	4% Chrysotile	96% Non-Fibrous
16-04-00833-051	143		White Powder Fibrous ; Homogeneous	NAD	25% Cellulose 75% Non-Fibrous
16-04-00833-052	144		Off-White Granular; Gold Vermiculite; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-053	145		Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous

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Client Number: 24-1221

Report Number: 16-04-00833

Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-054	146		White Brittle; Rubbery; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-055	147A		Gray/White Brittle; Gold Vermiculite; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-056	147B		Gray/White Brittle; Gold Vermiculite; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-057	147C		Gray/White Brittle; Gold Vermiculite; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-058	147D		Beige Granular; Gold Vermiculite; White Paint-Like; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-059	147E		Tan Granular; Gold Vermiculite; Inhomogeneous	Trace <1% Trem/Actin*	100% Non-Fibrous
Total Asbestos: Trace <1%					
<1% *Tremolite/Actinolite Series Asbestos present in tan granular material.					
16-04-00833-060	147F		Gray/White Brittle; Gold Vermiculite; Inhomogeneous	NAD	100% Non-Fibrous

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Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-061	147G		Gray/White Brittle; Gold Vermiculite; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-062	149		Beige Fibrous; White Paint-Like; Inhomogeneous	NAD	15% Cellulose 55% Fibrous Glass 30% Non-Fibrous
16-04-00833-063	150		Beige Pliable; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous
16-04-00833-064	151		Gray Fibrous; White Paint-Like; Silver Metallic; Inhomogeneous	NAD	15% Cellulose 55% Fibrous Glass 30% Non-Fibrous
16-04-00833-065	152		Blue Foam; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-066	153		Black Tar-Like; Fibrous; Inhomogeneous	NAD	45% Cellulose 10% Fibrous Glass 45% Non-Fibrous
16-04-00833-067	154		Gray Fibrous; White Paint-Like; Inhomogeneous	NAD	15% Cellulose 55% Fibrous Glass 30% Non-Fibrous



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Report Number: 16-04-00833

Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-068A	155A	Linoleum	White/Blue Vinyl; Gray Fibrous; Inhomogeneous	NAD	35% Cellulose 5% Fibrous Glass 60% Non-Fibrous
16-04-00833-068B	155A	Mastic	Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-069	156A		White Granular; Beige Paint-Like; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-070	156B		White Granular; Beige Paint-Like; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-071	155C		White Granular; Beige Paint-Like; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-072	157		Orange Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-073	158A		Pale Gray Cementitious; White/Off-White Brittle; Inhomogeneous	NAD	1% Cellulose 99% Non-Fibrous

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Report Number: 16-04-00833

Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-074	158B		Pale Gray Cementitious; White/Off-White Brittle; Inhomogeneous	NAD	1% Cellulose 99% Non-Fibrous
16-04-00833-075	158C		Pale Gray Cementitious; White/Off-White Brittle; Inhomogeneous	NAD	1% Cellulose 1% Hair 98% Non-Fibrous
16-04-00833-076	159		Gray Pliable; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-077	160		Off-White Brittle; Homogeneous	NAD	2% Cellulose 1% Fibrous Glass 1% Wollastonite 96% Non-Fibrous
16-04-00833-078	161		Pale Yellow Adhesive; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous
16-04-00833-079	162		Off-White Pliable; Homogeneous	NAD	7% Cellulose 93% Non-Fibrous
16-04-00833-080	163		Off-White Brittle; Tan Fibrous; White Vinyl-Like; Translucent Adhesive; Inhomogeneous	NAD	10% Cellulose 10% Fibrous Glass 80% Non-Fibrous

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Client Number: 24-1221

Report Number: 16-04-00833

Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-081	164		Pale Gray to Tan Fibrous; White Brittle; Inhomogeneous	NAD	45% Cellulose 35% Fibrous Glass 20% Non-Fibrous
16-04-00833-082	165		Pale Beige-Gray Granular; Homogeneous	2% Chrysotile	98% Non-Fibrous
Total Asbestos: 2%					
16-04-00833-083	166		Black Adhesive; Homogeneous	5% Chrysotile	2% Cellulose 1% Fibrous Glass 92% Non-Fibrous
Total Asbestos: 5%					
16-04-00833-084	167		Pale Gray to Tan Fibrous; White Brittle; Inhomogeneous	NAD	45% Cellulose 30% Fibrous Glass 25% Non-Fibrous
16-04-00833-085	168		Pale Gray Brittle; Homogeneous	NAD	50% Cellulose 5% Fibrous Glass 45% Non-Fibrous
16-04-00833-086	169		Off-White Cementitious; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-087	170		Pale Gray Cementitious; Homogeneous	Trace <1% Chrysotile	1% Cellulose 99% Non-Fibrous
Total Asbestos: Trace <1%					
Chrysotile may be present as a contact contaminant from residual black mastic substrate beneath mortar.					
16-04-00833-088	171		Off-White Brittle; Homogeneous	NAD	100% Non-Fibrous

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Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-089	172		Off-White Adhesive; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous
16-04-00833-090	173		Off-White Granular; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-091	174		Yellow Adhesive; Homogeneous	NAD	4% Cellulose 1% Synthetic 95% Non-Fibrous
16-04-00833-092	175		Tan/Black Fibrous; Black Pliable to Brittle; Off-White Foam-Like; Inhomogeneous	NAD	45% Cellulose 15% Fibrous Glass 40% Non-Fibrous
16-04-00833-093	176		Black Pliable; Black Fibrous; Black Pliable to Brittle; Off-White Aggregate; Inhomogeneous	NAD	2% Cellulose 20% Fibrous Glass 10% Synthetic 68% Non-Fibrous
16-04-00833-094	177		Off-White Pliable; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-095	178		Gray Pliable; Homogeneous	NAD	1% Synthetic 99% Non-Fibrous

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Report Number: 16-04-00833

Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-096	179		White Fibrous; Pale Gray Pliable; Inhomogeneous	NAD	75% Fibrous Glass 25% Non-Fibrous
16-04-00833-097	180		Dark Gray Pliable to Brittle; Black Brittle; Inhomogeneous	NAD	2% Cellulose 98% Non-Fibrous
16-04-00833-098	181		Black Pliable; Homogeneous	NAD	30% Cellulose 70% Non-Fibrous
16-04-00833-099	182		Light Gray Pliable; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-100	183		White Rubbery; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-101	184		Light Tan Rubbery; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-102	185		Black Tar; Fibrous; Brown Fibrous; Pale Yellow Foam; Inhomogeneous	NAD	20% Cellulose 10% Fibrous Glass 70% Non-Fibrous
16-04-00833-103	186		Black Tar; Fibrous; Yellow Fibrous; Inhomogeneous	NAD	30% Fibrous Glass 70% Non-Fibrous

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Report Number: 16-04-00833

Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-104	187		Black Brittle Tar-Like; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-105	188		White Rubbery; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-106	189		Black Tar; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-107	190		Light Tan Rubbery; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-108	191		Pale Gray Pliable; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-109	192		Clear Yellow Rubbery; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-110	193		Black Pliable Rubbery; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-111	194		Black Pliable; White Fibrous; Homogeneous	NAD	50% Fibrous Glass 50% Non-Fibrous

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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-112	195		White Rubbery; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-113	196		Light Gray Rubbery; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-114	197		Gray Rubbery; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-115	198		Black Tar; Fibrous; Homogeneous	NAD	8% Cellulose 2% Synthetic 90% Non-Fibrous
16-04-00833-116	199		Light Tan Rubbery; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-117	200A		Gray/White Cementitious; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-118	200B		Gray/White Cementitious; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-119	200C		Gray/White Cementitious; Inhomogeneous	NAD	100% Non-Fibrous

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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-120	200D		Gray/White Cementitious; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-121	200E		Gray/White Cementitious; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-122	200F		Gray/White Cementitious; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-123	200G		Gray/White Cementitious; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-124	201		Begie Fibrous; White Paint; Inhomogeneous	NAD	65% Cellulose 20% Fibrous Glass 15% Non-Fibrous
16-04-00833-125	202		White Fibrous; Paint; Inhomogeneous	NAD	65% Cellulose 10% Fibrous Glass 25% Non-Fibrous
16-04-00833-126	204		Blue Rubbery Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-127	205		Pale Yellow Adhesive; Brown Brittle; Inhomogeneous	NAD	100% Non-Fibrous



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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-128	206		White Powdery; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-129	207		Beige Fibrous; White Paint; Inhomogeneous	NAD	65% Cellulose 20% Fibrous Glass 15% Non-Fibrous
16-04-00833-130	208		Beige Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-131	209		Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-132	210		Light Brown Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-133	211		Yellow Adhesive; Gray Chalky; Inhomogeneous	NAD	100% Non-Fibrous
Unable to separate materials.					
16-04-00833-134	212		Brown Hard; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-135	213		Gray Cementitious; Homogeneous	NAD	100% Non-Fibrous

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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-136	214		Gray Fibrous; Black Paint; Inhomogeneous	NAD	65% Cellulose 20% Fibrous Glass 15% Non-Fibrous
16-04-00833-137	215		Gray Cementitious; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-138	216		Dark Gray Cementitious; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-139	217		White Pliable; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-140	218		White Granular; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-141	219		White Powdery; Chalky; Brown/Cream Fibrous; Inhomogeneous	NAD	15% Cellulose 85% Non-Fibrous
16-04-00833-142	220		Tan Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-143	221		White Pliable; Homogeneous	NAD	100% Non-Fibrous

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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-144	222		White Chalky; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-145	223			Did Not Analyze (Quantity Not Sufficient)	
16-04-00833-146	224		Off-White Fibrous; Silver Foil; Inhomogeneous	NAD	10% Cellulose 65% Fibrous Glass 25% Non-Fibrous
16-04-00833-147	225		Gray Soft; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous
16-04-00833-148	226A		Light Gray Powdery; Fibrous; Homogeneous	NAD	30% Cellulose 70% Non-Fibrous
16-04-00833-149	226B		Light Gray Powdery; Fibrous; Homogeneous	NAD	30% Cellulose 70% Non-Fibrous
16-04-00833-150	226C		Light Gray Powdery; Fibrous; Homogeneous	NAD	30% Cellulose 70% Non-Fibrous
16-04-00833-151	226D		Light Gray Powdery; Fibrous; Homogeneous	NAD	30% Cellulose 70% Non-Fibrous

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Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-152	226E		Light Gray Powdery; Fibrous; Homogeneous	NAD	35% Cellulose 65% Non-Fibrous
16-04-00833-153	227		Off-White/Tan Fibrous; Silver Foil; Inhomogeneous	NAD	10% Cellulose 65% Fibrous Glass 25% Non-Fibrous
16-04-00833-154	228		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-155	229		Black Adhesive; Homogeneous	NAD	3% Cellulose 97% Non-Fibrous
16-04-00833-156	230		White Powdery Fibrous; Homogeneous	NAD	8% Cellulose 92% Non-Fibrous
16-04-00833-157	231		Black Tar-Like; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous
16-04-00833-158	232		Black Tar-Like Fibrous; Homogeneous	NAD	5% Cellulose 95% Non-Fibrous
16-04-00833-159	233		Gray Pliable; Homogeneous	NAD	5% Cellulose 95% Non-Fibrous

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Report Number: 16-04-00833

Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-160	234		Tan Pliable; Homogeneous	NAD	5% Cellulose 95% Non-Fibrous
16-04-00833-161	235		Gray Pliable; Homogeneous	NAD	5% Cellulose 95% Non-Fibrous
16-04-00833-162	236		Black Tar-Like; Brown Aggregate; Inhomogeneous	NAD	10% Fibrous Glass 90% Non-Fibrous
16-04-00833-163	237		Black Tar-Like; Brown/Red Aggregate; Inhomogeneous	NAD	10% Fibrous Glass 90% Non-Fibrous
16-04-00833-164	238		Black Tar-Like; Homogeneous	NAD	5% Cellulose 95% Non-Fibrous
16-04-00833-165	239		Black Pliable; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous
16-04-00833-166	240		Brown Pliable; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-167	241		Tan Pliable; Homogeneous	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 16-04-00833

Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-04-00833-168	242		White Pliable; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-169	243		Tan Pliable; White Granular; Inhomogeneous	NAD	100% Non-Fibrous
16-04-00833-170	244		Tan Pliable; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-171	245		Gray Pliable; Homogeneous	NAD	100% Non-Fibrous
16-04-00833-172	246		White Powdery Fibrous; Beige Paint-Like; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
16-04-00833-173	24		Yellow Adhesive; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous
No black mastic present					

## Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 16-04-00833

Project/Test Address: F16-136; MN Vet Home #17; Mpls, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
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QC Sample: 87-M12011-3, 83-M22010-3, 88-M22011-4, 90-M22014-4,

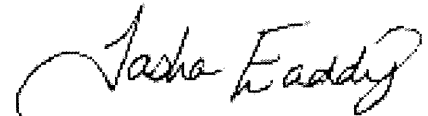
QC Blank: 85-M22013-2  
SRM 1866 Fiberglass

Reporting Limit: 1% Asbestos

Method: EPA Method 600/R-93/116, EPA Method 600/M4-82-020

Analyst: Keleigh King, Araceli Enzler,  
Mark Case, Katherine Charles  
Harris, Kathy Fletcher

Reviewed By Authorized Signatory:



Tasha Eaddy  
QA/QC Clerk

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Each distinct component in an inhomogeneous sample was analyzed separately and reported as a composite. Results represent the analysis of samples submitted by the client. Sample location, description, area, volume, etc., was provided by the client. This report cannot be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without the written consent of the Environmental Hazards Service, L.L.C. California Certification #2319 NY ELAP #11714 NVLAP #101882-0 VELAP 460172. All information concerning sampling location, date, and time can be found on Chain-of-Custody. Environmental Hazards Services, L.L.C. does not perform any sample collection.

Environmental Hazards Services, L.L.C. recommends reanalysis by point count (for more accurate quantification) or Transmission Electron Microscopy (TEM), (for enhanced detection capabilities) for materials regulated by EPA NESHAP (National Emission Standards for Hazardous Air Pollutants) and found to contain less than ten percent (<10%) asbestos by polarized light microscopy (PLM). Both services are available for an additional fee.

400 Point Count Analysis, where noted, performed per EPA Method 600/R-93/116 with a Reporting Limit of 0.25%.

\* All California samples analyzed by Polarized Light Microscopy, EPA Method 600/M4-82-020, Dec. 1982.

LEGEND: NAD = no asbestos detected



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1- Day per Mark Meier  
7 AM 4/16/16

Page 1 of 18

# Asbestos Chain-of-Custody

16-04-C0833



Due Date:  
04/08/2016  
(Friday)  
ERM Inv

Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55425

Phone: (763) 545-5510 Fax: (763) 545-7883 E-mail: m.meier@aesmn.com Asst. Manager: \_\_\_\_\_

Project Name: Testing Address: E16-136 MN Vet Home #17 City/State (Required): Mpls MN

Collected by: Mark Meier Purchase Order Number: \_\_\_\_\_

Turn Around Times :

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day

2 - Day

3 - Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						ATC				Comments	
			PM	CM	PM	CM	PM	CM	Time On	Time Off	Time (L/M)	Total Time (L/M)		Volume (Total Liters)
1	880	4/15/16												Hard Fitt on FG
2	88E													I
3	100													Black BR
4	101													BB Adh
5	102													Base Window Cas. Lk
6	103													FG w.p. Adh
7	104													2" Base Cas FT Mortar
8	105													Grout
9	106													4" White Cas w/ Mortar
10	107													I - Grout

Collected by: Mark Meier

Received by: T. Hahn

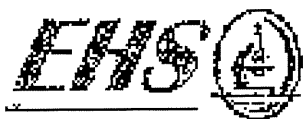
Signature: [Signature]

Signature: [Signature]

Date/Time: 4/16/16 5pm

Date/Time: 4/16/16





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# Asbestos Chain-of-Custody

857

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Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
Phone: 763, 545-5510 Fax: 763, 545-7883 Email: m.meier@aesmn.com Acct. Number: \_\_\_\_\_  
Project Name: Testing Address: Flg 136 Min Vet Home #12 City/State (Required): Mpls MN  
Collected by: Mark Meier Package Order Number: \_\_\_\_\_

## Turn Around Times :

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day

2 - Day

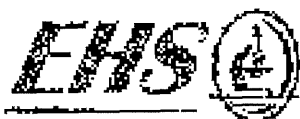
3 - Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						ATP				COMMENTS	
			LIB	WATER	WATER	ALUM	PCMI	TRAC	TRAC	Time On	Time Off	Time to		Volume (Total Liters)
1	108	4/15/16												Tan Chair Pad Abbr
2	109													Tan Window Sill Abbr
3	110													Leakdown, Backer w/ Black Red
4	111													Leakdown, white w/ Brown Spots
5	112													White Sink undercoating
6	113													Pink Sink 1
7	114													12x12 FT Backer Tan/Md Wd
8	115													FR Plastic
9	116													10" Pipe Cu FT Master
10	117													2 (cont)

Released by: Mark Meier Signature: \_\_\_\_\_ Date/Time: 4/16/16 3PM  
Received by: T. Loh Signature: \_\_\_\_\_ Date/Time: 4/17/16



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Page 3 of 18

# Asbestos Chain-of-Custody

833

For Lab Use Only

Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55425  
Phone: (763) 545-5510 Fax: (763) 545-7883 Email: m.meler@aes.mn.com Asst. Number: \_\_\_\_\_  
Project Name/Location Address: Flu-136 Miller Vet Home #17 City/State (if required): Mpls MN  
Collected by: Mark Meier Purchase Order Number: \_\_\_\_\_

Turn Around Times:

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day

2 - Day

3 - Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR					Comments
			PLM	PCM (Total Count)	PCM (Dose Count)	PLM per Dose	PLM	PCM (Total Count)	PCM (Dose Count)	PLM per Dose	Total Time (minutes)	Volume (Total Liters)		
1	118	4/15/16	X										8" Multicore Cor in 7' depth	
2	119												↓ Corcut	
3	120												Metal Wall panel Adh	
4	121												Insulation, Tan Adh	
5	122												Wainscoting Adh - Tan	
6	123												↓ Blue	
7	124												12x12 Plt Corcut	
8	125												12x12 Plt Adh	
9	126												2" Tan Cor Flt Mortar	
10	127												↓ Corcut	

Released By: Mark Meier Signature: \_\_\_\_\_ Date/Time: 4/16/16 3pm  
 Released by: J. Deha Signature: \_\_\_\_\_ Date/Time: 4/17/16



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Page 4 of 18

# Asbestos Chain-of-Custody

833

~ For Lab Use Only ~

Company Name: Applied Environmental Sciences ACC TAT 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55428  
 Phone: 763. 545-5510 Fax: 763. 545-7883 E-mail: m.meier@aesmn.com Asst. Number: \_\_\_\_\_  
 Project Name / Testing Address: Flg 136 Min Vet Home #17 Client (Required): Apple Mn  
 Collected by: Mark Meier Purchase Order Number: \_\_\_\_\_

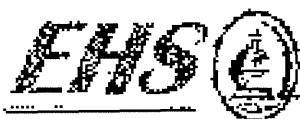
## Turn Around Times :

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day 2 - Day 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						ATR					COMMENTS	
			ELSA	INSTRUMENTAL	INSTRUMENTAL	ELSA	PCB	TECHNICAL (Bathy)	TECHNICAL (Bathy)	Time On	Time Off	Barcode (L/min)	Total Score (min)		Volume (Total Liters)
1	128	4/45/16	X												6" Tan + purple Cer WT Mark
2	129														2x201 white w/ holes
3	130														Gray Dust Sealant
4	131A														Gray Floor Shavings
5	131B														Adhesive
6	132														Top Wall Panel with
7	133														Plaster Like patch
8	134														
9	135A														
10	135B														

Released by: Mark Meier Signature: \_\_\_\_\_ Date/Time: 4/6/16 3PM  
 Received by: Johnson Signature: \_\_\_\_\_ Date/Time: 4/6/16



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Page 5 of 10

# Asbestos Chain-of-Custody

333

~ For Lab Use Only ~

Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426

Phone: 763. 545-5510 Fax: 763. 545-7883 E-mail: m.melen@aesmin.com Anal Number: \_\_\_\_\_

Project Name / Testing Address: EG-136 MIN VET HOME #17 City/State (Required): Mpls. MN

Collected by: Mark Meier Purchase Order Number: \_\_\_\_\_

Turn Around Times:

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

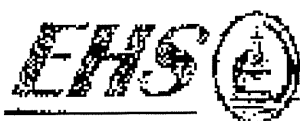
\_\_\_\_\_ 1-Day \_\_\_\_\_ 2-Day \_\_\_\_\_ 3-Day \_\_\_\_\_ Same Day (Must Call Ahead) \_\_\_\_\_ Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR				COMMENTS	
			PM10	PM10 Plus Coarse Dust	PM10 Plus Coarse Dust (100)	PM10 Plus Coarse Dust (100)	PM10 Plus Coarse Dust (100)	PM10 Plus Coarse Dust (100)	Time On	Time Off	Flow Rate (L/min)	Load Time (min)		Volume (Total Liters)
1	1356	4/15/16												Plaster Lath patch Tan Adh. on FG. Pipe Joints Green BB BB Adh PD 1 1/2 hr 2x700 white Pvc w/ Adh 12x120 white w/ Olive FG Plaster
2	1350													
3	135E													
4	136													
5	137													
6	138													
7	139													
8	140													
9	141													
10	142													

Released by: Mark Meier  
 Received by: T. Loe

Signature: \_\_\_\_\_  
 Signature: \_\_\_\_\_

Date/Time: 4/16/16 5PM  
 Date/Time: 4/17/16



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Page 6 of 13

# Asbestos Chain-of-Custody

373

~ For Lab Use Only ~

Company Name: Applied Environmental Sciences Address: R441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
Phone: (763) 545-5510 Fax: (763) 545-7883 E-mail: m.meier@aesmn.com Asst. Number: \_\_\_\_\_  
Project Name/Testing Address: FH-136 Min Vet House #17 City/State (Required): Mpls Minn  
Collector: Mark Meier Purchase Order Number: \_\_\_\_\_

Turn Around Times:

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day

2 - Day

3 - Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR				COMMENTS	
			PM-1	PM-10	PM-100	PM-1000	PM-10000	PM-100000	Time On	Time Off	Flow Rate (L/min)	Volume (Total Liters)		
1	143	4/15/16												White Box Insulation Door Frame Insulation 4" Cream Cer Wt. Mortar Plaster Graft
2	144													
3	145													
4	146													
5	147A													
6	147B													
7	147C													
8	147D													
9	147E													
10	147F													
Collected by: <u>Mark Meier</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/16/16 3PM</u>					
Received by: <u>[Signature]</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/16/16</u>					



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Page 7 of 13

# Asbestos Chain-of-Custody

833

~ For Lab Use Only ~

Company Name: Applied Environmental Sciences Address: 6441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55425  
Phone: (800) 545 5510 Fax: (800) 545-7885 Email: m.molier@aestm.com Asst. Number: \_\_\_\_\_  
Project Name / Testing Address: Elm 136 Min Vet House #17 City/State (Required): Mpls Min  
Collected by: Mark Molier Analysis Order Number: \_\_\_\_\_

Turn Around Times :

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day

2 - Day

3 - Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						ATR				CONTENTS	
			PLM	PMMA (Coulson)	PMMA (Coulson)	PMMA (Coulson)	PMMA (Coulson)	PMMA (Coulson)	Time On	Time Off	Flow Rate (L/min)	Flow Rate (L/min)		Volume (L) (Total)
1	1476	4/15/16	X											Plaster
2	149													2x2 CT White Wavy
3	150													Gray Sink undercoated
4	151													2x2 CT. white light Rough
5	152													Adhesive on Form
6	153													Black Tape
7	154													2x2 CT. white w/ texture
8	155A													Lighter white w/ Blue
9	156A													Round Column Texture
10	156B													

Released by: Mark Molier Signature: [Signature] Date/Time: 4/16/16 3pm  
Received by: [Signature] Signature: [Signature] Date/Time: 4/16/16



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# Asbestos Chain-of-Custody

Page 9 of 18

833

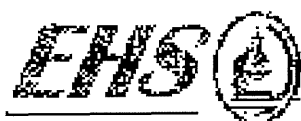
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Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
 Phone: 763. 545-5510 Fax: 763. 545-7883 Email: tm.meyer@acsmn.com Asst. Number: \_\_\_\_\_  
 Project Name / Testing Address: Flo 136 Min Ver. Unit #17 City/State (Required): Mpls Min  
 Collected by: Mark Meyer Package Order Number: \_\_\_\_\_

Turn Around Times: If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day 2 - Day 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						ATL					COMMENTS
			FEAT	FE Mould Cont. #	FE Mould Cont. 1000	FE M. Wet Pack	FE M. Wet Pack	FE M. Wet Pack	Time On	Time Off	How Late (1/2 hr)	Test Time (min)	Volume (Total Liters)	
1	164	4/14/16	X											2x207 white w/ D+H
2	165													12x12 F7 Gray w/ Tan
3	166													Black
4	167													2x207 White Chopped/Brk
5	168													Freebase White WH 30min
6	169													2" x 12 Tan Cr F7 Master
7	170													1 Grant
8	171													4" x 12 Tan Cr w/ Master
9	172													1 Grant
10	173													12x12 F7 Cream w/ Tan
Released by: <u>Mark Meyer</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/16/16 3PM</u>					
Transmitted by: <u>[Signature]</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/16/16</u>					



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Page 8 of 18

# Asbestos Chain-of-Custody

333

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Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
Phone: 763-545-5510 Fax: (651) 545-7883 Email: m.meier@acsmn.com Asst Number: \_\_\_\_\_  
Project Name / Testing Address: Flr 136 Min Vet Hosp #17 Certificate (Required): AP/ls Min  
Collected by: Mark Meier Purchase Order Number: \_\_\_\_\_

Turn Around Times:

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day

2 - Day

3 - Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Chain Sample ID	Date Collected	ASBESTOS						ADL				COMMENTS	
			FLG	FRAGILE	FRAGILE	FRAGILE	FRAGILE	FRAGILE	Time On	Time Off	Time to Test	Time to Test		Volume (mL)
1	156C	4/15/16												Round Column Texture
2	157													Linoleum Orange
3	158a													Plaster
4	158B													
5	158C													
6	159													Darker Gray Paint Scaff
7	160													Hard white coating on Scaffold?
8	161													Flr w. P. Ash
9	162													White Paint Scaff
10	163													24 Ct Spectroscopic

Released by: Mark Meier Signature: [Signature] Date/Time: 4/16/16 3pm  
Received by: T. Jackson Signature: [Signature] Date/Time: 4/16/16





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# Asbestos Chain-of-Custody

Page 10 of 18

833

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Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
Phone: 763 545-5510 Fax: 763 545-7883 Email: m.meier@acsmn.com Asset Number: \_\_\_\_\_  
Project Name: Testing Address: Ell 136 Min Vet House #17 City/State (Required): Mpls MN  
Collected by: Mark Meier Traceable Direct Number: \_\_\_\_\_

Turn Around Times: If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

\_\_\_\_ 1 - Day \_\_\_\_ 2 - Day \_\_\_\_ 3 - Day \_\_\_\_ Same Day (Must Call Ahead) \_\_\_\_ Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR				COMMENTS
			ELER	ELER/Asbestos	ELER/Asbestos (100)	ELER/Asbestos (1000)	ELER/Asbestos (10000)	ELER/Asbestos (100000)	Time On	Time Off	Time (h/m/s)	Volume (Total Liters)	
1	174	4/15/16	X										PT Meier
2	175												Building Materials
3	176												Flashing Materials
4	177												White Dust Canister
5	178												Gray Dust Canister
6	179												White Cloth Vib. Pump
7	180												Blue Note Filter
8	181												Flashing Symbols
9	182												Pack Metal Flash. Seal
10	183												White Metal Flash. Seal

Released by: Mark Meier Signature: \_\_\_\_\_ Date/Time: 4/16/16 3pm  
Received by: John Signature: \_\_\_\_\_ Date/Time: 5/2/16



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# Asbestos Chain-of-Custody

Page 11 of 18

833

~ For Lab Use Only ~

Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55425  
Phone: 783, 545-5510 Fax: 783, 545-7883 Email: ml.meier@acsmn.com Acct. Number: \_\_\_\_\_  
Project Name / Testing Address: Flg 136 MN Vet House #17 Client State (to provide): Mpls Minn  
Collected by: Mark Meier Purchaser/Order Number: \_\_\_\_\_

Turn Around Times:

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day

2 - Day

3 - Day

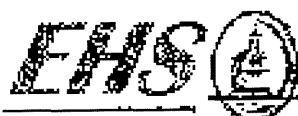
Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AQL				COMMENTS	
			PCB	PCB/PAH	PCB/PAH/PCDD	PCB/PAH/PCDD/PCDF	PCB/PAH/PCDD/PCDF/PCB	PCB/PAH/PCDD/PCDF/PCB/PAH	Time On	Time Off	Time Back (1/2 hr)	Total Time (1 min)		
1	184	4/15/16												
2	185													
3	186													
4	187													
5	188													
6	189													
7	190													
8	191													
9	192													
10	193													

Submitted by: Mark Meier Signature: [Signature] Date/Time: 4/16/16 3:00  
Received by: T. John Signature: [Signature] Date/Time: 4/16/16

Cream Metal Flash Seal  
Built up Roofing Mts  
Roof Flashing  
Blk Car. Flashing Sealant  
White Metal Flashing Sealant  
Black Tar hole filler  
Tan Caulk for Metal Flash  
Tan Caulk for Ceiling Joints  
Rubber Roof Membrane Joint  
Blk Rubber Sealant



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# Asbestos Chain-of-Custody

Page 12 of 18

33

~ For Lab Use Only ~

Company Name: Applied Environmental Sciences Address: 3441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55428  
Phone: 763, 545-5510 Fax: 763, 545-7883 E-mail: tn.ineier@aesmn.com Asst. Number: \_\_\_\_\_  
Project Name / Testing Address: Flu 136 Min Vet Home #17 City/State (Required): Mpls Min  
Collected by: Mark Meier Analysis Order Number: \_\_\_\_\_

Turn Around Times:

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day

2 - Day

3 - Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AQL				COMMENTS	
			PCMS	PCMS (Per State)	PCMS (Per State)	PCMS (Per State)	PCMS (Per State)	PCMS (Per State)	Time On	Time Off	Time (On, Off, etc.)	Total Time (minutes)		Volume (Total Liters)
1	194	4/15/16												
2	195													
3	196													
4	197													
5	198													
6	199													
7	200A													
8	200B													
9	200C													
10	200D													

Released by: Mark Meier Signature: \_\_\_\_\_ Date/Time: 4/16/16 3 PM  
Received by: Theresa Signature: \_\_\_\_\_ Date/Time: 4/17/16

Plk. Dist. Sealant  
Pen. Plaster Sealant  
Stucco



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# Asbestos Chain-of-Custody

733

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Page 13 of 18

Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426

Phone: 763, 545-5810 Fax: 763, 545-7883 Email: m.meier@acsmn.com Acct. Number: \_\_\_\_\_

Project Name / Testing Address: Flg 136 Min Vet House #17 City/State (Required): MN

Collector: Mark Meier Purchase Order Number: \_\_\_\_\_

Turn Around Times:

*If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.*

1 - Day 2 - Day 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS							ATP					COMMENTS
			LIBA	PLANTAIN (Plant)	PLANTAIN (Plant)	PLANTAIN (Plant)	PLANTAIN (Plant)	PLANTAIN (Plant)	PLANTAIN (Plant)	Thin On	Thin Off	Flow Rate (L/min)	Thin Time (sec)	Volume (Total Liters)	
1	200E	4/15/16													Stucco
2	200 F														
3	200 G														
4	201														2x4 CT white w/ D.H.
5	202														2x2 CT white w/ Deep Fissures
6	204														Very Broadband
7	205														B.D. Ash
8	206														Hard White P.I.
9	207														2x2 CT Rough
10	208														12x12 Cream w/ Tan PT

Released by: Mark Meier

Received by: T. Baker

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Date/Time: 4/16/16 3PM

Date/Time: 4/16/16



# Asbestos Chain-of-Custody

Page 14 of 18

373

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(804)275-4807 (fax) 22237

Company Name: Applied Environmental Sciences Address: 3441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
 Phone: 763. 545-5510 Fax: 763. 545-7893 E-mail: m.meter@aesmn.com Asst. Number: \_\_\_\_\_  
 Project Name / Testing Address: Flu 136 Min Ver Home #17 City/State (Required): Minneapolis MN  
 Co. In-charge: Mark Meter Purchase Order Number: \_\_\_\_\_

Turn Around Times:

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day

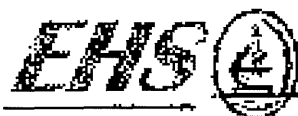
2 - Day

3 - Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS					ATR				COMMENTS	
			TEXT	SEM/EDS Count 40	PLS (EPA 821-G-03-0104)	PLS (EPA 821-G-03-0104)	PLS (EPA 821-G-03-0104)	PLS (EPA 821-G-03-0104)	Time On	Time Off	Flow Rate (L/min)		Flow Rate (L/min) Effort
1	209	4/25/16	X										Flu 136
2	210												12x12 Pink Marble
3	211												Flu 136
4	212												6" Brown Cer Flu 136
5	213												Locat
6	214												2x2 CT white w/ D+H - Black
7	215												2" Green Ceramic Flu 136
8	216												Locat
9	217												4" Green Cer WT Flu 136
10	218												Locat
Released by: <u>Mark Meter</u>			Signature: <u>[Signature]</u>							Date/Time: <u>4/6/16 3PM</u>			
Received by: <u>[Signature]</u>			Signature: <u>[Signature]</u>							Date/Time: <u>4/7/16</u>			



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# Asbestos Chain-of-Custody

Page 15 of 16

820

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Company Name: Applied Environmental Sciences Address: 644 W Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
 Phone: (763) 545-5510 Fax: (763) 545-7823 E-mail: m.moler@aesmn.com Alt. Number: \_\_\_\_\_  
 Project Name / Testing Address: Flg 136 MN Vet House #17 City/State (Required): Minneapolis, MN  
 Collected by: Mark Meier Purchase Order Number: \_\_\_\_\_

Turn Around Times:

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day

2 - Day

3 - Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						A.O.A.			Volume (Total Liters)	COMMENTS	
			PTM	ELM (Total Count 100)	ELM (Total Count 1000)	EDM (Total Count 100)	PTM	EDM (Total Count 100)	Time On	Time Off	Time Date (min)			Total Time (minutes)
1	219	9/4/16	X											Sheetrock Joint Compound Thin Ash Behind Sheetrock 6" Green Corrugated Material Corrugated Black Master 2x2 CF white - Deep fissures Windows Glazing white Soft Ceiling Finishing Compound
2	220													
3	221													
4	222													
5	223													
6	224													
7	225													
8	226A													
9	226B													
10	226C													

Reviewed by: Mark Meier Signature: \_\_\_\_\_ Date/Time: 9/4/16 3:00  
 Submitted by: T. Lohman Signature: \_\_\_\_\_ Date/Time: 9/1/16



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 (804) 275-4987 (fax) 23237

# Asbestos Chain-of-Custody

Page 16 of 18

333

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Client Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55428  
 Phone: (763) 545-5510 Fax: (763) 545-7883 E-mail: m.meier@aesmn.com Account Number:  
 Project Name / Testing Address: F16-136 ALN Vet Home #17 Inspection (Required): Asple. Aspl.  
 Collector: Mark Meier P. Order Number:

Turn Around Times:

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day 2 - Day 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						ATR				COMMENTS	
			ALB	PLM	PLM	PLM	PLM	PLM	Time On	Time Off	Volume (L)	Volume (L)		
1	2260	4/15/16												Gray Fine Puffing - Corridor
2	2266													
3	227													2267 - bit of fissures
4	228													12x12ft Gray w/ Barrel
5	229													FT Master - Black
6	230													Fire Door 1 1/2 hr. W.H.
7	231													Black Taper Black
8	232													10th Floor as Foundation
9	233													Gray Grout
10	234													Carroll Ground Columns

Released by: Mark Meier Signature: Date/Time: 4/16/16 3pm  
 Received by: J. L. Signature: Date/Time: 4/16/16



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# Asbestos Chain-of-Custody

933

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Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
Phone: 763, 545-5510 Fax: (65) 545-7883 Email: m.meier@aesmn.com Asst Number: \_\_\_\_\_  
Project Name / Testing Address: Ellie 136 Minnetonka #17 City/State (if different): Minnetonka MN  
Collector's: Mark Meier Evidence Chain Number: \_\_\_\_\_

Turn Around Times: If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day 2 - Day 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						ATR				Comments		
			PT AT	ELIMINATED (GAL)	ELIMINATED (GAL)	ITEM #/Volume	PC AT	INSTR. ANALYST (NAME)	ANALYST SIGNATURE	Time On	Time Off	Flow Rate (GAL/H)		Total Time (minutes)	Volume (Total Liters)
1	235	4/45/16	X												Caulk - Shingles to Siding
2	236														Top Shingle
3	237														Bottom Shingle
4	238														1st Down Shingle
5	239														Filler Interior of Joint - Caulk
6	240														Black Joints Caulk
7	241														Window Caulk Top
8	242														White Joints Filler
9	243														Thick Black Window Caulk
10	244														Thin Black Caulk
Released by: <u>Mark Meier</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/6/16 3PM</u>						
Received by: <u>S. Loh</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/7/16</u>						





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Page 16 of 16

# Asbestos Chain-of-Custody

933

~ For Lab Use Only ~

Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
Phone: 763, 545-5510 Fax: 763, 545-7883 E-mail: m.meier@aesmn.com Acct Number: \_\_\_\_\_  
Project Name / Testing Address: FLK 136 MIN VET HOME #17 (Optional (Required)): Mpls Min  
Collector: Mark Meier Technician/Order Number: \_\_\_\_\_

Turn Around Times:

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

\_\_\_\_\_ 1 - Day \_\_\_\_\_ 2 - Day \_\_\_\_\_ 3 - Day \_\_\_\_\_ Same Day (Must Call Ahead) \_\_\_\_\_ Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR				COMMENTS		
			PLM	HTAP10 (40-60)	HTAP10 (60-100)	PLM 20-100	PCM	TPH10 (40-60)	TPH10 (60-100)	Time On	Time Off	Flow Rate (L/min)		Flow Rate (corrected)	Volume (Total Liters)
1	245	4/15/16	X												Gray Gunk Exp, front Corridor Siding - Gray Black Plastic
2	246														
3	24														
4															
5															
6															
7															
8															
9															
10															

Released by: Mark Meier Signature: \_\_\_\_\_ Date/time: 4/6/16 3PM  
Received by: T. Johnson Signature: \_\_\_\_\_ Date/time: 4/6/16







Environmental Hazards Services, LLC  
7489 Whiteline Rd  
Richmond, VA 23237  
Telephone: 800-347-4010

## Asbestos Bulk Analysis Report

Report Number: 14-04-02695

Client: Applied Env. Sciences  
6441 Wayzata Blvd.  
Suite 103  
St. Louis Park, MN 55426

Received Date: 04/23/2014  
Analyzed Date: 04/23/2014 04/27/2014  
Reported Date: 04/28/2014

Project/Test Address: F14 172 VA Home, Minneapolis, MN

Client Number:  
21-1221

Fax Number:  
723-545-7883

### Laboratory Results

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-001	1		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-002	2		Black Tar-Like; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-04-02695-003	3A		White Granular; White/Tan Fibrous; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
14-04-02695-004	4		Off White Fibrous; White Paint-Like; Inhomogeneous	NAD	1% Cellulose 70% Fibrous Gases 29% Non-Fibrous
14-04-02695-005	5		Brown Vinyl; Homogeneous	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 24-22

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-006	6		Brown Adhesive Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-04-02695-007	7A		Gray Powder; Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02695-008	7B		Gray Powder; Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02695-009	7C		Gray Powder; Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02695-010	7D		Gray Powder; Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02695-011	7E		Gray Powder; Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02695-012	8		Black Pliable Homogeneous	NAD	15% Polyethylene 85% Non-Fibrous
14-04-02695-013	9		Gray Pliable; Homogeneous	NAD	12% Cellulose 88% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-C4-02695

Project/Test Address: F14-72 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-C4-02695-014	10		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-C4-02695-015	11		Tan Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-C4-02695-016	12		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-C4-02695-017	13		Tan Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-C4-02695-018	14		Light Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-C4-02695-019	15		Clear/Black Adhesive; Inhomogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-C4-02695-020	16		Off-White Fibrous; White Paint-Like; Inhomogeneous	NAD	1% Cellulose 70% Fibrous Gases 29% Non-Fibrous
14-C4-02695-021	17A		Gray Powder; Fibrous Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02686

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02685-022	17B		Gray Powder, Fibrous Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02685-023	17C		Gray Powder, Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02685-024	17D		Gray Powder, Fibrous, Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02685-025	17E		Gray Powder, Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02685-026	18		Brown Granular, Tan Brittle Off White Plastic Inhomogeneous	NAD	1% Synthetic 2% Hair 97% Non-Fibrous
14-04-02685-027	19		Brown Rubbery; Homogeneous	NAD	10% Fibrous Glass 90% Non-Fibrous
14-04-02685-028	20		White Granular Powder; Tan Fibrous, Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
14-04-02685-029	21		Beige Viny Homogeneous	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 241221

Report Number: 14-04-02695

Project/Test Address: P 14 172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-030	22		Beige Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-04-02695-031	23		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-032	24		Did Not Analyze (Quantity Not Sufficient)		
14-04-02695-033	25		Beige Fibrous White Powder; Inhomogeneous	NAD	60% Cellulose 10% Fibrous Glass 30% Non-Fibrous
14-04-02695-034	26		Gray Granular; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-035	27		Acia Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-036	28		Tan Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-04-02695-037	29		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-038	30		Tan Adhesive; Gray Granular; Inhomogeneous	NAD	3% Cellulose 97% Non-Fibrous



# Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-030	31		Blue Vinyl; Inhomogeneous	NAD	100% Non-Fibrous
14-04-02695-040	32		Brown Adhesive; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-041	33		Beige Fibrous; White Powder; Inhomogeneous	NAD	55% Cellulose 15% Fibrous Glass 30% Non-Fibrous
14-04-02695-042	34		Red Cementitious Off-White Fibrous Inhomogeneous	NAD	9% Cellulose 92% Non-Fibrous
14-04-02695-043	35A		Gray Granular; White Fibrous; Foam; Beige Paint-Like; Inhomogeneous	NAD	1% Cellulose 6% Fibrous Glass 93% Non-Fibrous
14-04-02695-044	35B		Gray Granular; White Fibrous; Foam; Beige Paint-Like; Inhomogeneous	NAD	8% Fibrous Glass 92% Non-Fibrous
14-04-02695-045	35C		White Granular; Beige Paint-Like; Inhomogeneous	NAD	1% Cellulose 99% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home, Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-046	35D		Gray Granular; White Fibrous; Foam; Beige Paint-Like; Inhomogeneous	NAD	6% Fibrous Glass 94% Non-Fibrous
14-04-02695-047	35E		Gray Granular; White Fibrous; Foam; Beige Paint-Like; Inhomogeneous	NAD	4% Cellulose 5% Fibrous Glass 91% Non-Fibrous
14-04-02695-048	35F		Gray Granular; White Fibrous; Foam; Beige Paint-Like; Inhomogeneous	NAD	12% Fibrous Glass 88% Non-Fibrous
14-04-02695-049	35G		Gray Granular; White Fibrous; Foam; Beige Paint-Like; Inhomogeneous	NAD	8% Fibrous Glass 92% Non-Fibrous
14-04-02695-050	35A		White Granular Powder; Tan Fibrous; White Paint-Like; Inhomogeneous	NAD	21% Cellulose 78% Non-Fibrous
14-04-02695-051	35B		White Granular Powder; Tan Fibrous; Beige Paint-Like; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02895

Project/Test Address: F14-1/2 VA Home, Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02895-052	37		Dege Finnis White Powder; inhomogeneous	NAD	40% Cellulose 20% Fibrous Glass 55% Non-Fibrous
14-04-02895-053	38A		Tan Granular; Fibrous; Inhomogeneous	Trace <1% Trem/Actin*	28% Cellulose 72% Non-Fibrous
Total Asbestos: Trace <1%					
*Tremolite/Actinolite Series Asbestos present throughout sample.					
14-04-02895-054	38B		Tan Granular; Fibrous; Inhomogeneous	Trace <1% Trem/Actin*	28% Cellulose 72% Non-Fibrous
Total Asbestos: Trace <1%					
*Tremolite/Actinolite Series Asbestos present throughout sample.					
14-04-02895-055	38C		Tan Granular; Fibrous; inhomogeneous	Trace <1% Trem/Actin*	28% Cellulose 72% Non-Fibrous
Total Asbestos: Trace <1%					
*Tremolite/Actinolite Series Asbestos present throughout sample.					
14-04-02895-056	38D		Tan Granular; Fibrous; inhomogeneous	Trace <1% Trem/Actin*	28% Cellulose 72% Non-Fibrous
Total Asbestos: Trace <1%					
*Tremolite/Actinolite Series Asbestos present throughout sample.					
14-04-02895-057	38E		Tan Granular; Fibrous; Inhomogeneous	Trace <1% Trem/Actin*	28% Cellulose 72% Non-Fibrous
Total Asbestos: Trace <1%					
*Tremolite/Actinolite Series Asbestos present throughout sample.					
14-04-02895-058	38F		Tan Granular; Fibrous; Inhomogeneous	Trace <1% Trem/Actin*	28% Cellulose 72% Non-Fibrous
Total Asbestos: Trace <1%					
*Tremolite/Actinolite Series Asbestos present throughout sample.					
14-04-02895-059	38G		Tan Granular; Fibrous; Inhomogeneous	Trace <1% Trem/Actin*	28% Cellulose 72% Non-Fibrous
Total Asbestos: Trace <1%					
*Tremolite/Actinolite Series Asbestos present throughout sample.					

# Environmental Hazards Services, L.L.C

Client Number: 24-1224

Report Number: 14-04-02895

Project/Test Address: 1 14-1/2 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02895-060	39		Cream Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02895-061	40		Tan Adhesive; Homogeneous	NAD	100% Non-Fibrous
14-04-02895-062	41		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02895-063	42		Brown Adhesive; White Granular; Inhomogeneous	NAD	100% Non-Fibrous
14-04-02895-064	43		Tan Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02895-065	44		Tan Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-04-02895-066	45		Gray Fibrous; White Paint-like; Inhomogeneous	NAD	45% Cellulose 25% Fibrous Glass 30% Non-Fibrous
14-04-02895-067	46		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02895-068	47		Tan Adhesive; Homogeneous	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 241221

Report Number: 14-04-02695

Project/Test Address: 114-1/2 WA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-069	48		Tan Vinyl, Homogeneous	NAD	100% Non-Fibrous
14-04-02695-070	48		Beige Adhesive, Homogeneous	NAD	100% Non-Fibrous
14-04-02695-071A	50	Tile	Off-White Vinyl, Homogeneous	NAD	100% Non-Fibrous
14-04-02695-071B	50	Plastic	Tan Adhesive, Homogeneous	NAD	2% Cellulose 1% Synthetic 97% Non-Fibrous
14-04-02695-072	51		Beige Fibrous White Powder, Inhomogeneous	NAD	35% Cellulose 35% Fibrous Glass 30% Non-Fibrous
14-04-02695-073	52		Black Rubbery Beige Paint-Like, Inhomogeneous	NAD	100% Non-Fibrous
14-04-02695-074	53A		White Granular, Homogeneous	NAD	100% Non-Fibrous
14-04-02695-075	53B		White Granular, Homogeneous	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 24-122

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-076	53C		White Granular Homogeneous	NAD	100% Non-Fibrous
14-04-02695-077	53D		White Granular Homogeneous	NAD	100% Non-Fibrous
14-04-02695-078	53E		White Granular Homogeneous	NAD	100% Non-Fibrous
14-04-02695-079	53F		White Granular Homogeneous	NAD	100% Non-Fibrous
14-04-02695-080	53G		White Granular Homogeneous	NAD	100% Non-Fibrous
14-04-02695-081	54A		White Granular Homogeneous	NAD	100% Non-Fibrous
14-04-02695-082	54B		White Granular Homogeneous	NAD	100% Non-Fibrous
14-04-02695-083	54C		White Granular Homogeneous	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02595

Project/Test Address: F14-172 VA Home, Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02595-084	54		Tan Granular; Homogeneous	NAD	100% Non-Fibrous
14-04-02595-085	54		White Granular; Homogeneous	NAD	100% Non-Fibrous
14-04-02595-086	55		Beige Fibrous; White Powder; Inhomogeneous	NAD	60% Cellulose 10% Fibrous Glass 30% Non-Fibrous
14-04-02595-087	57		Brown/Tan Vinyl; Inhomogeneous	NAD	5% Cellulose 95% Non-Fibrous
14-04-02595-088	58		Gray Fibrous; White Paint-Like; Inhomogeneous	NAD	55% Cellulose 15% Fibrous Glass 30% Non-Fibrous
14-04-02595-089	59		Tan Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02595-090	60		Beige Adhesive; White Granular; Inhomogeneous	NAD	100% Non-Fibrous
14-04-02595-091	61		White Rubbery Homogeneous	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 24-1227

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home, Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-092	62A		White Granular Powder; Cream/Tan Fibrous; Inhomogeneous	NAD	24% Cellulose 76% Non-Fibrous
14-04-02695-093	63		Light Gray Fibrous; White Paint-Like; Inhomogeneous	NAD	70% Fibrous Glass 30% Non-Fibrous
14-04-02695-094	64		Cream Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-095	65		Black Tar-Like; Inhomogeneous	5% Chrysotile	95% Non-Fibrous
Total Asbestos: 5%					
14-04-02695-096	66		Brown Vinyl Homogeneous	NAD	100% Non-Fibrous
14-04-02695-097	67		Brown Adhesive, Tan Fibrous Inhomogeneous	NAD	15% Cellulose 85% Non-Fibrous
14-04-02695-098	68		White/Tan Vinyl Homogeneous	NAD	100% Non-Fibrous
14-04-02695-099	69		White/Tan Vinyl; Homogeneous	NAD	100% Non-Fibrous



# Environmental Hazards Services, L.L.C

Client Number: 24-0221

Report Number: 14-04-02695

Project/Test Address: 114-1/2 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-100	70		White/Tan Vinyl Gray Fibrous; Inhomogeneous	NAD	26% Cellulose 72% Non-Fibrous
14-04-02695-101	71		Beige Fibrous; White Powder; Inhomogeneous	NAD	35% Cellulose 35% Fibrous Glass 30% Non-Fibrous
14-04-02695-102	72		Gray/Tan Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-103	73		Clear Adhesive; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous
14-04-02695-104	74		Brown/Gray Vinyl; Beige Fibrous; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
14-04-02695-105	75		Tan Vinyl; Homogeneous	NAD	15% Cellulose 85% Non-Fibrous
14-04-02695-106	76		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-107	77		Gray Rubbery; Homogeneous	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-108	78		Tan Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-109	79		White Powder; Tar Fibrous; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
14-04-02695-110	80		Off-White/Tan Vinyl; Homogeneous	2% Chrysotile	98% Non-Fibrous
Total Asbestos: 2%					
14-04-02695-111	81		Black Tar Like; Homogeneous	4% Chrysotile	1% Cellulose 95% Non-Fibrous
Total Asbestos: 4%					
14-04-02695-112	82		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-113	83		Tan Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-04-02695-114	84		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-115	85		White Adhesive; Blue Paint-Like; Inhomogeneous	NAD	5% Synthetic 95% Non-Fibrous
14-04-02695-116	86		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-117	87		Brown/Tan Adhesive; Inhomogeneous	NAD	100% Non-Fibrous
14-04-02695-118	88A		Tan Powder; Fibrous; Inhomogeneous	NAD	30% Cellulose 12% Fibrous Glass 58% Non-Fibrous
14-04-02695-119	88B		White Rubbery; Gray Powder; Fibrous; Inhomogeneous	NAD	20% Cellulose 25% Fibrous Glass 55% Non-Fibrous
14-04-02695-120	88C		Gray Powder; Fibrous; Inhomogeneous	NAD	1% Cellulose 95% Fibrous Glass 54% Non-Fibrous
14-04-02695-121	88D		White Granular; Powder; Tan Fibrous; Beige Paint Like; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
14-04-02695-122	88E		White Granular; Powder; Tan Fibrous; Beige Paint Like; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F-4 172 VA Home, Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
-------------------	----------------------	------------	-----------------------	----------	-----------------

QC Sample: 57-M22004-3, 58-M22004-4

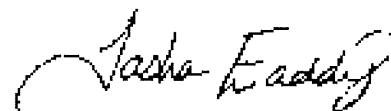
QC Blank: SRM 1866 Fiberglass

Reporting Limit: 1% Asbestos

Method: EPA Method 800/R-93/116, EPA Method 800/M4 82-020

Analyst: Vickie Holmes

Reviewed By Authorized Signatory:



Tasha Eaddy  
QA/QC Clerk

The condition of the sample analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Each distinct component in an heterogeneous sample was analyzed separately and reported as a composite. Results represent the analysis of samples submitted by the client. Sample location, description, area, volume, etc., was provided by the client. This report cannot be used by the client to claim product endorsement by NPLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without the written consent of the Environmental Hazards Service, L.L.C. California Certification #2313 NY ELP #11714 NVLAP #101882-U. All information concerning sampling location, date, and time can be found on Chain-of-Custody. Environmental Hazards Services, L.L.C. does not perform any sample collection.

Environmental Hazards Services, L.L.C. recommends reanalysis by point count (for more accurate quantification) or Transmission Electron Microscopy (TEM) (for enhanced detection capabilities) for materials regulated by EPA NESHAP (National Emission Standards for Hazardous Air Pollutants) and found to contain less than ten percent (<10%) asbestos by polarized light microscopy (PLM). Both services are available for an additional fee.

420 Fiber Count Analysis when noted performed per EPA Method 800/R-93/116 with a Reporting Limit of 0.25%.

\* All California samples analyzed by Polarized Light Microscopy, EPA Method 800/M4-82-020, Rev. 1987

LEGEND: NAD = no asbestos detected



122  
124 PLM

# Asbestos Chain-of-Custody

14-04-02695



One Date:  
04/28/2014  
(Monday)  
ER M 'TV

V

Page 1 of 13

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(004) 273-4807 (Fax) 23237

Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
Phone: (763) 546-5513 Fax: (763) 546-7883 Email: m.meler@aesmn.com  
Project Name: Testing Address: CH-172 VA Home City/State (Required): Minneapolis, MN

Collected by: Mark Meler Protocol/Order Number:

Turn Around Times:

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1-Day 2-Day ☒ 3-Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR			Volume (Total Liters)	COMMENTS
			PMMA	PMMA (Chilled)	PMMA (Chilled)	PMMA (Chilled)	PMMA (Chilled)	PMMA (Chilled)	Flow Rate (L/min)	Test Time (min)	Volume (Total Liters)		
1	1	4/28/2014	X										1st 2 bags of Tissue
2	2												1st 2 bags of Tissue
3	3												1st 2 bags of Tissue
4	4												1st 2 bags of Tissue
5	5												1st 2 bags of Tissue
6	6												1st 2 bags of Tissue
7	7A												1st 2 bags of Tissue
8	7B												1st 2 bags of Tissue
9	7C												1st 2 bags of Tissue
10	7D												1st 2 bags of Tissue

Reviewed by: Mark Meler  
Approved by: MBLasing

Signature: [Signature]  
Signature: [Signature]

Date/Time: 4/28/14 3:00 PM  
Date/Time: 4/28/14



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2695

Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
 Phone: 763, 545-5510 Fax: 763, 545-7883 Email: la.meier@aesmn.com Asset Number: \_\_\_\_\_  
 Project Name / Testing Address: EH-172 VA Home City/State (Required): Minneapolis MN  
 Collected by: Mark Meier Purchase Form Number: \_\_\_\_\_

Turn Around Times: If no TAT is specified, sample(s) will be processed and charged at 3-day TAT.

1 - Day 2 - Day X 3 - Day \_\_\_\_\_ Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR			COMMENTS		
			THAI	RELATIVE HUMIDITY	ECM (min/sec) ISO	TEMP (°F) Ambient	PH	TECH Chemical (ppm)	PH MATHS (ppm)	Turn On	Turn Off		FlowRate (L/min)	Test Time (minutes)
1	76	4/21/14	X											White Fiber looking
2	8													Dark Green
3	9													Yellow Green Globular white
4	10													Shattered layer of Multi-layers
5	11													Adhesive
6	12													12x12 Ft Green w/ Multi-color
7	13													MUSTIC
8	14													2x12 Green w/ Dark white
9	15													12x12 Green
10	16													7x20 White w/ Fibers

Released by: Mark Meier Signature: \_\_\_\_\_ Date/Time: 4/21/14 5:00  
 Received by: \_\_\_\_\_ Signature: \_\_\_\_\_ Date/Time: 4/23/14



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*Page 7 of 13*

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Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
Phone: 763, 545-5510 Fax: 763, 545-7883 Email: m.maler@aessmn.com Alt. Number: \_\_\_\_\_  
Project Name / Testing Address: EH-172 114 HOME City/State (Required): Minnesota MN  
Ordered by: Mark Maler Purchase Order Number: \_\_\_\_\_

Turn Around Times: If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day 2 - Day X 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR				COMMENTS	
			PLM	PLM (1000/ft³)	PLM (1000/ft³)	PLM (1000/ft³)	PLM (1000/ft³)	PLM (1000/ft³)	Time On	Time Off	Flow Rate (L/min)	Total Time (minutes)		Volume (Total 1 liter)
1	17A	4/23/14	X											White Fibers
2	17B													
3	17C													
4	17D													
5	17E													
6	17F													
7	17G													
8	17H													
9	17I													
10	17J													
Released by: <u>Mark Maler</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/23/14 3pm</u>					
Received by: _____			Signature: <u>[Signature]</u>						Date/Time: <u>4/23/14</u>					



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Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd, Suite 103 City/State/Zip: Minneapolis, MN 55426  
 Phone: 763, 545-5510 Fax: 763, 515-7883 Email: hl.meier@aesmn.com Asset Number: \_\_\_\_\_  
 Project Name/ Testing Address: EM-172 VA HOME City/State (Required): Minneapolis MN  
 Collected by: Mark Meier Purchase Order Number: \_\_\_\_\_

Turn Around Times: If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day 2 - Day ☒ 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						ADA				COMMENTS	
			PCB	PCB/PAH	PCB/PAH	PCB/PAH	PCB/PAH	PCB/PAH	Time On	Time Off	Volume (L/min)	Total Time (min)		Volume (Total Liters)
1	23	4/21/14	X											12x12 Gray Mottled
2	24													Mastic
3	25													12x12 white w/ Random holes
4	26													Gray Gyp. Sp.
5	27													12x12 FT. Asphalt
6	28													Mastic
7	29													12x12 Gray Mottled
8	30													Mastic
9	31													1st Blue BB
10	32													2nd Blue BB

Released by: Mark Meier Signature: \_\_\_\_\_ Date/Time: 4/23/14 5:00  
 Received by: \_\_\_\_\_ Signature: meier Date/Time: 4/23/14





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Page 5 of 13

Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State: Minneapolis, MN 55426  
Phone: (785) 548-5510 Fax: (785) 545-7883 Email: m.meler@aestmn.com Acct. Number: \_\_\_\_\_  
Project Name / Billing Address: EM-172 VA Home City/State (Required): Minneapolis MN  
Collected by: Mark Meier Purchase Order Number: \_\_\_\_\_

Turn Around Times:

*If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.*

1-Day

2-Day

☒ 3-Day

Some Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR				COMMENTS	
			PLM	PT-Asbestos Count (10)	PLM (1000) Count (10)	PLM (1000) Count (10)	PLM (1000) Count (10)	PLM (1000) Count (10)	Time (hr)	Time (hr)	Flow Rate (L/min)	Initial Mass (micrograms)		Volume (Total Liters)
1	33	8/21/2014	X											2.204 white w/ pH
2	34													P.S. pH, lead
3	35													Lead like
4	36													
5	37													
6	38													
7	39													
8	40													
9	41													
10	42													Spectra & Lead
Released by: <u>Mark Meier</u>			Signature: <u>[Signature]</u>						Date: <u>8/21/14</u>				Time: <u>3:50 PM</u>	
Received by: _____			Signature: <u>[Signature]</u>						Date: _____				Time: _____	



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Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
Phone: 763, 545-5510 Fax: 763, 545-7883 E-mail: m.meier@aesmn.com Asset Number: \_\_\_\_\_  
Project Name / Testing Address: EM-172 VA Homes City/State (Required): Minnesota MN  
Collected by: Mark Meier Purchase Order Number: \_\_\_\_\_

Turn Around Times: If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1-Day \_\_\_\_\_ 2-Day \_\_\_\_\_ ☒ 3-Day \_\_\_\_\_ Same Day (Must Call Ahead) \_\_\_\_\_ Weekend (Must Call Ahead) \_\_\_\_\_

No.	Client Sample ID	Date Collected	ASBESTOS						AIR				COMMENTS	
			PCDA	TMDC (Total) (mg/m <sup>3</sup> )	SLMD (Total) (mg/m <sup>3</sup> )	PCDA (mg/m <sup>3</sup> )	TMDC (mg/m <sup>3</sup> )	SLMD (mg/m <sup>3</sup> )	Time On	Time Off	Flow Rate (L/min)	Total Time (Collect)		Volume (Total Liters)
1	762	4/21+22/14	X											See log for Test Comp Voids Batter white bag of holes Em. problem
2	260													
3	37													
4	38													
5	38b													
6	38c													
7	38d													
8	38e													
9	38f													
10	38g													
Released by: <u>Mark Meier</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/23/14 3:00</u>					
Received by: _____			Signature: <u>[Signature]</u>						Date/Time: <u>4/23/14</u>					



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Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55425  
Phone: 763, 545-5510 Fax: 763, 545-7883 Email: m.meier@ehsml.com Alt. Number: \_\_\_\_\_  
Project Name / Testing Address: PH-172 VA Home City/State (Required): Minneapolis MN  
Lab Order No: Mark Meier Purchase Order Number: \_\_\_\_\_

## Turn Around Times :

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1-Day

2-Day

☒ 3-Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR		Volume (Total Liters)	COMMENTS
			TEST METHOD	TEST METHOD	TEST METHOD	TEST METHOD	TEST METHOD	TEST METHOD	Time On	Time Off		
1	39	4/21+22/11										12/12FF Cream Bottled
2	40											FF Plastic
3	41											Grey Tan Bottled
4	42											FF Plastic
5	43											Grey BB
6	44											BB Adh
7	45											2x200 w/FFH
8	46											12/12FF Grey
9	47											Plastic
10	48											Tan BB
Released by: <u>Mark Meier</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/22/11 3:10</u>		Date/Time: <u>4/23/11</u>	
Received by: _____			Signature: <u>[Signature]</u>						Date/Time: _____		Date/Time: _____	



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Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
Phone: 763. 545-5510 Fax: 763. 545-7883 Email: m.meier@aestmn.com Next Number: \_\_\_\_\_  
Project Name / Testing Address: EM-172 V & HOME City/State (Required): Minnesota MN  
Collection by: Mark Meier Signature: \_\_\_\_\_

Turn Around Times: If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day 2 - Day ☒ 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						ATM				COMMENTS	
			PCB	PCB Total (mg/kg)	PCB Total (mg/kg)	PCB Total (mg/kg)	PCB Total (mg/kg)	PCB Total (mg/kg)	Time On	Time Off	Flow Rate (l/min)	Total Time (minutes)		Volume (Total Liters)
1	49	4/21/14	<input checked="" type="checkbox"/>											<u>Rep Meier</u> <u>Location: 2nd floor, home</u> <u>7409 Whitepine Rd, home</u> <u>Window C/L, 2nd</u> <u>White Text Ceiling</u>
2	50													
3	51													
4	52													
5	53A													
6	53B													
7	53C													
8	53D													
9	53E													
10	53F													
Released by: <u>Mark Meier</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/23/14 3pm</u>					
Received by: _____			Signature: <u>[Signature]</u>						Date/Time: <u>4/23/14</u>					



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Page 9 of 13

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Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
Phone: 781, 645-5510 Fax: 781, 545-7883 E-mail: m.meior@aesmn.com Acid Number: \_\_\_\_\_  
Project Name / Testing Address: PH-172 VA Bldg City/State (Required): Minneapolis, MN  
Collected by: Mark Meier Sample Order Number: \_\_\_\_\_

## Turn Around Times:

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day

2 - Day

☒ 3 - Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR			COMMENTS		
			TLM	SLM (Lab Use)	PTM (Lab Use)	PCM (Lab Use)	TECH (Lab Use)	TECH (Lab Use)	Time On	Time Off	Flow Rate (L/min)		Total Time (min)	Volume (Total Liters)
1	53	4/21/14	X											White Text Ceiling white Brown Ceiling
2	54A													
3	54B													
4	54C													
5	54D													
6	54E													
7	55													762 of white / Green / White 6.0 Brown of Tan Floor Slab 762 of white / Green / White
8	56													
9	57													
10	58													
Released by: <u>Mark Meier</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/21/14 1:50pm</u>			Date/Time: <u>4/23/14</u>		
Received by: _____			Signature: <u>[Signature]</u>											



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Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426

Phone: 763, 545-5510 Fax: 763, 545-7883 E-mail: m.meier@aesmn.com Asst. Director

Project Name / Testing Address: PM-172 VA Home City/State (Required): Minnesota MN

Collected by: Mark Meier Purchase Order Number

Turn Around Times: If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day 2 - Day ☒ 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						ATR				COMMENTS	
			PM	PM (Total Count)	PM (Total Count)	PM (Total Count)	PM (Total Count)	PM (Total Count)	Time Out	Time Out	Flow Rate (L/min)	Total Time (minutes)		Volume (Total Liters)
1	69	4/21+22/14	<input checked="" type="checkbox"/>											Gold BB
2	60													BB BB
3	61													Washers/Lank white
4	62A													Sheetrock Joint Comp
5	62B													Void
6	62C													Void
7	63													Br 2 of white Poly Panel
8	64													12x12ft Green Matting
9	65													Mastic
10	66													1st Blue + BB
Released by: Mark Meier			Signature: <i>[Signature]</i>						Date/Time: 4/21/14 3PM					
Received by:			Signature: <i>[Signature]</i>						Date/Time: 4/23/14					



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# Asbestos Chain-of-Custody

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Page 1 of 3

2695

Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
Phone: 763, 545-5510 Fax: 763, 545-7683 E-mail: m.mcler@aesmn.com Anal. Number: \_\_\_\_\_  
Project Name / Testing Address: FIN-172 VA Home City/State (Regulation): Minnesota MN  
Collected by: Mark Meier Purchase Order Number: \_\_\_\_\_

## Turn Around Times :

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1-Day \_\_\_\_\_ 2-Day \_\_\_\_\_ ☒ 3-Day \_\_\_\_\_ Same Day (Must Call Ahead) \_\_\_\_\_ Weekend (Must Call Ahead) \_\_\_\_\_

No.	Client Sample ID	Date Collected	ASBESTOS							ATR			COMMENTS		
			10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	10/10/10	Time On	Time Off	Flow Rate (L/min)		Total Time (min)	Volume (Total Liters)
1	67	4/21 & 22/14	X												<p>See Map</p> <p>Longhouse under of West St. Lake</p> <p>1st floor of West St. Lake floor shot</p> <p>Room 1201 (Broom Room)</p> <p>2nd floor of West St. Lake</p> <p>Room 1202 (Broom Room)</p> <p>Room 1203 (Broom Room)</p> <p>Room 1204 (Broom Room)</p> <p>Room 1205 (Broom Room)</p> <p>Room 1206 (Broom Room)</p> <p>Room 1207 (Broom Room)</p>
2	68														
3	69														
4	70														
5	71														
6	72														
7	73														
8	74														
9	75														
10	76														

Released by: Mark Meier Signature: \_\_\_\_\_ Date/Time: 4/22/14 3 PM  
Received by: \_\_\_\_\_ Signature: MEB Date/Time: 4/22/14



Environmental Hazards Services, LLC  
 www.eadlab.com 7802 Whitapine Rd  
 (800)347-4310 Richmond, VA  
 (804)773-4807 (fax) 23277

# Asbestos Chain-of-Custody

~ For Lab Use Only ~

*Page 12 of 13*

2695

Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
 Phone: ( 763 ) 545-5512 Fax: ( 763 ) 545-7883 E-mail: m.meler@aesmn.com Assn. Number: \_\_\_\_\_  
 Project Name / Testing Address: EA-172 VA Homes City/State (Required): Minneapolis MN  
 Collected by: Mark Meler Please Print Name

Turn Around Times : If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day 3 - Day ☒ 5 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR				COMMENTS	
			TEST	TEST NAME (EPA 8210)	TEST NAME (EPA 8210)	TEST NAME (EPA 8210)	TEST NAME (EPA 8210)	TEST NAME (EPA 8210)	Time On	Time Off	Flow Rate (L/min)	Total Time (minutes)		Volume (Total Liters)
1	77	4/21/14	<input checked="" type="checkbox"/>											Gray Dust Sealant
2	78													Gray Floor Sheet
3	79													2x2' Sheetrock
4	80													12x12 white w/ tan
5	81													PT Plastic
6	82													2'x2' PT Gray w/ Purple
7	83													PT Plastic
8	84													Gray Sheetrock
9	85													Asb
10	86													Gray BB
Released by: <u>Mark Meler</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/23/14 3 PM</u>					
Received by: _____			Signature: <u>[Signature]</u>						Date/Time: <u>4/23/14</u>					





**EHS**  
Laboratories

Environmental Hazards Services, LLC

www.ehsllc.com 7609 Windyline Rd  
(800)347-4010 Richmond, VA  
(800)275-4807 fax 23287

# Asbestos Chain-of-Custody

~ For Lab Use Only ~

*Per: 12/13*

*2695*

Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55425

Phone: (763) 545-5510 Fax: (763) 545-7883 E-mail: m.meier@aesmn.com Asset Number: \_\_\_\_\_

Project Name / Testing Address: PH-172 VA HOME City/State (Required): Minneapolis MN

Collected by: Mark Meier H-1 Use Order Number: \_\_\_\_\_

**Turn Around Times:** *If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.*

1-Day 2-Day ☒ 3-Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR			COMMENTS		
			PLM	PLM/Total Count/10	PLM/Total Count/100	PLM/Total Count/1000	PLM/Total Count/10000	PLM/Total Count/100000	Time On	Time Off	Time Note (L/min)		Flow Rate (L/min)	Volume (Total Liters)
1	87	4/21/2014	X											BA Ash
2	88A													Follow up to 87
3	88B													
4	88C													
5	88C													Shedder + T.C
6	88D													SI
7														
8														
9														
10														

Released by: Mark Meier

Received by: \_\_\_\_\_

Signature: [Signature]

Signature: [Signature]

Date/Time: 4/23/14 3:10

Date/Time: 4/23/14

### **APPENDIX III**

## **EXPLANATION OF ACM ASSESSMENT DATA TABLE**

This Appendix contains a summary of all ACM assessment information for materials that tested positive in each functional space in the building. The information is grouped in columns as follows:

### ***FUNCTIONAL SPACE***

This is a number assigned to spaces within the building. Generally, each distinct room or area in the building was assigned a number.

### ***LOCATION***

This is the room number or description of the area if it had no room number.

### ***DESCRIPTION***

The description of the material sampled.

### ***QUANTITY***

This is either the estimated length of the material in feet or its area in square feet. For fittings/elbows, the number represents the estimated number of fittings, hangers and elbows in the system.

### ***REMOVAL COST ESTIMATE***

This is the estimated cost for a reputable licensed asbestos contractor to properly remove the asbestos-containing materials from the building according to applicable Local, State and Federal regulations.

# ASBESTOS MATERIAL ASSESSMENT

## MINNEAPOLIS VA HOME (BUILDING 17 - SOUTH)

LOCATION	MATERIAL DESCRIPTION	QUANTITY (estimated)
Corridor E & Room 140	12" x 12" floor tile mastic (possible black mastic)	500 square feet
1 <sup>st</sup> Floor Kitchen	<i>Electric panels &amp; transformers</i>	<i>7 panels</i>
Kitchen Offices & Hallway	12" x 12" floor tile, gray with tan (1 of 2 types of floor tile in area)	540 square feet
Kitchen Offices & Hallway	12" x 12" floor tile mastic, black (more possible under ceramic floor tile)	1,400 square feet
Kitchen Dock Area	<i>Electric panels</i>	<i>2 panels</i>
Laundry, Room 132	12" x 12" floor tile, gray with tan (1 of 2 types of floor tile in area)	200 square feet
Laundry, Room 132	12" x 12" floor tile mastic, black (more possible under ceramic floor tile)	200 square feet
Elevator Equipment Room 136 & 140	<i>Electric panels</i>	<i>9 panels</i>
Room 138	<i>Electric panels</i>	<i>12 panels</i>
Back Dock Area	<i>Electric panels &amp; transformer</i>	<i>24 panels</i>
Mechanical Room in South Stairwell	<i>Electric panels</i>	<i>4 panels</i>
2 <sup>nd</sup> Floor Server Room in Elevator Lobby	12" x 12" floor tile cream mottled mastic (mastic only)	100 square feet
Room 256	<i>Electric panels</i>	<i>2 panels</i>
Staff Area	12" x 12" floor tile, white with olive & mastic	80 square feet
Staff Area	White sink undercoating	1 sink
Room 291	Metal wall panel adhesive	60 square feet
2 <sup>nd</sup> Floor Hall	<i>Electric panels</i>	<i>2 panels</i>
3 <sup>rd</sup> Floor Server Room in Elevator Lobby	12" x 12" floor tile cream mottled mastic (mastic only)	100 square feet
Room 349	12" x 12" floor tile cream mottled mastic (mastic only)	400 square feet
3 <sup>rd</sup> Floor Hall	<i>Electric panels</i>	<i>2 panels</i>
Room 376	White sink undercoating	1 sink

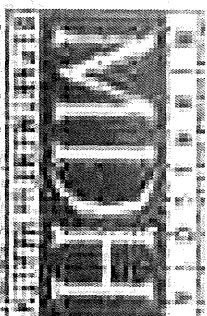
Room 380 & 382	Pink sink undercoating	1 sink
383	White sink undercoating	1 sink
383	<i>Electric panel</i>	<i>1 panel</i>
391	Metal wall panel adhesive	60 square feet
4 <sup>th</sup> Mechanical Room	<i>Electric panels</i>	<i>50 panels</i>
4 <sup>th</sup> Floor Elevator Lobby Side Room	<i>No Access</i>	-
Roof	<i>Electric panels</i>	<i>8 panels</i>
Roof	<i>Cooling Tower (Could not be inspected. Possible interior components.)</i>	<i>1 tower</i>

*Italicized materials were assumed to contain asbestos.*

## **APPENDIX IV**



*S. P. H. H.*  
Director, Env. Health Div.



ASBESTOS

INSPECTOR

Certified by:

State of Minnesota  
Department of Health

Expires: 04/09/2016

Aaron D. Kuck

18816 Chennault Way

Eden Prairie, MN 55344

No. A112661

Issued: 04/20/2015



*Mark W. Meier*  
Director, Env. Health Div.



**ASBESTOS  
INSPECTOR**

Certified by:  
State of Minnesota  
Department of Health

**Expires: 06/16/2016**

Mark W Meier  
7570 Dallas Ln N  
Maple Grove, MN 55311

No. A13693

Issued: 07/01/2015






**ASBESTOS  
INSPECTOR**

Certified by:  
State of Minnesota  
Department of Health

**Expires: 12/09/2016**

**Shannon M. Russell**  
23007 Baseline Blvd  
Jordan, MN 55352

  
Director, Env. Health Div.

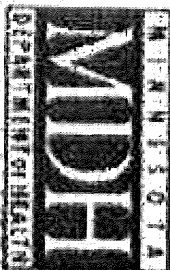
No. A113125

Issued: 12/21/2015





*James Gabrielson*  
Director, Env. Health Div.



**ASBESTOS  
INSPECTOR**

Certified by:  
State of Minnesota  
Department of Health

**Expires: 04/09/2016**

James Eric Gabrielson  
6002 Timberglade Cir  
Bloomington, MN 55438

No. A110463

Issued 05/26/2015

## APPENDIX V

PRELIMINARY ONLY  
NOT FOR CONSTRUCTION



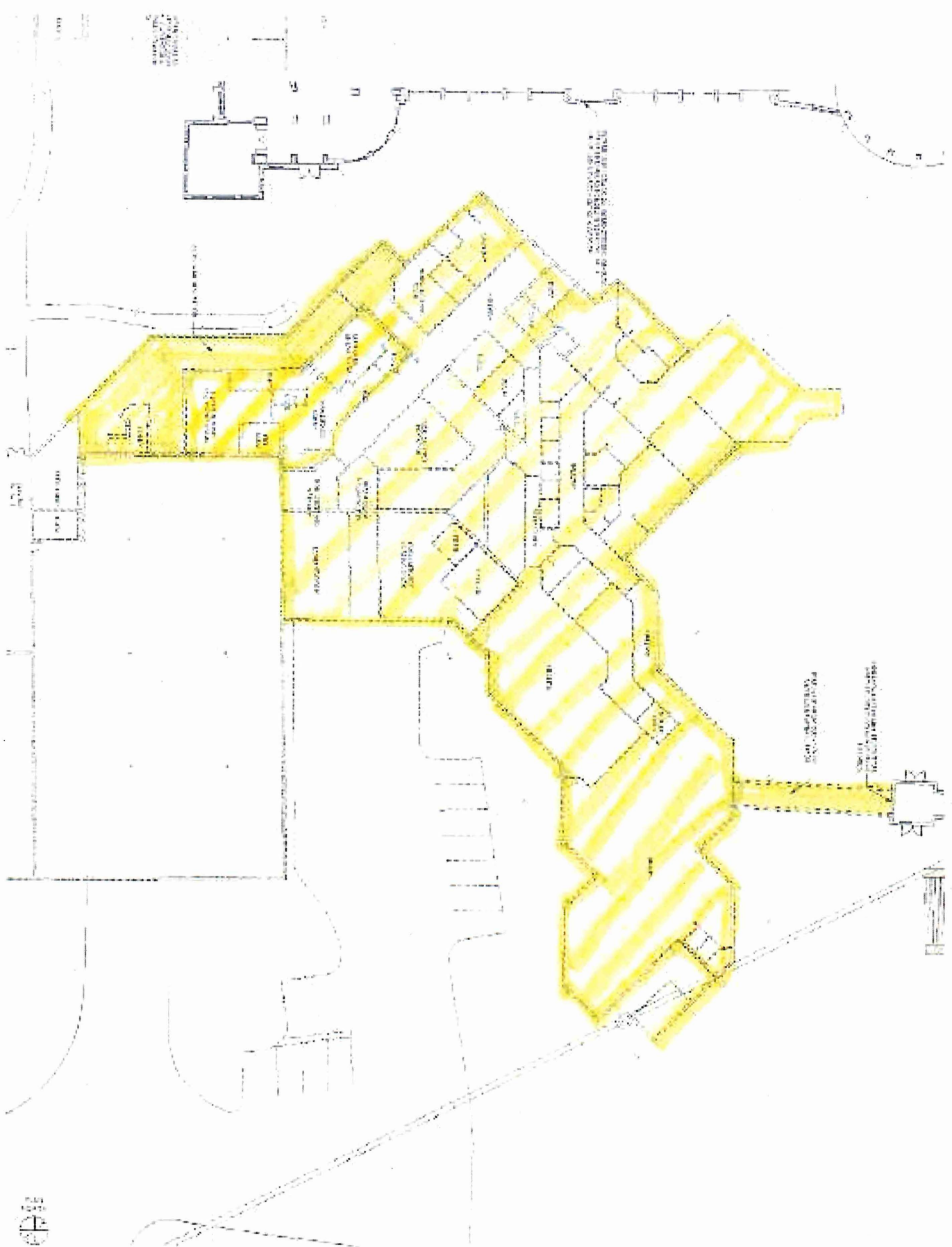
# International Digestive of Laboratory Animals

MAN/TECHNICS TWO  
BUILDING 22  
GENERAL AND  
HOSPITALITY  
DEPARTMENT  
07/04/2004-07/27/2004

[illegible]

### MAIN & COVER LEVEL QUALITY TUBES

AO.41







## **APPENDIX VI**

# HAZARDOUS OR SPECIAL WASTE OBSERVED

## MINNEAPOLIS VA HOME (BUILDING 17 - SOUTH)

### CFC's

### Estimated Quantity

Air Conditioner (central)	6
Air Conditioner (roof top air handler)	2
Drinking Fountain	2
Fire Extinguisher	30
Refrigerator	1

### Mercury

### Estimated Quantity

Compact Fluorescent Light Bulb (CFL)	5
HID Lamp	10
Thermostat (possible)	100
Thermometer	1

### Miscellaneous

### Estimated Quantity

Aerosol Spray Can	11
AED Device	1
AHU & Controls	6
Air Compressor	4
Battery Charger	4
Battery Recycling Container	1 gallon container
Carbon Dioxide Tank	1
Caulk Tubes	18
Copy Machine	2
Door Closure	57
Dryer	5
Electric Wheelchairs	2
Electronics	36
Elevators (motors and oil)	5
Emergency Light	40
Exit Sign	34
Fan (air intake & air handler)	6
Fire Suppression System	1
Floor Cleaners (Batteries)	6
Garage Door Opener	6
Gasoline Can	5
General Trash	Not Quantified
Glycol	10 gal.
Household Cleaner	83
Intercom System	2
Leaded Windows	2
Magnehelic Gauge	4

MAPP Gas	2
Motors	8
Oxidizer Material	6 gal.
Paint	9-5 gal. Container
Paint	1-1 gal. Container
Pay Phone	1
Smoke Alarms	100
Space Heater	8
Stove/oven	2
Unknown 30 gal. Containers	4
Walk in Bath Tub	1
Washing Machine	7
Waste Compactor	1
Water Heater	2



## APPENDIX VII

164 NORTH LAKE STREET  
NEENAH, WI 54956  
Phone: (920) 722-6444  
Fax: (920) 722-6357

**Eggers Industries**

# Fax

<b>To:</b> AHS	<b>From:</b> Dan Hibbs	<b>Email:</b>
<b>Attn:</b> Mark Meyers	<b>Date:</b> January 30, 2004	
<b>P.O. #</b>	<b>Pages:</b> [Click here and type number of pages]	
<b>Re:</b> Asbestos	<b>Fax:</b> 763-645-7883	
<input type="checkbox"/> Urgent	<input type="checkbox"/> For Review	<input type="checkbox"/> Please Comment
	<input type="checkbox"/> Please Reply	<input checked="" type="checkbox"/> For Your Records

**Comments:**

This fax confirms our phone conversation earlier today. Eggers' 20-minute rated doors, listed by Wamock Hersey or UL, contain no asbestos in present or past constructions.



Steelcraft  
9017 Blue Ash Rd  
Cincinnati, Ohio 45242  
Tel (513) 766-4300

May 14, 2012

Subject: Asbestos Content in Steelcraft Doors and Frames.

To whom it may concern:

This is to verify that Steelcraft 'L' series doors and all standard three sided door frames do not contain asbestos.

For your future reference the following products did contain asbestos at one time:

- 1). Steelcraft 'S-16' stile and rail door with flush panel and UL fire door label (pre 1975).
- 2). Steelcraft 3/8" or 1/2" thick fire rated transom and/or sidelight panels (pre 1983).

We hope that this information will be helpful to you and if you have any questions please don't hesitate to call.

Sincerely,

Rick Hulsmann  
Product Support

SN:tn



**Attachment B**

**Preliminary Asbestos Survey  
May 2014**



**ENVIRONMENTAL HEALTH SURVEY REPORT  
PARTIAL PRE-DEMOLITION HAZARDOUS MATERIALS SURVEY**

**OF**

**MINNEAPOLIS VETERANS HOME  
MINNEAPOLIS, MINNESOTA**

**PREPARED FOR**

**LANDMARK ENVIRONMENTAL, L.L.C.  
2042 WEST 98<sup>TH</sup> STREET  
BLOOMINGTON, MINNESOTA 55431**

**May 1, 2014**

**A·E·S**

**Applied Environmental Sciences, Inc.**



**APPLIED ENVIRONMENTAL SCIENCES, INC.**

8441 Wayzata Blvd. □ Suite 103 □ Minneapolis, MN 55426

**ENVIRONMENTAL HEALTH SURVEY REPORT  
PARTIAL PRE-DEMOLITION HAZARDOUS MATERIALS SURVEY**

**AT**

**MINNEAPOLIS VETERANS HOME  
MINNEAPOLIS, MINNESOTA**

Date of Survey: April 21-22, 2014

Conducted by: Mark Meier, Asbestos Building Inspector MN #AI-3893  
Applied Environmental Sciences, Inc.  
8441 Wayzata Blvd., Suite #103  
Minneapolis, MN 55426  
(763) 545-5510

Eric Gabrielson Asbestos Building Inspector MN #AI-10463  
Landmark Environmental, LLC  
2042 W. 98<sup>th</sup> Street  
Bloomington, MN 55431  
(952) 887 9605

I hereby certify that the survey and inspection referenced by this report, and the report itself, were conducted in accordance with intent of the AHERA regulations to the best of my ability and knowledge.

---

Mark Meier, Asbestos Building Inspector

I have reviewed this report and hereby certify that the information contained within satisfies the intent of the AHERA regulations to the best of my ability and knowledge.

---

Patrick DiBartolomeo, CIH, CSP  
Certification # 2204

F14-172 Landmark Minneapolis Veterans Home.mmpc



## 1.0 EXECUTIVE SUMMARY

Applied Environmental Sciences, Inc. (AES) was retained by Landmark Environmental, LLC to perform a preliminary pre-demolition hazardous materials survey of Building 17 South and a portion of Buildings 18, 15 & 6 (walkway to 17) at the Minneapolis Veterans Home located in Minneapolis, Minnesota. A complete survey could not be performed at this time since the buildings were occupied.

Survey procedures conducted by AES complied with the applicable Occupational Safety and Health Administration (OSHA), Minnesota Pollution Control Agency (MPCA), and Minnesota Department of Health (MDH) standards for surveys of buildings to be demolished. AES performed an asbestos survey of the building, but **did not** compile a list of other hazardous materials (e.g., those assumed to contain PCBs, mercury, CFCs) present on the property. Caulk was also not sampled to determine PCB content.

The exterior of the building was not included in the inspection except for the stucco on the exterior of the building.

The survey was conducted on April 21-2, 2014.

The results of the survey are as follows:

1. AES took 122 bulk asbestos samples as part of this project. The contracted laboratory separated these 122 samples into 123 individual layer samples and analyzed 122 layer samples. One sample (Sample 24) was not analyzed due to an insufficient amount of material present for the laboratory to analyze.
2. Suspect building materials found to contain asbestos include – **12" x 12" floor tile and floor tile mastic**. Asbestos-containing material should not be cut, drilled, sanded or disturbed.
3. Building materials assumed to contain asbestos during the survey include – **electric panels, fire doors, ceramic wall tile mortar and grout, ceramic floor tile mortar and grout, cooler insulation, brown baseboard and adhesive, floor sheeting, wainscoting adhesive, sink undercoating, bulletin board adhesive, 12" x 12" floor tile and associated mastic and wall panel adhesive**. Exterior materials (including roofing materials) were not included in this inspection. Asbestos-containing material should not be cut, drilled, sanded or disturbed.
4. No lead paint was sampled as part of this project. If building materials that are painted are to be reused or recycled as part of the project, they must be sampled to determine lead content.
5. Prior to demolition, all hazardous and special waste must be recycled or removed from the building according to Local, State, and Federal regulations. *No PCB caulk samples were taken during the preliminary pre-demolition inspection.*
6. A full pre-demo survey must be completed prior to demolition of the building.
7. Relevant State of Minnesota, EPA and OSHA regulations are included in Appendix I.
8. The asbestos bulk sampling sheets are included in Appendix II.

9. The estimated quantity and location of identified positive materials along with individual cost estimates for removal of each, arranged by functional space, have been included in Appendix III. Total cost for removal of all asbestos-containing materials in the building is estimated at \$67,450 (not including exterior materials). Assumed asbestos-containing materials accounts for \$64,750 of the total costs. *This number should drop substantially with additional sampling as part of the pre-demolition survey.*
10. Minnesota Department of Health certifications are included in Appendix IV.
11. A diagram, with the portions of the buildings included in the survey highlighted, has been included in Appendix V.

*This survey identifies materials as they existed on the day of the survey. Conditions may change over time.*

*This survey should not be used as a bidding document. The ACM quantities provided are estimates and must be verified prior to abatement firm bidding. AES recommends using a licensed asbestos project designer to design and bid projects.*

## **1.1 SUMMARY OF ACM BY TYPE, QUANTITY AND SAMPLE NUMBER**

The approximate quantity of ACM found in each building is listed below:

### **BUILDING 6 (Walkway)**

**Thermal System Insulation – None found**

**Surfacing Material – None found**

**Miscellaneous Materials – None found**

#### **Assumed Materials**

Fire door	6 doors
Roofing materials	not quantified

### **BUILDING 15 (Elevator Lobby and Hallway)**

**Thermal System Insulation – None found**

**Surfacing Material – None found**

**Miscellaneous Materials – None found**

#### **Assumed Materials**

Ceramic wall tile mortar and grout	150 square feet
Roofing materials	not quantified

### **BUILDING 17 (South)**

**Thermal System Insulation – None found**

**Surfacing Material – None found**

#### **Miscellaneous Materials**

Floor tile mastic (under ACM tiles)	Previously Sampled	500 square feet
Floor tile mastic (under ACM tiles)	Sample 65	50 square feet
12" x 12" floor tile	Sample 80	50 square feet
Floor tile mastic (under ACM tiles)	Sample 81	50 square feet

### **Assumed Materials**

Fire door	20	doors
Cooler insulation	not	quantified
Ceramic floor tile mortar and grout	4,000	square feet
Ceramic wall tile mortar and grout	9,500	square feet
Wall panel adhesive	2,000	square feet
Floor sheeting	200	square feet
Wood wainscoting	800	square feet
Sink sound deadener	1	sinks
Bulletin board adhesive	400	square feet
Electric panels	7	panels
12" x 12" floor tile, tan mottled	150	square feet
Roofing materials	not	quantified

## **BUILDING 18 (Stairway, Hall, Elevator Room and Lunch Room)**

**Thermal System Insulation – None found**

**Surfacing Material – None found**

**Miscellaneous Materials – None found**

### **Assumed Materials**

Fire door	6	doors
Electric panels	2	panels
Ceramic floor tile mortar and grout	200	square feet
Ceramic wall tile mortar and grout	200	square feet
Brown baseboard and adhesive	90	linear feet
Floor tile mastic (insufficient amount of sample)	420	square feet*
Roofing materials	not	quantified

\* - an insufficient amount of mastic was present for the laboratory to analyze. This material is assumed to be asbestos-containing and should be resampled during the pre-demolition survey.

For a full description of sample results and sample locations, see Appendix II.

## **1.2 SUMMARY OF DETERIORATED LEAD-BASED PAINT**

No lead paint was sampled as part of this project. If building materials that are painted are to be reused or recycled as part of the project, they must be sampled to determine lead content.

## **1.3 SUMMARY OF HAZARDOUS MATERIALS**

Prior to demolition, all hazardous and special waste must be recycled or removed from the building according to Local, State, and Federal regulations. AES recommends sampling caulk in the building for PCB content as part of the pre-demolition inspection.

## 2.0 METHODS

### 2.1 ASBESTOS SURVEY APPROACH

The procedures used for this survey meet the inspection standards of EPA's Asbestos Hazard Emergency Response Act (AHERA) and the OSHA asbestos standard. This survey is not adequate for the survey requirements prior to a building demolition. Extensive destructive entry is required for a pre-demolition survey to meet MPCA requirements.

AES's approach to this survey was to identify, assess, sample and quantify suspect asbestos-containing materials within the building. The suspect material in each functional space was assessed using an EPA-AHERA approved method that assesses damage and potential for disturbance. The quantity of each assessed material was estimated.

A complete survey could not be performed at this time since the building was occupied.

AES conducted the partial pre-demolition inspection in Building 6 (walkway to Building 17), Building 15 (Elevator Lobby and Hallway), Building 17 (South) and Building 18 (Stairwell, Hallway, Elevator Room and Lunch Room). A diagram with the portions of the building included in the survey highlighted has been included in Appendix V.

The quantity of each assessed material was estimated, and may be unreliable.

#### 2.1.1 ASBESTOS SURVEY LIMITATIONS

*Only the interior of the building was included in the inspection since sampling the exterior surfaces could cause damage to the integrity of the building and cause water leaks.*

*AES did not inspect every unit and the restrooms in each unit. An assumption was made that ceramic tile existed in every unit since that was what was seen in the units inspected.*

*The kitchen and 4<sup>th</sup> floor mechanical room were previously surveyed as part of the 2011 inspection. They were not inspected during this survey, but the asbestos-containing materials found during the previous inspection were included in the asbestos-containing materials database in this report.*

*Tunnels were not included in this survey.*

*No access to the attic of the building was gained as part of the inspection. This area should be inspected as part of the pre-demolition inspection.*

*AES was not able to fully check under carpet in the building. The possibility exists that flooring materials may exist under it.*

*Additional sheetrock and joint compound samples need to be taken in all buildings to verify that these materials are non asbestos-containing.*

Only accessible materials were sampled. Materials inside walls, doors, ducts, roofs or other areas that would require destructive entry were not sampled. AES was unable to inspect behind walls and ceilings in the building. AES was also unable to fully inspect under the top layer of flooring materials. Quantities of these materials were estimated. This data may be unreliable.

The possibility exists that as other walls, doors, ducts, etc. are opened during the demolition of the building, suspect materials may be found. If suspect materials are encountered during demolition, the demolition should stop until these materials can be tested and, if necessary, removed by a licensed asbestos contractor.

Quantities of all materials are estimates and should be verified by bidding demolition contractors.

This survey identifies materials as they existed on the day of the survey. Conditions and quantities may change over time.

### **2.1.2 BULK ASBESTOS SAMPLING**

Samples were collected utilizing random sampling procedures. Similar systems and materials were grouped into "homogeneous areas of building materials." Multiple random samples were taken of materials in accordance with the EPA-AHERA guidelines. Sample locations were determined using a random sampling process for each homogeneous material.

<u>AMOUNT OF MATERIAL</u>	<u>MINIMUM # OF SAMPLES</u>
Less than 1,000 square feet	3
Between 1,000 and 5,000 square feet	5
Greater than 5,000 square feet	7

Samples were collected by carefully removing a small representative sample of the suspect material and sealing it in a plastic bag. Water was used to control dust during sampling. The sample was identified with a sample number. Where possible, sample locations were tagged with the sample number and designated "A, B, C," etc. The "wounds" where suspect materials were sampled were sealed. Sample locations are noted on the diagram in Appendix II.

### **2.1.3 BULK ASBESTOS ANALYSIS**

The bulk samples were analyzed by polarized light microscopy (PLM) with dispersion staining, EPA method 600/R-93/116. Bulk samples were viewed under a stereoscope. Samples were prepared in various Cargille refractive index oils and examined under the polarizing microscope. The samples were evaluated under crossed polars for extinction angle, sign of elongation and morphology. Quantity determinations are made by visual estimation.

EPA NESHAP-Asbestos Rule 40 CFR Part 61 states that samples found to contain less than 10% asbestos by visual estimation may be further quantified by point count analysis.

The Asbestos Rule also states that all multi-layer systems, except for wall systems where joint compound was used only at the joints and nail holes, must be analyzed as separate materials. If any layer contains greater than one-percent asbestos, that layer must be treated as asbestos-containing. This requires all layers in a multi-layered system to be treated as asbestos-containing if the layers cannot be separated without disturbing the asbestos-containing layer.

In each homogeneous sampling area, once a positive sample was identified, the remaining samples were not analyzed. Asbestos samples will be held for thirty (30) days after the date of this report.

## **2.2 HAZARDOUS MATERIALS SURVEY APPROACH**

AES's approach to this survey was to visually inspect each room for building components assumed to contain hazardous and special wastes that must be removed from the building or recycled

properly prior to demolition. Quantities of these materials are estimates and should be verified by bidding demolition contractors. *This inspection was not completed at this time since the building was occupied at the time and the extent of the hazardous and special wastes that will be left in the building when it is vacated is unknown.*

### **2.3 LEAD SURVEY APPROACH**

No lead paint was sampled as part of this project. If building materials that are painted are to be reused or recycled as part of the project, they must be sampled to determine lead content.

### **2.4 CHAIN OF CUSTODY PROCEDURES**

To ensure that samples collected in the field are neither lost nor their identity confused, all samples, from the point of collection to receipt in the laboratory, follow these procedures. Each sample is first assigned a unique and distinct sampling number. After a sample is placed into a plastic bag, that unique number is assigned to that bag. This same number is assigned to the chain of custody. The inspector signs the chain of custody sheet before it, along with the samples, is delivered to the lab. Upon receipt of the samples, the lab analyst verifies that each sample matches the corresponding chain of custody sample number and signs and dates the chain of custody.

### **2.5 QUALIFICATIONS**

Asbestos sample analysis for the pre-demolition survey was conducted by EHS Laboratory in Richmond, Virginia. EHS is accredited by the National Voluntary Accreditation Program (NVLAP lab code 101882-0).

The survey was conducted by accredited asbestos building inspectors and supervised by Board Certified Industrial Hygienists.

## **3.0 DISCUSSION**

### **3.1 SUMMARY OF NON-ASBESTOS-CONTAINING MATERIAL**

Suspect ACM is considered negative for asbestos when all samples of the material are found to contain one percent or less asbestos.

Suspect material found to be negative includes:

#### **BUILDING 6**

1. Floor sheeting (Sample 57).
2. Ceiling tile, 2' x 2' (Sample 58).
3. Baseboard (Sample 59).
4. Baseboard adhesive (Sample 60).
5. Window caulk (Sample 61).
6. Sheetrock and joint compound (Sample 62).

#### **BUILDING 15**

1. Floor tile, 12" x 12" (Sample 1).
2. Floor tile mastic (Sample 2).
3. Sheetrock and joint compound (Sample 3).

4. Ceiling tile, 2' x 4' (Sample 4).
5. Baseboard (Sample 5).
6. Baseboard adhesive (Sample 6).
7. White fireproofing (Sample 7).
8. Door caulk (Sample 8).
9. Window glazing (Sample 9).

#### **BUILDING 17**

1. Floor tile, 12" x 12" (Samples 29, 39, 41, 46, 64, 72).
2. Floor tile mastic (Samples 30, 40, 42, 47, 73).
3. Baseboard (Samples 31, 43, 48, 66, 86).
4. Baseboard adhesive (Samples 32, 44, 49, 67, 87).
5. Ceiling tile, 2' x 2' (Samples 33, 37, 45, 51, 55, 63, 71, 79).
6. Sheetrock and joint compound (Sample 36).
7. Fire stop putty (Sample 34).
8. Stucco like material on exterior walls and in loading dock (Sample 35).
9. Fireproofing (Sample 38).
10. Linoleum (Samples 50, 68, 69, 70, 74, 75, 76, 78).
11. Window caulk (Sample 52).
12. Textured ceiling (Samples 53, 54).
13. Gray duct sealant (Sample 77).
14. Floor tile, 2' x 2' gray with circles (Sample 82).
15. Floor tile mastic (Sample 83).
16. Stair tread (Sample 84).
17. Stair tread adhesive (Sample 85).
18. Hard fittings on fiberglass (Sample 88).

#### **BUILDING 18**

1. Floor tile, 12" x 12" (Samples 14, 12, 21, 23, 27).
2. Floor tile mastic (Samples 15, 13, 22, 28).
3. Ceiling tile, 2' x 2' (Samples 16, 25).
4. Fireproofing (Sample 17).
5. Stair tread (Sample 10).
6. Stair tread adhesive (Sample 11).
7. Sheetrock and joint compound (Sample 20).
8. Mesh on interior walls above ceiling (Sample 18).
9. Brown fire stop putty (Sample 19).
10. Sink undercoating (Sample 26).

### **3.2 RECOMMENDATIONS**

#### **3.2.1 ASBESTOS**

This survey was conducted to locate asbestos-containing materials that must legally be removed prior to demolition of the building. The EPA/MPCA NESHAP regulations require that asbestos-containing materials which are friable, or will become friable during demolition, must be removed from the building prior to demolition by a licensed asbestos abatement contractor. *Destructive investigation and sampling must be conducted as part of the pre-demolition inspection prior to demolition.*



Suspect building materials found to contain asbestos include – **12" x 12" floor tile and floor tile mastic**. Asbestos-containing material should not be cut, drilled, sanded or disturbed.

Building materials assumed to contain asbestos include – **electric panels, fire doors, ceramic wall tile mortar and grout, ceramic floor tile mortar and grout, cooler insulation, brown baseboard and adhesive, floor sheeting, wainscoting adhesive, sink undercoating, bulletin board adhesive, 12" x 12" floor tile and associated mastic and wall panel adhesive**. Asbestos-containing material should not be cut, drilled, sanded or disturbed.

Floor tile is suspected to be located under carpeting throughout the building. This floor tile may contain asbestos. Removal of this carpeting could cause damage to the underlying floor tile and possibly cause an asbestos fiber release.

### **3.2.2 HAZARDOUS MATERIALS**

Prior to demolition, all hazardous and special waste must be recycled or removed from the building according to Local, State, and Federal regulations. A complete list of building hazardous and special wastes generally observed in similar buildings is included in Appendix V.

### **3.2.3 LEAD**

No lead paint was sampled as part of this project. If building materials that are painted are to be reused or recycled as part of the project, they must be sampled to determine lead content.

## **3.3 COST ESTIMATES**

### **3.3.1 ASBESTOS REMOVAL COSTS**

Asbestos abatement estimates are based on present day abatement costs. These estimates can vary greatly based on factors such as time of the year, state of the economy, and size of the project. To keep the estimates more realistic, contractor mobilization costs were not included. This will have little effect on large abatement projects, but could cause small projects to cost substantially more than our estimates. The estimates should be reviewed when abatement is planned.

Total cost for removal of all asbestos-containing materials in the building is estimated at \$67,450 (not including exterior materials, i.e. roofing materials). Assumed asbestos-containing materials accounts for \$64,750 of the total costs. *This number should drop substantially with additional sampling as part of the pre-demolition survey.* Individual cost estimates for removal, arranged by functional space, have been included in Appendix III.

*This survey should not be used as a bidding document. The ACM quantities provided are estimates and must be verified prior to abatement firm bidding. AES recommends using a licensed asbestos project designer to design and bid projects.*

## APPENDIX I

## **1.0 STANDARDS REGULATING ASBESTOS**

### **1.1 MINNESOTA**

The State of Minnesota enforces two asbestos-related rules that affect building owners. One rule states that friable asbestos-containing materials must be maintained in a good state of repair. The second rule states that an inspection survey for asbestos must be performed prior to the undertaking of either a renovation or demolition project where there is reason to suspect asbestos might be present. These rules are enforced by Minnesota OSHA.

Minnesota Department of Health regulations require building owners to keep records of all asbestos abatement or asbestos maintenance work performed at their facility for the current calendar year. These records must be retained for three years.

### **1.2 EPA**

The EPA has specific rules governing the disposal of asbestos-containing materials (ACM), removal of ACM before building demolition and notification before removal of ACM. The Minnesota Pollution Control Agency enforces these rules.

EPA's Asbestos Hazard Emergency Response Act (AHERA), which regulates asbestos in schools, states that any building material containing greater than one percent asbestos must be inspected and managed.

### **1.3 EPA/ASHARA**

The Asbestos School Hazard Abatement Reauthorization Act (ASHARA) requires that any asbestos inspection, whether done visually or by taking samples, must be done by accredited asbestos building inspectors. The regulation also stipulates that asbestos abatement projects must be designed and performed by accredited individuals.

### **1.4 OSHA**

OSHA standards 1910.1001 (general industry), 1926.1101 (construction), and 1915.1001 (shipbuilding) regulate occupational exposures to asbestos. These standards regulate asbestos abatement, building inspections, maintenance work and custodial activities. The permissible exposure limit (PEL) for asbestos is 0.1 fibers per cubic centimeter as an eight-hour, time-weighted average (8-hour TWA).

### **1.5 EPA/NESHAP**

The Asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP) (40 CFR 61, Subpart M) addresses milling, manufacturing and fabrication operations, demolition and renovation activities, waste disposal issues, active and inactive waste disposal sites and asbestos conversion processes.

The terms friable and nonfriable are used to make the distinction between building materials that would readily release asbestos fibers when damaged or disturbed and those materials unlikely to result in significant fiber release when disturbed.

Friable asbestos-containing material (ACM) is defined by the EPA as any material containing more than one percent asbestos that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure.

Nonfriable ACM is any material containing more than one percent asbestos that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

The EPA defines two categories of nonfriable ACM, Category I and Category II nonfriable ACM. Category I nonfriable ACM is any asbestos-containing packing, gasket, resilient floor covering or asphalt roofing product which contains more than one percent asbestos. Category II nonfriable ACM is any material, excluding Category I nonfriable ACM, containing more than one percent asbestos, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

“Regulated Asbestos-Containing Material” (RACM) is (a) friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation activities.

## **2.0 STANDARDS REGULATING LEAD**

### **2.1 OSHA**

OSHA standards apply to any employee disturbing (creating dust or fumes) materials covered with lead-based paint. OSHA regulates lead as an airborne contaminant. Airborne concentrations during disturbance will vary with both the concentration of lead paint and with the operation (manual demolition, sanding, etc.). OSHA requires the contractor to show proof that the operations disturbing lead based paint in any concentration will not exceed the action level of  $30 \mu\text{g}/\text{m}^3$  or the Permissible Exposure Limit (PEL) of  $50 \mu\text{g}/\text{m}^3$ .

### **2.2 MPCA**

The MPCA requires that all peeling, flaking or otherwise deteriorated lead-based paint must be removed or stabilized prior to building demolition.

## **3.0 HAZARDOUS AND SPECIAL WASTE**

### **3.1 MPCA**

The MPCA requires that all solid, hazardous, or other special waste be recycled or removed and properly disposed of prior to demolition.

APPENDIX II



Environmental Hazards Services, L.L.C.  
7469 Whitepine Rd  
Richmond, VA 23237  
Telephone: 800.347.4010

## Asbestos Bulk Analysis Report

Report Number: 14-04-02695

Client: Applied Env. Sciences  
8441 Wayzata Blvd.  
Suite 103  
St. Louis Park, MN 55426

Received Date: 04/23/2014  
Analyzed Date: 04/26/2014, 04/27/2014  
Reported Date: 04/28/2014

Project/Test Address: F14-172 VA Home, Minneapolis, MN

Client Number:  
24-1221

Fax Number:  
763-545-7883

### Laboratory Results

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-001	1		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-002	2		Black Tar-Like; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-04-02695-003	3A		White Granular; White/Tan Fibrous; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
14-04-02695-004	4		Off-White Fibrous; White Paint-Like; Inhomogeneous	NAD	1% Cellulose 70% Fibrous Glass 29% Non-Fibrous
14-04-02695-005	5		Brown Vinyl; Homogeneous	NAD	100% Non-Fibrous

## Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-006	6		Brown Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-04-02695-007	7A		Gray Powder; Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02695-008	7B		Gray Powder; Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02695-009	7C		Gray Powder; Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02695-010	7D		Gray Powder; Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02695-011	7E		Gray Powder; Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02695-012	8		Black Pliable; Homogeneous	NAD	15% Polyethylene 85% Non-Fibrous
14-04-02695-013	9		Gray Pliable; Homogeneous	NAD	12% Cellulose 88% Non-Fibrous

# Environmental Hazards Services, L.L.C

**Client Number:** 24-1221

**Report Number:** 14-04-02695

**Project/Test Address:** F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-014	10		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-015	11		Tan Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-04-02695-016	12		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-017	13		Tan Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-04-02695-018	14		Light Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-019	15		Clear/Black Adhesive; Inhomogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-04-02695-020	16		Off-White Fibrous; White Paint-Like; Inhomogeneous	NAD	1% Cellulose 70% Fibrous Glass 29% Non-Fibrous
14-04-02695-021	17A		Gray Powder; Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous



## Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-022	17B		Gray Powder; Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02695-023	17C		Gray Powder; Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02695-024	17D		Gray Powder; Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02695-025	17E		Gray Powder; Fibrous; Inhomogeneous	NAD	25% Cellulose 75% Non-Fibrous
14-04-02695-026	18		Brown Granular; Tan Brittle; Off-White Pliable; Inhomogeneous	NAD	1% Synthetic 2% Hair 97% Non-Fibrous
14-04-02695-027	19		Brown Rubbery; Homogeneous	NAD	10% Fibrous Glass 90% Non-Fibrous
14-04-02695-028	20		White Granular; Powder; Tan Fibrous; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
14-04-02695-029	21		Beige Vinyl; Homogeneous	NAD	100% Non-Fibrous

## Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-030	22		Beige Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-04-02695-031	23		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-032	24		Did Not Analyze (Quantity Not Sufficient)		
14-04-02695-033	25		Beige Fibrous; White Powder; Inhomogeneous	NAD	60% Cellulose 10% Fibrous Glass 30% Non-Fibrous
14-04-02695-034	26		Gray Granular; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-035	27		Aqua Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-036	28		Tan Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-04-02695-037	29		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-038	30		Tan Adhesive; Gray Granular; Inhomogeneous	NAD	3% Cellulose 97% Non-Fibrous

## Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-039	31		Blue Vinyl; Inhomogeneous	NAD	100% Non-Fibrous
14-04-02695-040	32		Brown Adhesive; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-041	33		Beige Fibrous; White Powder; Inhomogeneous	NAD	55% Cellulose 15% Fibrous Glass 30% Non-Fibrous
14-04-02695-042	34		Red Cementitious; Off-White Fibrous; Inhomogeneous	NAD	8% Cellulose 92% Non-Fibrous
14-04-02695-043	35A		Gray Granular; White Fibrous; Foam; Beige Paint-Like; Inhomogeneous	NAD	1% Cellulose 6% Fibrous Glass 93% Non-Fibrous
14-04-02695-044	35B		Gray Granular; White Fibrous; Foam; Beige Paint-Like; Inhomogeneous	NAD	8% Fibrous Glass 92% Non-Fibrous
14-04-02695-045	35C		White Granular; Beige Paint-Like; Inhomogeneous	NAD	1% Cellulose 99% Non-Fibrous

# Environmental Hazards Services, L.L.C

**Client Number:** 24-1221

**Report Number:** 14-04-02695

**Project/Test Address:** F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-046	35D		Gray Granular; White Fibrous; Foam; Beige Paint-Like; Inhomogeneous	NAD	6% Fibrous Glass 94% Non-Fibrous
14-04-02695-047	35E		Gray Granular; White Fibrous; Foam; Beige Paint-Like; Inhomogeneous	NAD	1% Cellulose 8% Fibrous Glass 91% Non-Fibrous
14-04-02695-048	35F		Gray Granular; White Fibrous; Foam; Beige Paint-Like; Inhomogeneous	NAD	6% Fibrous Glass 94% Non-Fibrous
14-04-02695-049	35G		Gray Granular; White Fibrous; Foam; Beige Paint-Like; Inhomogeneous	NAD	8% Fibrous Glass 92% Non-Fibrous
14-04-02695-050	36A		White Granular; Powder; Tan Fibrous; White Paint-Like; Inhomogeneous	NAD	21% Cellulose 79% Non-Fibrous
14-04-02695-051	36B		White Granular; Powder; Tan Fibrous; Beige Paint-Like; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-052	37		Beige Fibrous; White Powder; Inhomogeneous	NAD	45% Cellulose 20% Fibrous Glass 35% Non-Fibrous
14-04-02695-053	38A		Tan Granular; Fibrous; Inhomogeneous	Trace <1% Trem/Actin*	28% Cellulose 72% Non-Fibrous
<b>Total Asbestos: Trace &lt;1%</b>					
*Tremolite/Actinolite Series Asbestos present throughout sample.					
14-04-02695-054	38B		Tan Granular; Fibrous; Inhomogeneous	Trace <1% Trem/Actin*	28% Cellulose 72% Non-Fibrous
<b>Total Asbestos: Trace &lt;1%</b>					
*Tremolite/Actinolite Series Asbestos present throughout sample.					
14-04-02695-055	38C		Tan Granular; Fibrous; Inhomogeneous	Trace <1% Trem/Actin*	28% Cellulose 72% Non-Fibrous
<b>Total Asbestos: Trace &lt;1%</b>					
*Tremolite/Actinolite Series Asbestos present throughout sample.					
14-04-02695-056	38D		Tan Granular; Fibrous; Inhomogeneous	Trace <1% Trem/Actin*	28% Cellulose 72% Non-Fibrous
<b>Total Asbestos: Trace &lt;1%</b>					
*Tremolite/Actinolite Series Asbestos present throughout sample.					
14-04-02695-057	38E		Tan Granular; Fibrous; Inhomogeneous	Trace <1% Trem/Actin*	28% Cellulose 72% Non-Fibrous
<b>Total Asbestos: Trace &lt;1%</b>					
*Tremolite/Actinolite Series Asbestos present throughout sample.					
14-04-02695-058	38F		Tan Granular; Fibrous; Inhomogeneous	Trace <1% Trem/Actin*	28% Cellulose 72% Non-Fibrous
<b>Total Asbestos: Trace &lt;1%</b>					
*Tremolite/Actinolite Series Asbestos present throughout sample.					
14-04-02695-059	38G		Tan Granular; Fibrous; Inhomogeneous	Trace <1% Trem/Actin*	28% Cellulose 72% Non-Fibrous
<b>Total Asbestos: Trace &lt;1%</b>					
*Tremolite/Actinolite Series Asbestos present throughout sample.					

## Environmental Hazards Services, L.L.C

**Client Number:** 24-1221

**Report Number:** 14-04-02695

**Project/Test Address:** F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-060	39		Cream Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-061	40		Tan Adhesive; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-062	41		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-063	42		Brown Adhesive; White Granular; Inhomogeneous	NAD	100% Non-Fibrous
14-04-02695-064	43		Tan Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-065	44		Tan Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-04-02695-066	45		Gray Fibrous; White Paint-Like; Inhomogeneous	NAD	45% Cellulose 25% Fibrous Glass 30% Non-Fibrous
14-04-02695-067	46		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-068	47		Tan Adhesive; Homogeneous	NAD	100% Non-Fibrous

## Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-069	48		Tan Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-070	49		Beige Adhesive; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-071A	50	Tile	Off-White Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-071B	50	Mastic	Tan Adhesive; Homogeneous	NAD	2% Cellulose 1% Synthetic 97% Non-Fibrous
14-04-02695-072	51		Beige Fibrous; White Powder; Inhomogeneous	NAD	35% Cellulose 35% Fibrous Glass 30% Non-Fibrous
14-04-02695-073	52		Black Rubbery; Beige Paint-Like; Inhomogeneous	NAD	100% Non-Fibrous
14-04-02695-074	53A		White Granular; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-075	53B		White Granular; Homogeneous	NAD	100% Non-Fibrous

## Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-076	53C		White Granular; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-077	53D		White Granular; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-078	53E		White Granular; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-079	53F		White Granular; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-080	53G		White Granular; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-081	54A		White Granular; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-082	54B		White Granular; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-083	54C		White Granular; Homogeneous	NAD	100% Non-Fibrous



## Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-084	54D		Tan Granular; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-085	54E		White Granular; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-086	55		Beige Fibrous; White Powder; Inhomogeneous	NAD	60% Cellulose 10% Fibrous Glass 30% Non-Fibrous
14-04-02695-087	57		Brown/Tan Vinyl; Inhomogeneous	NAD	15% Cellulose 85% Non-Fibrous
14-04-02695-088	58		Gray Fibrous; White Paint-Like; Inhomogeneous	NAD	55% Cellulose 15% Fibrous Glass 30% Non-Fibrous
14-04-02695-089	59		Tan Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-090	60		Beige Adhesive; White Granular; Inhomogeneous	NAD	100% Non-Fibrous
14-04-02695-091	61		White Rubbery; Homogeneous	NAD	100% Non-Fibrous

## Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-092	62A		White Granular; Powder; Cream/Tan Fibrous; Inhomogeneous	NAD	24% Cellulose 76% Non-Fibrous
14-04-02695-093	63		Light Gray Fibrous; White Paint-Like; Inhomogeneous	NAD	70% Fibrous Glass 30% Non-Fibrous
14-04-02695-094	64		Cream Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-095	65		Black Tar-Like; Homogeneous	5% Chrysotile	95% Non-Fibrous
<b>Total Asbestos: 5%</b>					
14-04-02695-096	66		Brown Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-097	67		Brown Adhesive; Tan Fibrous; Inhomogeneous	NAD	15% Cellulose 85% Non-Fibrous
14-04-02695-098	68		White/Tan Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-099	69		White/Tan Vinyl; Homogeneous	NAD	100% Non-Fibrous

## Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-100	70		White/Tan Vinyl; Gray Fibrous; Inhomogeneous	NAD	28% Cellulose 72% Non-Fibrous
14-04-02695-101	71		Beige Fibrous; White Powder; Inhomogeneous	NAD	35% Cellulose 35% Fibrous Glass 30% Non-Fibrous
14-04-02695-102	72		Gray/Tan Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-103	73		Clear Adhesive; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous
14-04-02695-104	74		Brown/Gray Vinyl; Beige Fibrous; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
14-04-02695-105	75		Tan Vinyl; Homogeneous	NAD	15% Cellulose 85% Non-Fibrous
14-04-02695-106	76		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-107	77		Gray Rubbery; Homogeneous	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-108	78		Tan Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-109	79		White Powder; Tan Fibrous; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
14-04-02695-110	80		Off-White/Tan Vinyl; Homogeneous	2% Chrysotile	98% Non-Fibrous
<b>Total Asbestos: 2%</b>					
14-04-02695-111	81		Black Tar-Like; Homogeneous	4% Chrysotile	1% Cellulose 95% Non-Fibrous
<b>Total Asbestos: 4%</b>					
14-04-02695-112	82		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-113	83		Tan Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
14-04-02695-114	84		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
14-04-02695-115	85		White Adhesive; Blue Paint-Like; Inhomogeneous	NAD	5% Synthetic 95% Non-Fibrous
14-04-02695-116	86		Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous

## Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
14-04-02695-117	87		Brown/Tan Adhesive; Inhomogeneous	NAD	100% Non-Fibrous
14-04-02695-118	88A		Tan Powder; Fibrous; Inhomogeneous	NAD	30% Cellulose 12% Fibrous Glass 58% Non-Fibrous
14-04-02695-119	88B		White Rubbery; Gray Powder; Fibrous; Inhomogeneous	NAD	20% Cellulose 25% Fibrous Glass 55% Non-Fibrous
14-04-02695-120	88C		Gray Powder; Fibrous; Inhomogeneous	NAD	1% Cellulose 35% Fibrous Glass 64% Non-Fibrous
14-04-02695-121	36C		White Granular; Powder; Tan Fibrous; Beige Paint-Like; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous
14-04-02695-122	36D		White Granular; Powder; Tan Fibrous; Beige Paint-Like; Inhomogeneous	NAD	20% Cellulose 80% Non-Fibrous

## Environmental Hazards Services, L.L.C

Client Number: 24-1221

Report Number: 14-04-02695

Project/Test Address: F14-172 VA Home; Minneapolis, MN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
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QC Sample: 57-M22004-3, 58-M22004-4


QC Blank: SRM 1866 Fiberglass

Reporting Limit: 1% Asbestos

Method: EPA Method 600/R-93/116, EPA Method 600/M4-82-020

Analyst: Vickie Holmes

Reviewed By Authorized Signatory:



Tasha Eaddy  
QA/QC Clerk

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Each distinct component in an inhomogeneous sample was analyzed separately and reported as a composite. Results represent the analysis of samples submitted by the client. Sample location, description, area, volume, etc., was provided by the client. This report cannot be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without the written consent of the Environmental Hazards Service, L.L.C. California Certification #2319 NY ELAP #11714 NVLAP #101882-0. All information concerning sampling location, date, and time can be found on Chain-of-Custody. Environmental Hazards Services, L.L.C. does not perform any sample collection.

Environmental Hazards Services, L.L.C. recommends reanalysis by point count (for more accurate quantification) or Transmission Electron Microscopy (TEM), (for enhanced detection capabilities) for materials regulated by EPA NESHAP (National Emission Standards for Hazardous Air Pollutants) and found to contain less than ten percent (<10%) asbestos by polarized light microscopy (PLM). Both services are available for an additional fee.

400 Point Count Analysis, where noted, performed per EPA Method 600/R-93/116 with a Reporting Limit of 0.25%.

\* All California samples analyzed by Polarized Light Microscopy, EPA Method 600/M4-82-020, Dec. 1982.

LEGEND: NAD = no asbestos detected



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# Asbestos Chain-of-Custody

14-04-02695



Due Date:  
04/28/2014  
(Monday)  
ER M Inv

Page 1 of 13

Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
Phone: (763) 545-5510 Fax: (763) 545-7883 E-mail: m.meier@aesmn.com Acct. Number:  
Project Name / Testing Address: FH-172 VA Home City/State (Required): Minneapolis MN  
Collected by: Mark Meier Purchase Order Number:

## Turn Around Times :

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day 2 - Day ☒ 3 - Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR				Volume (Total Liters)	COMMENTS
			PLM	PLM/Point Count 40	PLM/Point Count 1000	PLM NY Protocol	PCM	TEM Clarified (Bulky)	TEMAHERA (Air)	Time On	Time Off	Flow Rate (L/min)	Total Time (minutes)	
1	1	4/21+22/14	X											17x12 Gray w/ Tan white
2	2													FT. Meier
3	3a													Sheet under Tarp on grade
4	4													2x2 CT white w/ issues
5	5													Dark brown BB
6	6													BB Ash
7	7A													White Finproving
8	7B													
9	7C													
10	7D													

Released by: Mark Meier

Signature: [Signature]

Date/Time: 4/22/14 3PM

Received by: MBlossing

Signature: [Signature]

Date/Time: 4/23/14



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1 - Day 2 - Day X 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR			COMMENTS		
			PLM	PLM Point Count 40	PLM Point Count 1000	PLM NY Protocol	PCM	TEM/Chertfield (Ballo)	TEM/HERA (Air)	Time On	Time Off		Flow Rate (L/min)	Total Time (minutes)
1	76	4/21+22/14	X											White Fire Proofing
2	8													Door Cank
3	9													Window Glazing white
4	10													Stair tread gray w/ Multi Col
5	11													Adhesive
6	12													12x12 Ft Green w/ Multi Col
7	13													Mastic
8	14													12x12 Green w/ Tan + white
9	15													FT Mastic
10	16													7x7CT White w/ Green
Released by: <u>Mark Meier</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/22/14 3PM</u>					
Received by: _____			Signature: <u>MEB</u>						Date/Time: <u>4/23/14</u>					





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No.	Client Sample ID	Date Collected	ASBESTOS						AIR			COMMENTS			
			PLM	PLM Point Count 400	PLM Point Count 1000	PLM NY Protocol	PCM	TEM Onfield (Bulk)	TEMAHERA (Air)	Time On	Time Off		Flow Rate (L/min)	Total Time (minutes)	Volume (Total Liters)
1	17A	4/21+22/14	X												White Fireproofing
2	17B														
3	17C														
4	17D														
5	17E														
6	18														Brown Tanon Mesh Brown F.S. putty Sheetrock etc 12x12 Ft Ceiling Pl. Mastic
7	19														
8	20														
9	21														
10	22														
Released by: <u>Mark Meier</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/22/14 3PM</u>						
Received by: _____			Signature: <u>[Signature]</u>						Date/Time: <u>4/23/14</u>						



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\_\_\_\_\_ 1 - Day \_\_\_\_\_ 2 - Day ☒ 3 - Day \_\_\_\_\_ Same Day (Must Call Ahead) \_\_\_\_\_ Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR				COMMENTS	
			PLM	PLM/Pneum Count 400	PLM/Pneum Count 1000	PLM NY Protocol	PCM	TEM/Certified (Bulk)	TEM/AFERA (Air)	Time On	Time Off	Flow Rate (L/min)		Total Time (minutes)
1	23	4/21+22/14	X											12x12 Gray Mottled
2	24													Mastic
3	29													2x2 white w/ random holes
4	20													Gray S.P.
5	27													12x12 FT Aggr
6	28													Mastic
7	29													12x12 Gray Mottled
8	30													Mastic
9	31													1x Blue BB
10	32													AB AB
Released by: <u>Mark Meier</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/23/14 3PM</u>					
Received by: _____			Signature: <u>[Signature]</u>						Date/Time: <u>4/23/14</u>					



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Collected by: Mark Meier Purchase Order Number: \_\_\_\_\_

Turn Around Times : **If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.**

\_\_\_\_\_ 1 - Day \_\_\_\_\_ 2 - Day ☒ 3 - Day \_\_\_\_\_ Same Day (Must Call Ahead) \_\_\_\_\_ Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR				COMMENTS		
			PLM	PLM Pict Count 400	PLM Pict Count 1000	PLM NY Protocol	PCM	TEM Chestfield (Bulk)	TEM AHERA (air)	Time On	Time Off	Flow Rate (L/min)		Total Time (minutes)	Volume (Total Liters)
1	33	4/21+22/14	X												2x200 white w/ DTH
2	34														F.S. DTH Red
3	35A														Stained Litter
4	35B														
5	35C														
6	35D														
7	35E														
8	35F														
9	35G														
10	35H														Sheetrock & Insulation
Released by: <u>Mark Meier</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/22/14 3 PM</u>						
Received by: _____			Signature: <u>MEL</u>						Date/Time: <u>4/20/14</u>						



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Project Name / Testing Address: F14-172 VA HOME City/State (Required): Minneapolis MN  
Collected by: Mark Meier Purchase Order Number:

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If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day

2 - Day

X 3 - Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS							AIR				COMMENTS	
			PLM	PLM Point Count 400	PLM Point Count 1000	PLM NY Protocol	PCM	TEM Confirmed (Bulk)	TEM AHERA (Air)	Time On	Time Off	Flow Rate (L/min)	Total Time (minutes)		Volume (Total Liters)
1	36B	4/21+22/14	X												Shredder Exit Cap VOID 2x2x4 white rough holes Fine grinding
2	36C														
3	37														
4	38A														
5	38B														
6	38C														
7	38D														
8	38E														
9	38F														
10	38G														
Released by: Mark Meier			Signature: [Signature]							Date/Time: 4/22/14 3PM					
Received by:			Signature: [Signature]							Date/Time: 4/23/14					



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Project Name / Testing Address: FH-172 VA HOME City/State (Required): Minneapolis MN

Collected by: Mark Meier Purchase Order Number:

Turn Around Times : If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day 2 - Day ☒ 3 - Day Same Day (Must Call Ahead) Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS							AIR				COMMENTS	
			FLM	FLM/Point Count 40	FLM/Point Count 100	FLM NY Protocol	PCM	TEM Confined (Bulk)	TEM/ASBESTOS (Air)	Time On	Time Off	Flow Rate (L/min)	Total Time (minutes)		Volume (Total Liters)
1	39	4/21+22/14	<input checked="" type="checkbox"/>												12x12 FT Green Method
2	40														FT Plastic
3	41														12x12 FT Tan Method
4	42														FT Plastic
5	43														Gray BB
6	44														BB Adh
7	45														2x2 FT white w/ FH
8	46														12x12 FT Gray
9	47														Plastic
10	48														Tan BB
Released by: Mark Meier			Signature: [Signature]							Date/Time: 4/23/14 3PM					
Received by:			Signature: [Signature]							Date/Time: 4/23/14					



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Project Name / Testing Address: F14-172 VA HOME City/State (Required): Minneapolis MN  
Collected by: Mark Meier Purchase Order Number: \_\_\_\_\_

**Turn Around Times :** *If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.*

\_\_\_\_\_ 1 - Day \_\_\_\_\_ 2 - Day ☒ 3 - Day \_\_\_\_\_ Same Day (Must Call Ahead) \_\_\_\_\_ Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS							AIR			COMMENTS		
			PLM	PLM Pouch Count 400	PLM Pouch Count 1000	PLM NY Presect	PCM	TEM Chatfield (Bulk)	TEMAHERA (Air)	Time On	Time Off	Flow Rate (L/min)		Total Time (minutes)	Volume (Total Liters)
1	49	4/21+22/14	X												<i>See Attached</i> <i>Unknown Tan w/ Brn, Blue, Orange</i> <i>2x20' white w/ Shallow Fib.</i> <i>Window Calk, Deck</i> <i>White Text Ceiling</i>
2	50														
3	51														
4	52														
5	53A														
6	53B														
7	53C														
8	53D														
9	53E														
10	53F														
Released by: <u>Mark Meier</u>			Signature: <u>[Signature]</u>							Date/Time: <u>4/22/14 3PM</u>					
Received by: _____			Signature: <u>[Signature]</u>							Date/Time: <u>4/23/14</u>					



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Page 9 of 13

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Project Name / Testing Address: FIH-172 VA HOME City/State (Required): Minneapolis MN  
Collected by: Mark Meier Purchase Order Number: \_\_\_\_\_

Turn Around Times :

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1 - Day

2 - Day

☒ 3 - Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS							AIR				COMMENTS	
			PLM	PLM Pinst Count 400	PLM Pinst Count 1000	PLM NY Protocol	PCM	TEM (field) (bulk)	TEM/ASHERA (Air)	Time On	Time Off	Flow Rate (L/min)	Total Time (minutes)		Volume (Total Liters)
1	53g	4/21+22/14	<input checked="" type="checkbox"/>												White Text Ceiling white Brassy Ceiling Text.
2	54A														
3	54B														
4	54C														
5	54D														
6	54E														
7	55														22 CT white of Small Holes VOID Brown of Tan Floor Sheeting 22 CT white of Ledges
8	56														
9	57														
10	58														
Released by: <u>Mark Meier</u>			Signature: <u>[Signature]</u>							Date/Time: <u>4/22/14 1:30pm</u>					
Received by: _____			Signature: <u>MEB</u>							Date/Time: <u>4/23/14</u>					



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No.	Client Sample ID	Date Collected	ASBESTOS						AIR				COMMENTS		
			PLM	PLM Point Count 400	PLM Point Count 1000	PLM NY Protocol	PCM	TEM Countfield (bulk)	TEM/AFMRA (air)	Time On	Time Off	Flow Rate (L/min)		Total Time (minutes)	Volume (Total Liters)
1	59	4/21+22/14	X												Gold BB
2	60														BB BB
3	61														Window Cont white
4	62A														Sheetrock Joint Comp
5	62B														VOID
6	62C														VOID
7	63														2x2 white patch panel
8	64														1x12 ft. Cream Matted
9	65														Mastic
10	66														1x Brown BB
Released by: <u>Mark Meier</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/22/14 3PM</u>						
Received by: _____			Signature: <u>MEB</u>						Date/Time: <u>4/23/14</u>						





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Project Name / Testing Address: FH-172 VA HOME City/State (Required): Minneapolis MN

Collected by: Mark Meier Purchase Order Number: \_\_\_\_\_

Turn Around Times : If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

\_\_\_\_ 1 - Day \_\_\_\_ 2 - Day X 3 - Day \_\_\_\_ Same Day (Must Call Ahead) \_\_\_\_ Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS						AIR			COMMENTS			
			PLM	PLM Pict Count 400	PLM Pict Count 1000	PLM NY Protocol	PCM	TEM Charfield (Bulk)	TEM AHERA (Air)	Time On	Time Off		Flow Rate (L/min)	Total Time (minutes)	Volume (Total Liters)
1	67	4/21+22/14	X												Fib. Ash Linoleum under w/ Brd Stakes Lt w/ w/ Brd Stakes floor, Slot Floor Sheet Brown Rbld 2x2 CT. w/ w/ faint Felt 12x12 white w/ Green Tan Self Stick Ash Wood Floor Sheeting Tan w/ Multicolored Floor Sheet Tins w/ Brown Floor Sheet
2	68														
3	69														
4	70														
5	71														
6	72														
7	73														
8	74														
9	75														
10	76														
Released by: <u>Mark Meier</u>			Signature: <u>[Signature]</u>						Date/Time: <u>4/22/14 3 PM</u>						
Received by: _____			Signature: <u>[Signature]</u>						Date/Time: <u>4/22/14</u>						



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## Turn Around Times :

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

\_\_\_\_\_ 1 - Day \_\_\_\_\_ 2 - Day ☒ 3 - Day \_\_\_\_\_ Same Day (Must Call Ahead) \_\_\_\_\_ Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS							AIR			COMMENTS	
			PLM	PLM Point Count 400	PLM Point Count 1000	PLM NY Protocol	PCM	TEM Countfield (Bulky)	TEM/ANALYST (Air)	Time On	Time Off	Flow Rate (L/min)		Total Time (minutes)
1	77	4/21+22/14	X											Gray Dust Sealant
2	78													Gray floor sheet
3	79													2x3ct. Steelrock
4	80													12x12 white w/ Tan
5	81													FT/Mastic
6	82													2'x2' FT Gray w/ Circles
7	83													FT/Mastic
8	84													Gray Stair tread
9	85													ASH
10	86													Gray BB

Released by: Mark Meier Signature: [Signature] Date/Time: 4/22/14 3PM  
Received by: \_\_\_\_\_ Signature: MEB Date/Time: 4/23/14



Environmental Hazards Services, LLC

www.leadfab.com 7469 Whitepine Rd  
(800)347-4010 Richmond, VA  
(804)275-4907 (fax) 23237

## Asbestos Chain-of-Custody

~ For Lab Use Only ~

2695

Company Name: Applied Environmental Sciences Address: 8441 Wayzata Blvd. Suite 103 City/State/Zip: Minneapolis, MN 55426  
Phone: (763) 545-5510 Fax: (763) 545-7883 E-mail: m.meier@aesmn.com Acct. Number: \_\_\_\_\_  
Project Name / Testing Address: EH-172 VA HOME City/State (Required): Minneapolis MN  
Collected by: Mark Meier Purchase Order Number: \_\_\_\_\_

Turn Around Times :

If no TAT is specified, sample(s) will be processed and charged as 3-day TAT.

1 - Day

2 - Day

X 3 - Day

Same Day (Must Call Ahead)

Weekend (Must Call Ahead)

No.	Client Sample ID	Date Collected	ASBESTOS							AIR				COMMENTS	
			PLM	PLM/Pneum Count 400	PLM/Pneum Count 1000	PLM NY Protocol	PCM	TEM Chestfield (BIO)	TEMAHERA (Asr)	Time On	Time Off	Flow Rate (L/min)	Total Time (minutes)		Volume (Total Liters)
1	87	4/21+22/14	X												BB Ash
2	88A														Fitting on Fe Hand
3	88B														/
4	88C														
5	36C														Shutrock + TC
6	36D														↓
7															
8															
9															
10															

Released by: Mark Meier Signature: [Signature] Date/Time: 4/22/14 3PM  
Received by: \_\_\_\_\_ Signature: MEB Date/Time: 4/23/14

## **APPENDIX III**

## **EXPLANATION OF ACM ASSESSMENT DATA TABLE**

This Appendix contains a summary of all ACM assessment information for materials that tested positive in each functional space in the building. The information is grouped in columns as follows:

### **FUNCTIONAL SPACE**

This is a number assigned to spaces within the building. Generally, each distinct room in the building was assigned a number. The locations of these functional space numbers are charted on diagrams in Appendix III.

### **LOCATION**

This is the room number or description of the area if it had no room number.

### **DESCRIPTION**

The description of the material.

### **QUANTITY**

This is either the estimated length of the material in feet or its area in square feet. For fittings/elbows, the number represents the estimated number of fittings and elbows in the system.

### **REMOVAL COST ESTIMATE**

This is the estimated cost to properly remove the asbestos containing material from the building according to applicable Local, State and Federal regulations.

## ASBESTOS MATERIAL ASSESSMENT

### Building 6 - Walkway

LOCATION	MATERIAL DESCRIPTION	QUANTITY (estimated)	REMOVAL COST ESTIMATE
<i>Interior (1)</i>	<i>Fire doors</i>	<i>6 doors</i>	<i>\$1,200</i>
<i>Exterior (2)</i>		<i>Not Included in Inspection</i>	-
<b>Total Costs</b>			<b>\$1,200</b>

*Italicized materials were assumed to contain asbestos.*

## ASBESTOS MATERIAL ASSESSMENT

### Building 15

LOCATION	MATERIAL DESCRIPTION	QUANTITY (estimated)	REMOVAL COST ESTIMATE
<i>1<sup>st</sup> Floor Elevator Lobby, Doorway</i>	<i>1" ceramic wall tile mosaic on ceiling and wall</i>	<i>150 square feet</i>	<i>\$450</i>
<i>Exterior (2)</i>		<i>Not Included in Inspection</i>	-
<b>Total Costs</b>			<b>\$450</b>

*Italicized materials were assumed to contain asbestos.*

# ASBESTOS MATERIAL ASSESSMENT

## Building 17

LOCATION	MATERIAL DESCRIPTION	QUANTITY (estimated)	REMOVAL COST ESTIMATE
Corridor E & Room 140	12" x 12" floor tile white with brown smears (floor tile mastic only)	500 square feet	\$2,250
1 <sup>st</sup> Floor	Fire Doors	6 doors	\$1,200
1 <sup>st</sup> Floor Kitchen	Electric panels	7 panels	\$1,400
1 <sup>st</sup> Floor Kitchen	Cooler insulation	Not quantified	-
1 <sup>st</sup> Floor Kitchen	4" white ceramic wall tile mortar and grout	4,000 square feet	\$12,000
1 <sup>st</sup> Floor Men's Locker Room	2" brown ceramic floor tile mortar and grout	260 square feet	\$780
1 <sup>st</sup> Floor Men's Locker Room	4" white ceramic wall tile mortar and grout	300 square feet	\$900
1 <sup>st</sup> Floor Women's Locker Room	2" brown ceramic floor tile mortar and grout	260 square feet	\$780
1 <sup>st</sup> Floor Women's Locker Room	4" white ceramic wall tile mortar and grout	300 square feet	\$900
1 <sup>st</sup> Floor Hallway	Fire Doors	8 doors	\$1,600
1 <sup>st</sup> Floor Cafeteria Bathrooms	2" brown ceramic floor tile mortar and grout	100 square feet	\$300
3 <sup>rd</sup> Floor Small Room in Elevator Lobby	12" x 12" floor tile cream mottled mastic (mastic only)	50 square feet	\$225
3 <sup>rd</sup> Floor Restrooms in all Units	2" brown ceramic floor tile mortar and grout	1,000 square feet	\$3,000
3 <sup>rd</sup> Floor Restrooms in Units	4" white ceramic wall tile mortar and grout	1,600 square feet	\$4,800
3 <sup>rd</sup> Floor Hallway	White fiberglass splashguard adhesive	1,000 square feet	\$3,000
3 <sup>rd</sup> Floor Hallway	Bulletin board adhesive	200 square feet	\$1,600
3 <sup>rd</sup> Floor Kitchenette	Floor sheeting	100 square feet	\$600
Room 378	12" x 12" floor tile tan mottled & mastic	150 square feet	\$675
3 <sup>rd</sup> Floor Lunch Room	Wainscoting adhesive	400 square feet	\$1,200
3 <sup>rd</sup> Floor Bathroom Behind Nurse's Station	4" white/orange/green ceramic wall tile mortar and grout	50 square feet	\$150

<i>3<sup>rd</sup> Floor Bathroom Behind Nurse's Station</i>	<i>12" white ceramic floor tile mortar and grout</i>	<i>120 square feet</i>	<i>\$360</i>
<i>3<sup>rd</sup> Floor Medication Room (Behind Nurse's Station)</i>	<i>Sink undercoating</i>	<i>1 sink</i>	<i>\$200</i>
<i>3<sup>rd</sup> Floor Tub Room</i>	<i>2" tan ceramic floor tile mortar and grout</i>	<i>300 square feet</i>	<i>\$900</i>
<i>3<sup>rd</sup> Floor Tub Room</i>	<i>6" brown ceramic wall tile mortar and grout</i>	<i>500 square feet</i>	<i>\$1,500</i>
<i>2<sup>nd</sup> Floor Restrooms in all Units</i>	<i>2" brown ceramic floor tile mortar and grout</i>	<i>1,000 square feet</i>	<i>\$3,000</i>
<i>2<sup>nd</sup> Floor Restrooms in all Units</i>	<i>4" white ceramic wall tile mortar and grout</i>	<i>1,600 square feet</i>	<i>\$4,800</i>
<i>2<sup>nd</sup> Floor Hallway</i>	<i>White fiberglass splashguard adhesive</i>	<i>1,000 square feet</i>	<i>\$3,000</i>
<i>2<sup>nd</sup> Floor Hallway</i>	<i>Bulletin board adhesive</i>	<i>200 square feet</i>	<i>\$1,600</i>
<i>2<sup>nd</sup> Floor Kitchenette</i>	<i>Floor sheeting</i>	<i>100 square feet</i>	<i>\$600</i>
<i>2<sup>nd</sup> Floor Lunch Room</i>	<i>Wainscoting adhesive</i>	<i>400 square feet</i>	<i>\$1,200</i>
<i>2<sup>nd</sup> Floor Bathroom Behind Nurse's Office</i>	<i>Ceramic wall tile mortar and grout</i>	<i>50 square feet</i>	<i>\$150</i>
<i>2<sup>nd</sup> Floor Bathroom Behind Nurse's Office</i>	<i>Ceramic floor tile mortar and grout</i>	<i>100 square feet</i>	<i>\$300</i>
<i>2<sup>nd</sup> Floor Storage Room behind Nurse's Station</i>	<i>12" x 12" floor tile white with tan &amp; mastic</i>	<i>50 square feet</i>	<i>\$225</i>
<i>2<sup>nd</sup> Floor Tub Room</i>	<i>2" tan ceramic floor tile mortar and grout</i>	<i>300 square feet</i>	<i>\$900</i>
<i>2<sup>nd</sup> Floor Tub Room</i>	<i>6" brown ceramic wall tile mortar and grout</i>	<i>500 square feet</i>	<i>\$1,500</i>
<i>Central Stairway</i>	<i>Fire Doors</i>	<i>3 doors</i>	<i>\$600</i>
<i>South Stairway</i>	<i>Fire Doors</i>	<i>3 doors</i>	<i>\$600</i>
<i>South Stairway</i>	<i>6" tan ceramic floor tile mortar and grout</i>	<i>450 square feet</i>	<i>\$1,350</i>
<i>Exterior (2)</i>		<i>Not Included in Inspection</i>	<i>-</i>
<b>Total Costs</b>			<b>\$60,200</b>

*Italicized materials were assumed to contain asbestos.*



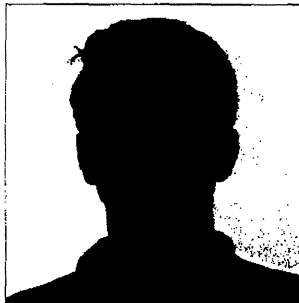
# ASBESTOS MATERIAL ASSESSMENT

## Building 18

LOCATION (FUNCTIONAL SPACE)	MATERIAL DESCRIPTION	QUANTITY (estimated)	REMOVAL COST ESTIMATE
<i>Elevator Room</i>	<i>Fire doors</i>	<i>2 doors</i>	<i>\$400</i>
<i>Elevator Room</i>	<i>Electric panels</i>	<i>2 panels</i>	<i>\$400</i>
<i>Hallway</i>	<i>Fire doors</i>	<i>4 doors</i>	<i>\$800</i>
<i>Lunch Room</i>	<i>12" x 12" floor tile gray mottled mastic (mastic only)</i>	<i>420 square feet</i>	<i>\$1900</i>
<i>Lunch Room</i>	<i>Brown baseboard and adhesive</i>	<i>90 linear feet</i>	<i>\$400</i>
<i>Lunch Room, Restrooms</i>	<i>2" tan ceramic floor tile mortar and grout</i>	<i>200 square feet</i>	<i>\$600</i>
<i>Lunch Room, Restrooms</i>	<i>6" tan ceramic wall tile mortar and grout</i>	<i>500 square feet</i>	<i>\$1500</i>
<i>Exterior (2)</i>		<i>Not Included in Inspection</i>	<i>-</i>
<b>Total Costs</b>			<b>\$5,600</b>

*Italicized materials were assumed to contain asbestos.*

## **APPENDIX IV**



*Linda B. Bremer*  
Director, Env. Health Div.



**ASBESTOS  
INSPECTOR**

Certified by:  
State of Minnesota  
Department of Health

**Expires: 06/20/2014**

**Mark W. Meier**  
7570 Dallas Ln N  
Maple Grove, MN 55311

No. AI3893 Issued: 06/24/2013



*James Eric Gabrielson*  
Director, Env. Health Div.



**ASBESTOS  
INSPECTOR**

**Certified by:**  
State of Minnesota  
Department of Health

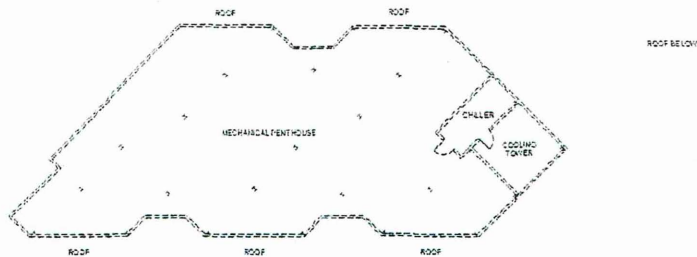
**Expires: 04/10/2015**

**James Eric Gabrielson**  
6002 Timberglade Cir  
Bloomington, MN 55438

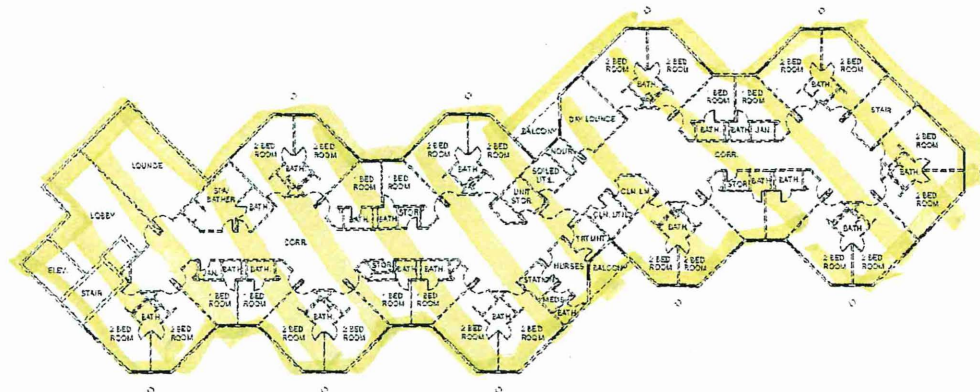
No AI10463      Issued: 04/14/2014

## APPENDIX V

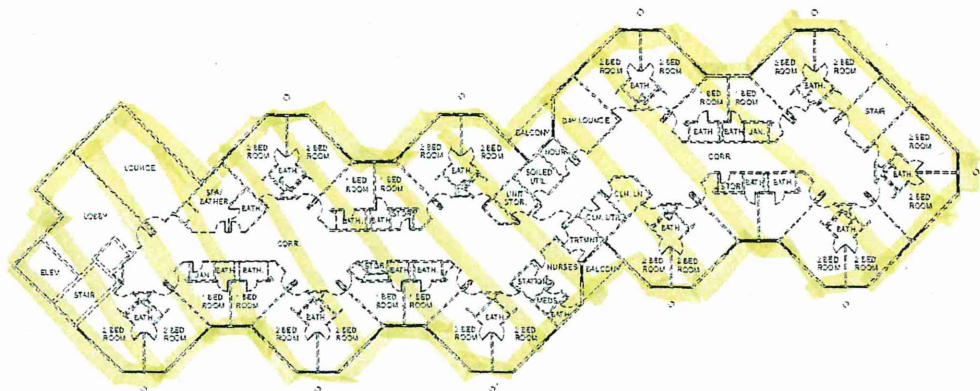




3 4TH FLOOR DEMOLITION  
A0.42 SCALE: 1/16" = 1'-0"



2 3RD FLOOR DEMOLITION  
A0.42 SCALE: 1/16" = 1'-0"



1 2ND FLOOR DEMOLITION  
A0.42 SCALE: 1/16" = 1'-0"

Nelson-Tremain Partnership  
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PRELIMINARY ONLY -  
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Minnesota Department  
of  
Veterans Affairs

Schematic Design

April 1, 2014

Project

MN VETERANS HOI  
BUILDING 22  
DEMOLITION AND  
REPLACEMENT  
(75MPC037-B22)

5101 Minnesota Avenue SE  
Minneapolis, MN 55417

SECOND, THIRD  
PENTHOUSE  
DEMOLITION PLAN

A0.42

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