



## **Asbestos & Lead Based Paint Assessment**

City of Spartanburg  
177 West Wood Street  
Spartanburg, South Carolina 29303

### ***Prepared for:***

The City of Spartanburg  
440 South Church St., Suite B  
Spartanburg, South Carolina 29306

### ***Prepared by:***

Apex Environmental Management, Inc.  
7 Winchester Court  
Mauldin, South Carolina 29662

Project Number: 0521-99

October 29, 2021





**Apex Project Number 0521-99**

October 29, 2021

Mr. Jeff Tillerson  
City of Spartanburg  
440 South Church Street, Suite B  
Spartanburg, SC 29306

Reference: Asbestos and Lead-Based Paint Assessment Services  
177 West Wood Street  
Spartanburg, South Carolina 29303

Dear Mr. Tillerson:

Apex Environmental Management, Inc. (Apex) is pleased to provide the results of our assessment services for the referenced property.

This report and the associated attachments summarize our evaluation of the conditions observed at the project site. The findings presented by Apex are based upon sampling performed in the subject building. There is a chance that undetected ACM may exist in the building between walls or in other areas that would only be exposed during demolition or structural renovations. Should material be discovered that could potentially contain asbestos during the demolition process, additional samples of the material should be collected by a licensed asbestos inspector and submitted to an accredited laboratory for analytical interpretation. Our recommendations are based on the guidelines presented in EPA and/or OSHA regulations.

Please note that this document is not a specification for asbestos removal. It does not contain means and methods for abatement. Quantities are estimates and contractors must verify amounts prior to bidding or removal. If you are planning an abatement project, please contact Apex to discuss the requirements. Use of this document without the express written consent of Apex is at the sole risk of the user and or/abatement contractor.

The conclusions and/or recommendations contained in this report are based on our understanding of the applicable standards at the time this report was prepared. No warranty, expressed or implied, is made. If you have any questions, please feel free to contact us at (864) 404-3210.

Respectfully submitted,  
**APEX ENVIRONMENTAL MANAGEMENT, INC.**

Stephanie Hamby  
Project Manager

Tom Oliver  
Vice President

Appendices

7 Winchester Court  
Mauldin, SC 29662  
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**ASBESTOS AND LEAD BASED PAINT ASSESSMENT**

**CITY OF SPARTANBURG  
177 WEST WOOD STREET  
SPARTANBURG, SOUTH CAROLINA 29303**

**APEX PROJECT NO. 0521-99**

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**SECTION I**

**Asbestos & Lead Evaluation Report**

|  |
|--|
| <b>ASBESTOS EVALUATION REPORT</b><br><b>APEX PROJECT NUMBER: 0521-99</b> |
|--|

|                        |  |                            |                         |
|------------------------|--|----------------------------|-------------------------|
| Date:                  | 10/29/2021   | Page Number:               | 1 of 4                  |
| Client:                | City of Spartanburg  | Client Contact:            | Mr. Jeff Tillerson      |
| Client Address:        | 440 South Church Street<br>Suite B<br>Spartanburg, SC 29306              | Client Phone Number:       | (864) 596-2911          |
| Project:               | Asbestos Evaluation and Lead Based Paint Assessment                      |                            |                         |
| Property Address:      | 177 West Wood Street<br>Spartanburg, SC 29303                            |                            |                         |
| Assessor:              | Stephanie Hamby  | Date of Assessment:        | 9/15 & 9/27/2021        |
| Company:               | Apex Environmental Management<br>7 Winchester Court<br>Mauldin, SC 29662 | Phone Number:              | (864) 404-3210          |
| Purpose of Assessment: | Demolition   | Age of Structure:          | Approximately 110 years |
| Building Type:         | Residential  | Number of Stories:         | 1                       |
| Foundation:            | Basement, partial crawlspace under porch                                 | Approximate Square Footage | 2,600 SF                |

**EXTERIOR BUILDING MATERIALS**

- Gable roof with one layer of shingle and felt.
- Texture over brick exterior walls.
- Wooden windows with glazing.
- Vinyl windows in basement with no caulk.
- Side concrete steps leading to basement are unstable.
- Tar on 1 chimney – assumed positive to be ACM.

**INTERIOR BUILDING MATERIALS**

- Multiple types of vinyl flooring located in crawlspace under porch.
- Construction debris throughout residence.
- Stacks of unfinished drywall sporadic.
- Plaster with finish on walls throughout.
- Drywall with joint compound scattered throughout on walls.

## **SCOPE OF THE SURVEY**

The objectives of the asbestos and lead assessment included the following:

- Identification of suspect asbestos-containing material (ACM) and lead based paints (LBP) in readily observable locations. Limited demolition of building finishes was conducted.
- Asbestos survey with sample collection by a South Carolina accredited inspector.
- Suspect ACM analysis by polarized light microscopy (PLM) utilizing EMSL Analytical, Inc. (EMSL) as an NVLAP certified laboratory, their accreditation number is 200841-0.
- Transmission electron microscopy (TEM) analysis of non-friable organically bound materials suspected to contain asbestos and testing negatively by PLM analysis.
- Lead inspection by a lead inspector certified by the Environmental Protection Agency and licensed to conduct LBP surveys in South Carolina.
- In situ analysis of suspected lead based paints by X-ray fluorescence (XRF).
- Presenting the results in a report identifying confirmed ACMs and LBPs.

## **METHODS**

### **Asbestos Containing Materials**

In order to determine if the suspect materials observed during the visual survey contained asbestos, representative bulk samples were collected and placed in sealed packages. Thirty-one (31) bulk samples were collected during the survey and submitted to EMSL in Pineville, North Carolina for analysis using the EPA recommended method of Polarized Light Microscopy (PLM) coupled with dispersion staining (Method No. EPA 600/M4-82-020, Dec. 1982). EMSL participates in the National Voluntary Laboratory Accreditation Program (NVLAP). Their NVLAP accreditation number is 200841-0. EPA regulations require that multiple samples of each homogeneous material be collected for laboratory analysis. Forty-four (44) samples were analyzed due to layering by PLM and positive stop methods. In accordance with South Carolina Regulation 61-86.1, non-friable organically bound materials that are reported to be non-asbestos containing by PLM analysis must also be analyzed by Transmission Electron Microscopy (TEM). Seven (7) samples were analyzed using TEM.

### **Lead-Based Paint**

Lead painted surfaces were analyzed in place using X-ray fluorescence. Painted surfaces were selected based on color of topcoat, underlying layers and substrate on which it was painted.

## **RESULTS**

### **Asbestos Results**

The EPA defines an asbestos-containing material (ACM) as a material containing more than 1% asbestos. It should be noted that materials were identified to contain less than 1% asbestos and OSHA Construction Industry Asbestos Standards (29 CFR 1926.1101) will apply if those materials are disturbed during renovation or demolition activities. Provided below is a general discussion of the asbestos containing materials identified in the residence. A specific *PLM and TEM Data Table* is located in Appendix II of this report and identifies positive materials and designates approximate quantities.

A portion of the living room floor was observed to be damaged and unstable. Large amounts of construction debris, such as stacks of drywall, were observed to be throughout the residence. The building was fully assessed; however, if additional ACM is discovered during demolition activities, Apex recommends that work activities stop until the suspect building materials may be sampled and analyzed.

Suspect asbestos containing materials that were identified to be asbestos containing include:

- Approximately 200 SF of square wood pattern and tan marble under wood pattern vinyl flooring in the crawlspace under the front porch.
- Approximately 50 SF of 9"x9" floor tile in the back left corner of the basement.
- Approximately 6 LF of tar on one chimney – assumed positive.

### Lead Based Paint

OSHA does not recognize a threshold level of lead for definition purposes, only the presence or absence of lead. The current OSHA regulations recognize an airborne action level of thirty micrograms per cubic meter ( $30 \mu\text{g}/\text{m}^3$ ) during an eight-hour workday and a permissible exposure level of fifty micrograms per cubic meter ( $50 \mu\text{g}/\text{m}^3$ ) for employees.

Currently, EPA defines LBP as paint containing in excess of, or equal to,  $1.0 \text{ mg}/\text{cm}^2$ . *XRF LBP Data Sheets* providing XRF results for testing combinations can be found in the Appendices at the conclusion of this report. Paint-chip sampling was not required for XRF inconclusive values.

Several surfaces in the building tested positive for lead in excess of the regulatory definition:

- White wooden porch pillars
- White brick porch columns
- White wooden interior windows

## **RECOMMENDATIONS AND DISCUSSION**

### **Asbestos Containing Materials**

If the above referenced asbestos materials are to be disturbed by renovations or demolition, the asbestos must be removed in accordance with EPA, State of South Carolina and OSHA asbestos regulations. South Carolina, Department of Health and Environmental Control (DHEC) has specific regulations that must be adhered to during asbestos removal/abatement projects.

APEX recommends the following:

1. Abate the asbestos containing materials in the structure prior to renovation or demolition.
2. Follow applicable asbestos regulations during renovation or demolition of the structure. You should be aware that stringent requirements are imposed upon anyone renovating or demolishing a structure in which ACM will be disturbed. This work must be performed in accordance with OSHA asbestos regulations, 29 CFR 1910 & 1926, and NESHAP asbestos regulations 40 CFR 61, subpart M. South Carolina regulations require the accreditation of personnel who work in the asbestos field and notification and permitting fees for asbestos removal projects. There is a 10 working day notification period required prior to abatement of asbestos in a facility. Failure to take proper precautions and actions to protect human health and the environment can result in penalties, danger to personnel, and construction delays.

### **Lead-Based Paint**

Changes to state and federal regulations have changed the disposal options for LBP waste and LBP residue. LBP waste is defined as material such as wood, brick, metal, etc. that is coated with LBP. LBP residue is defined as residue that is generated from the removal (scraped, chipped, sandblasted, chemical means, etc.) of LBP from a structure. The regulations allow LBP waste from residential and commercial structures to be disposed of in Class 2 (construction and demolition debris) and Class 3 (municipal solid waste or industrial) landfills in South Carolina. The management of LBP residue is based on the source and lead concentration characterized by Toxic Characteristic Leaching Procedures (TCLP) to determine if the waste is classified as hazardous or non-hazardous. LBP residues that have TCLP sample results less than 5 milligrams per liter (mg/L) lead may be disposed of in a Class 3 landfill and is considered to be non-hazardous. LBP residues that have TCLP sample results equal to or greater than 5 mg/L lead should be disposed of in a Subtitle C landfill and is considered to be hazardous. However, the landfills should be contacted to determine their specific disposal requirements.

Occupational Safety and Health Administration Lead Regulations apply to actions initiated on lead containing materials. This regulation applies to lead concentrations greater than the analytical limit of detection. This regulation sets exposure levels on airborne lead and does not reference the percent lead in paint. Therefore, initial personal air monitoring should be conducted on workers performing work on surfaces which have a lead concentration of 0.1 mg/ cm<sup>2</sup> or above to satisfy the OSHA requirements. If a baseline exposure lower than the OSHA Action Level of 30 micrograms per cubic meter (µg/m<sup>3</sup>) is established, personal air monitoring may be terminated. The full OSHA lead standard should be referenced for compliance.

**A copy of this report must be submitted to SCDHEC at least ten (10) working days prior to demolition when applying for a demolition permit.**



**SECTION II**

**Asbestos & LBP Data Tables**

**ASBESTOS SURVEY FIELD DATA SHEET  
PLM & TEM ANALYSIS**

Project Name: COS 177 West Wood Street ACM-LBP

Sampled By: S. Hamby

Project Location: 177 West Wood Street, Spartanburg, South Carolina 29303

Project Manager: Tom Oliver

Project Number: 0521-99

Date: 9/15/2021

| Sample No. | Location                     | Sample Description                   | Analytical Results | Friable/Non Friable | Condition             | Quantity |           |
|------------|------------------------------|--------------------------------------|--------------------|---------------------|-----------------------|----------|-----------|
| 1          | Roof                         | 1 layer of shingles, 1 layer of felt | PLM - NAD          | Non-Friable         | Good                  | 2,900 SF |           |
| 2          |                              |                                      | TEM - NAD          |                     |                       |          |           |
| 3          |                              |                                      |                    |                     |                       |          |           |
| 4          | Exterior walls               | Texture over brick                   | PLM - NAD          | Friable             | Good                  | 3,000 SF |           |
| 5          |                              |                                      |                    |                     |                       |          |           |
| 6          |                              |                                      |                    |                     |                       |          |           |
| 7          |                              |                                      |                    |                     |                       |          |           |
| 8          | Wood windows                 | Window glazing                       | PLM - NAD          | Non-Friable         | Good                  | 10 EA    |           |
| 9          |                              |                                      |                    |                     |                       |          | TEM - NAD |
| 10         |                              |                                      |                    |                     |                       |          |           |
| 11         | Stacks of drywall - sporadic | Unfinished drywall                   | PLM - NAD          | Friable             | Good                  | 5,200 SF |           |
| 12         |                              |                                      |                    |                     |                       |          |           |
| 13         | Walls scattered throughout   | Drywall and joint compound           | PLM - NAD          | Friable             | Damaged               | 1,500 SF |           |
| 14         |                              |                                      |                    |                     |                       |          |           |
| 15         |                              |                                      |                    |                     |                       |          |           |
| 16         | Walls throughout             | Plaster with finish                  | PLM - NAD          | Friable             | Significantly damaged | 3,900 SF |           |
| 17         |                              |                                      |                    |                     |                       |          |           |
| 18         |                              |                                      |                    |                     |                       |          |           |
| 19         |                              |                                      |                    |                     |                       |          |           |
| 20         |                              |                                      |                    |                     |                       |          |           |
| 21         |                              |                                      |                    |                     |                       |          |           |
| 22         |                              |                                      |                    |                     |                       |          |           |

**ASBESTOS SURVEY FIELD DATA SHEET  
PLM & TEM ANALYSIS**

Project Name: COS 177 West Wood Street ACM-LBP

Sampled By: S. Hamby

Project Location: 177 West Wood Street, Spartanburg, South Carolina 29303

Project Manager: Tom Oliver

Project Number: 0521-99

Date: 9/15/2021

| Sample No.     | Location  | Sample Description   | Analytical Results                          | Friable/Non Friable | Condition   | Quantity    |
|----------------|---|--|---|---------------------|-------------|-------------|
| 23             | Crawlspace under front porch debris                   | Vinyl flooring, first layer square white with black diamond and second layer tan | PLM - NAD                                   | Non-Friable         | Good        | 200 SF      |
| 24             |   |  | TEM - NAD                                   |                     |             |             |
| 25             |   |  |   |                     |             |             |
| 26             | Crawlspace under front porch debris                   | Square wood pattern and tan marble under wood pattern vinyl flooring             | PLM - 18% chry                              | Non-Friable         | Good        | 200 SF      |
| 27             |   |  | TEM - NAD                                   |                     |             |             |
| 28             |   |  |   |                     |             |             |
| 29             | Unfinished basement floor sporadic (back left corner) | 9"x9" floor tile & mastic  | PLM - 8% chry (flooring), <1% chry (mastic) | Non-Friable         | Good        | 50 SF       |
| 30             |   |  | TEM - NAD (mastic)                          |                     |             |             |
| 31             |   |  |   |                     |             |             |
| <b>Assumed</b> | <b>1 Chimney</b>                                      | <b>Tar on Chimney</b>  | <b>Assumed</b>                              | <b>Non-Friable</b>  | <b>Good</b> | <b>6 LF</b> |

NAD = No Asbestos Detected

LF = Linear Feet

EA = Each

**Bold = Positive For Asbestos**

SF = Square Feet

Chry = Chrysotile

## FIELD DATA SHEET XRF LBP ANALYSIS

Project Name: COS 177 West Wood Street ACM-LBP

Sampled By: Stephanie Hamby

Project Location: 177 West Wood Street, Spartanburg, SC 29303

Project Manager: Tom Oliver

Project Number: 0521-99

Date: 9/27/2021

| Sample No. | Sample Location | Component     | Color        | Substrate    | Analytical Result (mg/m <sup>3</sup> ) |
|------------|-----------------|---------------|--------------|--------------|--|
| 85         | Standardization |               |              |              | 184.00/Pass                            |
| 86         | Calibration     |               |              |              | 1.01                                   |
| 87         | Calibration     |               |              |              | 1.03                                   |
| 88         | Calibration     |               |              |              | 1.13                                   |
| 89         | Exterior        | Column        | White        | Wood         | 0.00                                   |
| 90         |                 | Rail          | White        | Wood         | 0.00                                   |
| 91         |                 | <b>Pillar</b> | <b>White</b> | <b>Wood</b>  | <b>&gt;1.0</b>                         |
| 92         |                 | Pillar        | Green        | Concrete     | 0.16                                   |
| 93         |                 | <b>Column</b> | <b>White</b> | <b>Brick</b> | <b>&gt;2.30</b>                        |
| 94         |                 | Floor         | Blue         | Wood         | 0.01                                   |
| 95         |                 | Wall          | Green        | Stucco       | 0.00                                   |
| 96         |                 | Door Frame    | White        | Wood         | 0.10                                   |
| 97         |                 | Door          | Green        | Metal        | 0.00                                   |
| 98         |                 | Ceiling       | White        | Wood         | 0.17                                   |
| 99         | Interior        | Wall          | Gray         | Plaster      | 0.18                                   |
| 100        |                 | Door Frame    | Red          | Wood         | 0.30                                   |
| 101        |                 | Mantle        | Brown        | Wood         | 0.14                                   |
| 102        |                 | Window Frame  | Brown        | Wood         | 0.21                                   |
| 103        |                 | Window Sill   | Brown        | Wood         | 0.29                                   |
| 104        |                 | Window        | White        | Wood         | 0.21                                   |
| 105        |                 | Window Frame  | White        | Wood         | 0.51                                   |
| 106        |                 | Window Frame  | White        | Wood         | 0.63                                   |
| 107        |                 | Fireplace     | Brown        | Brick        | 0.03                                   |
| 108        |                 | Wall          | Green        | Plaster      | 0.45                                   |
| 109        |                 | Closet Door   | White        | Wood         | 0.27                                   |
| 110        |                 | Wall          | White        | Plaster      | 0.30                                   |
| 111        |                 | <b>Window</b> | <b>White</b> | <b>Wood</b>  | <b>&gt;1.86</b>                        |
| 112        |                 | Floor         | Brown        | Wood         | 0.06                                   |

**FIELD DATA SHEET  
XRF LBP ANALYSIS**

Project Name: COS 177 West Wood Street ACM-LBP

Sampled By: Stephanie Hamby

Project Location: 177 West Wood Street, Spartanburg, SC 29303

Project Manager: Tom Oliver

Project Number: 0521-99

Date: 9/27/2021

| Sample No. | Sample Location | Component   | Color | Substrate | Analytical Result<br>(mg/m <sup>3</sup> ) |
|------------|-----------------|-------------|-------|-----------|---|
| 113        |                 | Calibration |       |           | 1.13                                      |
| 114        |                 | Calibration |       |           | 1.14                                      |
| 115        |                 | Calibration |       |           | 1.12                                      |

**Bold = LBP**

FFM = Factory Finished Metal

FFV = Factory Finished Vinyl

**SECTION III**

**Laboratory Analytical Results & Chain of Custody**



# EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

Tel/Fax: (704) 525-2205 / (704) 525-2382

<http://www.EMSL.com> / [charlottelab@emsl.com](mailto:charlottelab@emsl.com)

EMSL Order: 412109007

Customer ID: AXEM25

Customer PO:

Project ID:

**Attention:** Stephanie Hamby  
Apex Environmental Management  
7 Winchester Court  
Mauldin, SC 29662

**Phone:** (864) 918-1433

**Fax:**

**Received Date:** 09/24/2021 9:50 AM

**Analysis Date:** 09/30/2021

**Collected Date:** 09/15/2021

**Project:** 0521-99 177 W Wood St.

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

| Sample  | Description                                       | Appearance                                | Non-Asbestos             |   | Asbestos      |
|---|---|---|--------------------------|---|---------------|
|   |   |   | % Fibrous                | % Non-Fibrous                               | % Type        |
| 1-Shingle<br><small>412109007-0001</small>          | Roof - 1 Shingle, 1 Felt                          | Black Fibrous<br>Heterogeneous            | 4% Glass                 | 96% Non-fibrous (Other)                     | None Detected |
| 1-Felt<br><small>412109007-0001A</small>            | Roof - 1 Shingle, 1 Felt                          | Black Fibrous<br>Homogeneous              | 70% Cellulose            | 30% Non-fibrous (Other)                     | None Detected |
| 2-Shingle<br><small>412109007-0002</small>          | Roof - 1 Shingle, 1 Felt                          | Black Fibrous<br>Heterogeneous            | 5% Glass                 | 95% Non-fibrous (Other)                     | None Detected |
| 2-Felt<br><small>412109007-0002A</small>            | Roof - 1 Shingle, 1 Felt                          | Brown Fibrous<br>Homogeneous              | 60% Cellulose            | 40% Non-fibrous (Other)                     | None Detected |
| 4<br><small>412109007-0003</small>                  | Ext Walls - Texture over Brick                    | Gray Non-Fibrous<br>Heterogeneous         |                          | 35% Quartz<br>65% Non-fibrous (Other)       | None Detected |
| 5<br><small>412109007-0004</small>                  | Ext Walls - Texture over Brick                    | Gray/White Non-Fibrous<br>Homogeneous     |                          | 10% Ca Carbonate<br>90% Non-fibrous (Other) | None Detected |
| 6<br><small>412109007-0005</small>                  | Ext Walls - Texture over Brick                    | Gray/Tan/Green Non-Fibrous<br>Homogeneous |                          | 30% Quartz<br>70% Non-fibrous (Other)       | None Detected |
| 7<br><small>412109007-0006</small>                  | Ext Walls - Texture over Brick                    | Gray Non-Fibrous<br>Heterogeneous         |                          | 35% Quartz<br>65% Non-fibrous (Other)       | None Detected |
| 8<br><small>412109007-0007</small>                  | Ext Walls - Texture over Brick                    | Gray/Tan Non-Fibrous<br>Heterogeneous     |                          | 35% Quartz<br>65% Non-fibrous (Other)       | None Detected |
| 9<br><small>412109007-0008</small>                  | Wood Windows - Window Glazing                     | Brown/White Non-Fibrous<br>Homogeneous    |                          | 10% Ca Carbonate<br>90% Non-fibrous (Other) | None Detected |
| 10<br><small>412109007-0009</small>                 | Wood Windows - Window Glazing                     | Brown/White Non-Fibrous<br>Homogeneous    |                          | 10% Ca Carbonate<br>90% Non-fibrous (Other) | None Detected |
| 12<br><small>412109007-0010</small>                 | Stacks of Drywall - Sporadic - Unfinished Drywall | White/Beige Fibrous<br>Homogeneous        | 2% Cellulose<br>2% Glass | 96% Non-fibrous (Other)                     | None Detected |
| 13<br><small>412109007-0011</small>                 | Stacks of Drywall - Sporadic - Unfinished Drywall | White/Beige Fibrous<br>Homogeneous        | 2% Cellulose<br>2% Glass | 96% Non-fibrous (Other)                     | None Detected |
| 14<br><small>412109007-0012</small>                 | Stacks of Drywall - Sporadic - Unfinished Drywall | Gray Fibrous<br>Heterogeneous             | 5% Cellulose<br>2% Glass | 93% Non-fibrous (Other)                     | None Detected |
| 15-Drywall<br><small>412109007-0013</small>         | Walls - Scattered Throughout - Drywall, J.C.      | Brown/Gray Fibrous<br>Heterogeneous       | 12% Cellulose            | 88% Non-fibrous (Other)                     | None Detected |
| 15-Joint Compound<br><small>412109007-0013A</small> | Walls - Scattered Throughout - Drywall, J.C.      | White Non-Fibrous<br>Homogeneous          |                          | 25% Ca Carbonate<br>75% Non-fibrous (Other) | None Detected |

Initial report from: 10/01/2021 08:50:20



# EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

Tel/Fax: (704) 525-2205 / (704) 525-2382

<http://www.EMSL.com> / [charlottelab@emsl.com](mailto:charlottelab@emsl.com)

**EMSL Order:** 412109007  
**Customer ID:** AXEM25  
**Customer PO:**  
**Project ID:**

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

| Sample   | Description                                  | Appearance                            | Non-Asbestos              |  | Asbestos      |
|--|--|---------------------------------------|---------------------------|--|---------------|
|  |  |                                       | % Fibrous                 | % Non-Fibrous  | % Type        |
| 16-Drywall<br><small>412109007-0014</small>  | Walls - Scattered Throughout - Drywall, J.C. | Brown/Gray Fibrous Heterogeneous      | 12% Cellulose             | 88% Non-fibrous (Other)                                  | None Detected |
| 16-Joint Compound<br><small>412109007-0014A</small>                                | Walls - Scattered Throughout - Drywall, J.C. | White Non-Fibrous Homogeneous         |                           | 25% Ca Carbonate<br>75% Non-fibrous (Other)              | None Detected |
| 17-Drywall<br><small>412109007-0015</small>  | Walls - Scattered Throughout - Drywall, J.C. | Gray Fibrous Heterogeneous            | 8% Cellulose              | 92% Non-fibrous (Other)                                  | None Detected |
| 17-Joint Compound<br><small>412109007-0015A</small>                                | Walls - Scattered Throughout - Drywall, J.C. | White Non-Fibrous Homogeneous         |                           | 30% Ca Carbonate<br>70% Non-fibrous (Other)              | None Detected |
| 18-Gray Plaster<br><small>412109007-0016</small>                                   | Walls - Throughout - Plaster w/ Finish       | Gray/Tan/Beige Fibrous Heterogeneous  | 1% Hair                   | 35% Quartz<br>64% Non-fibrous (Other)                    | None Detected |
| 18-White Plaster<br><small>412109007-0016A</small>                                 | Walls - Throughout - Plaster w/ Finish       | White/Beige Non-Fibrous Heterogeneous |                           | 35% Quartz<br>65% Non-fibrous (Other)                    | None Detected |
| 18-Finish Coat<br><small>412109007-0016B</small>                                   | Walls - Throughout - Plaster w/ Finish       | Tan Non-Fibrous Homogeneous           |                           | 15% Ca Carbonate<br>85% Non-fibrous (Other)              | None Detected |
| 19-Gray Plaster<br><small>412109007-0017</small>                                   | Walls - Throughout - Plaster w/ Finish       | Gray/Tan Fibrous Heterogeneous        | 1% Hair                   | 35% Quartz<br>64% Non-fibrous (Other)                    | None Detected |
| 19-White Plaster<br><small>412109007-0017A</small>                                 | Walls - Throughout - Plaster w/ Finish       | White/Beige Non-Fibrous Heterogeneous |                           | 35% Quartz<br>65% Non-fibrous (Other)                    | None Detected |
| 19-Finish Coat<br><small>412109007-0017B</small>                                   | Walls - Throughout - Plaster w/ Finish       | Tan/White Non-Fibrous Homogeneous     |                           | 10% Ca Carbonate<br>90% Non-fibrous (Other)              | None Detected |
| 20-Gray Plaster<br><small>412109007-0018</small><br><i>Finish coat not present</i> | Walls - Throughout - Plaster w/ Finish       | Gray/Tan Non-Fibrous Homogeneous      | <1% Cellulose<br><1% Hair | 30% Quartz<br>5% Ca Carbonate<br>65% Non-fibrous (Other) | None Detected |
| 20-White Plaster<br><small>412109007-0018A</small>                                 | Walls - Throughout - Plaster w/ Finish       | Tan Non-Fibrous Homogeneous           | <1% Cellulose             | 20% Quartz<br>5% Ca Carbonate<br>75% Non-fibrous (Other) | None Detected |
| 21-Gray Plaster<br><small>412109007-0019</small>                                   | Walls - Throughout - Plaster w/ Finish       | Gray/Tan Fibrous Heterogeneous        | 1% Hair                   | 35% Quartz<br>64% Non-fibrous (Other)                    | None Detected |
| 21-White Plaster<br><small>412109007-0019A</small>                                 | Walls - Throughout - Plaster w/ Finish       | White/Beige Non-Fibrous Heterogeneous |                           | 30% Quartz<br>70% Non-fibrous (Other)                    | None Detected |
| 21-Finish Coat<br><small>412109007-0019B</small>                                   | Walls - Throughout - Plaster w/ Finish       | White Non-Fibrous Homogeneous         |                           | 20% Ca Carbonate<br>80% Non-fibrous (Other)              | None Detected |
| 22-Gray Plaster<br><small>412109007-0020</small>                                   | Walls - Throughout - Plaster w/ Finish       | Gray/Tan Fibrous Heterogeneous        | 1% Hair                   | 35% Quartz<br>64% Non-fibrous (Other)                    | None Detected |
| 22-White Plaster<br><small>412109007-0020A</small>                                 | Walls - Throughout - Plaster w/ Finish       | White/Beige Non-Fibrous Heterogeneous |                           | 30% Quartz<br>70% Non-fibrous (Other)                    | None Detected |
| 22-Finish Coat<br><small>412109007-0020B</small>                                   | Walls - Throughout - Plaster w/ Finish       | Tan/Beige Non-Fibrous Homogeneous     |                           | 10% Ca Carbonate<br>90% Non-fibrous (Other)              | None Detected |

Initial report from: 10/01/2021 08:50:20





# EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

Tel/Fax: (704) 525-2205 / (704) 525-2382

<http://www.EMSL.com> / [charlottelab@emsl.com](mailto:charlottelab@emsl.com)

**EMSL Order:** 412109007  
**Customer ID:** AXEM25  
**Customer PO:**  
**Project ID:**

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

| Sample                           | Description   | Appearance                            | Non-Asbestos              |                                       | Asbestos                     |
|----------------------------------|---|---------------------------------------|---------------------------|---------------------------------------|------------------------------|
|                                  |   |                                       | % Fibrous                 | % Non-Fibrous                         | % Type                       |
| 23-Floor Tile<br>412109007-0021  | Crawlspace under Front Porch Debris - 2 Layers: Square White w/ Black Diamond Second Layer: Tan V.F.          | Gray/Beige Non-Fibrous Homogeneous    |                           | 10% Quartz<br>90% Non-fibrous (Other) | None Detected                |
| 23-Flooring<br>412109007-0021A   | Crawlspace under Front Porch Debris - 2 Layers: Square White w/ Black Diamond Second Layer: Tan V.F.          | Tan/Beige Fibrous Heterogeneous       | 12% Cellulose<br>1% Glass | 87% Non-fibrous (Other)               | None Detected                |
| 24-Floor Tile<br>412109007-0022  | Crawlspace under Front Porch Debris - 2 Layers: Square White w/ Black Diamond Second Layer: Tan V.F.          | Gray Non-Fibrous Homogeneous          |                           | 20% Quartz<br>80% Non-fibrous (Other) | None Detected                |
| 24-Flooring<br>412109007-0022A   | Crawlspace under Front Porch Debris - 2 Layers: Square White w/ Black Diamond Second Layer: Tan V.F.          | Tan Non-Fibrous Homogeneous           | <1% Cellulose<br>5% Glass | 95% Non-fibrous (Other)               | None Detected                |
| 26-Flooring 1<br>412109007-0023  | Crawlspace under Front Porch Debris - 2 Layers: Square Wood Pattern V.F. & Tan Marble V.F. under Wood Pattern | Brown/Gray Fibrous Heterogeneous      | 20% Cellulose<br>1% Glass | 79% Non-fibrous (Other)               | None Detected                |
| 26-Flooring 2<br>412109007-0023B | Crawlspace under Front Porch Debris - 2 Layers: Square Wood Pattern V.F. & Tan Marble V.F. under Wood Pattern | Brown/Tan/Beige Fibrous Heterogeneous |                           | 82% Non-fibrous (Other)               | 18% Chrysotile               |
| 27-Flooring 1<br>412109007-0024  | Crawlspace under Front Porch Debris - 2 Layers: Square Wood Pattern V.F. & Tan Marble V.F. under Wood Pattern | Brown/Tan Fibrous Heterogeneous       | 10% Cellulose<br>2% Glass | 88% Non-fibrous (Other)               | None Detected                |
| 27-Flooring 2<br>412109007-0024A | Crawlspace under Front Porch Debris - 2 Layers: Square Wood Pattern V.F. & Tan Marble V.F. under Wood Pattern |                                       |                           |                                       | Positive Stop (Not Analyzed) |
| 29-Flooring<br>412109007-0025    | Basement Floor (Unfinished) Sporadic - 9x9 Flooring   | Brown/Gray Fibrous Heterogeneous      |                           | 92% Non-fibrous (Other)               | 8% Chrysotile                |
| 29-Mastic<br>412109007-0025A     | Basement Floor (Unfinished) Sporadic - 9x9 Flooring   | Black Non-Fibrous Homogeneous         |                           | 100% Non-fibrous (Other)              | <1% Chrysotile               |
| 30-Flooring<br>412109007-0026    | Basement Floor (Unfinished) Sporadic - 9x9 Flooring   |                                       |                           |                                       | Positive Stop (Not Analyzed) |
| 30-Mastic<br>412109007-0026A     | Basement Floor (Unfinished) Sporadic - 9x9 Flooring   | Red/Black Non-Fibrous Homogeneous     | <1% Cellulose             | 100% Non-fibrous (Other)              | None Detected                |

Initial report from: 10/01/2021 08:50:20



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EMSL Order: 412109007

Customer ID: AXEM25

Customer PO:

Project ID:

Analyst(s)

Cameron Evans (13)

Ryan Rains (31)

Lee Plumley, Laboratory Manager  
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC NVLAP Lab Code 102104-0, Virginia 3333-000228, West Virginia LT000321

Initial report from: 10/01/2021 08:50:20



# EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

Tel/Fax: (704) 525-2205 / (704) 525-2382

<http://www.EMSL.com> / [charlottelab@emsl.com](mailto:charlottelab@emsl.com)

**EMSL Order:** 412109007

**Customer ID:** AXEM25

**Customer PO:**

**Project ID:**

**Attention:** Stephanie Hamby  
Apex Environmental Management  
7 Winchester Court  
Mauldin, SC 29662

**Phone:** (864) 918-1433

**Fax:**

**Received Date:** 09/24/2021 9:50 AM

**Analysis Date:** 10/06/2021

**Collected Date:** 09/15/2021

**Project:** 0521-99 177 W Wood St.

## Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

| Sample ID                       | Description                             | Appearance                                       | % Matrix Material | % Non-Asbestos Fibers | Asbestos Types       |
|---------------------------------|---|--|-------------------|-----------------------|----------------------|
| 3-Shingle<br>412109007-0027     | Roof                                    | Gray/Black<br>Fibrous<br>Heterogeneous           | 100.0 Other       | None                  | No Asbestos Detected |
| 3-Felt<br>412109007-0028        | Roof                                    | Brown/Black<br>Fibrous<br>Homogeneous            | 100.0 Other       | None                  | No Asbestos Detected |
| 11<br>412109007-0029            | Wood Windows                            | Brown/White<br>Non-Fibrous<br>Heterogeneous      | 100.0 Other       | None                  | No Asbestos Detected |
| 25-Floor Tile<br>412109007-0030 | Crawlspace under Front<br>Porch Debris  | Gray/Tan/Beige<br>Non-Fibrous<br>Homogeneous     | 100.0 Other       | None                  | No Asbestos Detected |
| 25-Flooring<br>412109007-0031   | Crawlspace under Front<br>Porch Debris  | Tan/Beige<br>Fibrous<br>Heterogeneous            | 100.0 Other       | None                  | No Asbestos Detected |
| 28-Flooring 1<br>412109007-0032 | Crawlspace under Front<br>Porch Debris  | Brown/Tan<br>Fibrous<br>Heterogeneous            | 100.0 Other       | None                  | No Asbestos Detected |
| 31-Mastic<br>412109007-0033     | Basement Floor<br>(Unfinished) Sporadic | Brown/Black/Rust<br>Non-Fibrous<br>Heterogeneous | 100.0 Other       | None                  | No Asbestos Detected |

Analyst(s)

Stephen Bennett (7)

Lee Plumley, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. EMSL recommends that samples reported as none detected or <1% undergo additional analysis via PLM to avoid the possibility of false negatives.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC

Initial report from: 10/06/2021 13:36:30



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS TRAINING

Asbestos Bulk Building Materials - Chain of Custody

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.  
10801 Southern Loop Blvd

412109007

Pineville, NC 28134  
PHONE: (704) 525-2205  
EMAIL: charlottelab@EMSL.com

|  |  |   |
|--|--|---|
| Customer Information                     | Customer ID:                                   | Billing ID:                                 |
|  | Company Name: Apex Environmental Management    | Company Name: Apex Environmental Management |
|  | Contact Name: Stephanie Hamby                  | Billing Contact: Stephanie Hamby            |
|  | Street Address: 7 Winchester Court             | Street Address: 7 Winchester Court          |
|  | City, State, Zip: Mauldin SC 29662 Country: US | City, State, Zip: Mauldin SC Country: US    |
|  | Phone: 864-918-1433                            | Phone: 864-918-1433                         |
| Email(s) for Report: shamby@apex-ehs.com | Email(s) for Invoice:                          |   |

**Project Information**

Project Name/No: 0521-99 177 W Wood St

EMSL LIMS Project ID: (if applicable, EMSL will provide)

US State where samples collected: SC

State of Connecticut (CT) must select project location:  
 Commercial (Taxable)  Residential (Non-Taxable)

Sampled By Name: S. Hamby

Sampled By Signature: *[Signature]*

Date Sampled: 9-15-21

No. of Samples in Shipment: 31

**Turn-Around-Time (TAT)**

3 Hour  6 Hour  24 Hour  32 Hour  48 Hour  72 Hour  96 Hour  1 Week  2 Week

Please call ahead for large projects and/or turnaround times 8 Hours or Less \*32 Hour TAT available for select tests only; samples must be submitted by 11.30am.

**Test Selection**

**PLM - Bulk (reporting limit)**

PLM EPA 600/R-93/116 (<1%)  
 PLM EPA NOB (<1%)  
 POINT COUNT  
      400 (<0.25%)  1,000 (<0.1%)  
 POINT COUNT w/ GRAVIMETRIC  
      400 (<0.25%)  1,000 (<0.1%)  
 NIOSH 9002 (<1%)  
 NYS 198.1 (Friable - NY)  
 NYS 198.6 NOB (Non-Friable - NY)  
 NYS 198.8 (Vermiculite SM-V)

**TEM - Bulk**

TEM EPA NOB  
 NYS NOB 198.4 (Non-Friable - NY)  
 TEM EPA 600/R-93/116 w Milling Prep (0.1%)

**Other Tests (please specify)**

Positive Stop - Clearly Identified Homogeneous Areas (HA)

| Sample Number | HA Number | Sample Location | Material Description |
|---------------|-----------|-----------------|----------------------|
| 1             |           | Roof            | Shingle, 1 felt      |
| 2             |           |                 |                      |
| 3             |           |                 |                      |
| 4             |           | Ext Walls       | Texture over         |
| 5             |           |                 | brick                |
| 6             |           |                 |                      |
| 7             |           |                 |                      |
| 8             |           |                 |                      |
| 9             |           | Wood windows    | Window glazing       |
| 10            |           |                 |                      |

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Method of Shipment: FedEx

Sample Condition Upon Receipt:

Relinquished by: S. Hamby

Date/Time: 9/16/21 10A

Received by: *[Signature]*

Date/Time: 9/24/21 950AM

Relinquished by:

Date/Time:

Received by: Flx 2837 5140 4535

Date/Time:

Controlled Document - Asbestos Bulk R7 9/14/2021

AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.



**Asbestos Bulk Building Materials - Chain of Custody**

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.  
10801 Southern Loop Blvd

EMSL ANALYTICAL, INC.  
LABORATORY • PRODUCTS • TRAINING

9007

Pineville, NC 28134  
PHONE: (704) 525-2205  
EMAIL: charlottelab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

| Sample Number | HA Number | Sample Location             | Material Description     |
|---------------|-----------|-----------------------------|--------------------------|
| 11            |           | wood windows                | window glazing           |
| 12            |           | Stacks of drywall -         | unfinished               |
| 13            |           | Sporadic                    | Drywall                  |
| 14            |           |                             |                          |
| 15            |           | Walls - Scattered           | Drywall, J.C.            |
| 16            |           | throughout                  |                          |
| 17            |           |                             |                          |
| 18            |           | Walls - throughout          | Plaster w/               |
| 19            |           |                             | finish                   |
| 20            |           |                             |                          |
| 21            |           |                             |                          |
| 22            |           |                             |                          |
| 23            |           | Crawlspace under front      | 2 layers: Square         |
| 24            |           | porch debris                | white w/ black diamond   |
| 25            |           |                             | second layer - tan. V.F. |
| 26            |           | Crawlspace under front      | 2 layers: Square wood    |
| 27            |           | porch debris                | pattern V.F & Tan marble |
| 28            |           |                             | V.F under wood pattern   |
| 29            |           | Basement floor (unfinished) | 9x9 flooring             |
| 30            |           | Sporadic                    |                          |
| 31            |           |                             |                          |

|                                   |                              |                                |            |
|-----------------------------------|------------------------------|--------------------------------|------------|
| Method of Shipment: <b>Exped</b>  |                              | Sample Condition Upon Receipt: |            |
| Relinquished by: <b>S. Mantey</b> | Date/Time: <b>9-16-21 PA</b> | Received by:                   | Date/Time: |
| Relinquished by:                  | Date/Time:                   | Received by:                   | Date/Time: |

Controlled Document - Asbestos Bulk R7 09/14/2021

AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature)

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**SECTION IV**  
**Photographic Log**



Photo 1 – 177 West Wood Street in Spartanburg, South Carolina 29303



Photo 2 – Assumed asbestos containing chimney tar.



Photo 3 – One layer of shingle and one layer of felt.



Photo 4 – Window glazing on wood windows.



Photo 5 – Textured finish on exterior walls.



Photo 6 – Drywall and joint compound on walls scattered throughout.



Photo 7 – Plaster with finish throughout walls.



Photo 8 – Window glazing on wood windows



Photo 9 – Stacks of drywall located sporadically throughout.



Photo 10 – Exposed ceiling joists.



Photo 11 – 5 gallons of joint compound material observed in unfinished basement.



Photo 12 – Multiple types of layered vinyl flooring observed in porch crawlspace.





Photo 13 – Two layers of flooring. Square and diamond patten top layer, tan second layer located in crawlspace.



Photo 14 – Asbestos containing square wood pattern flooring over tan marble flooring located in crawlspace.



Photo 15 – Asbestos containing 9"x9" floor tile & mastic located in the back left corner in the basement.



Photo 16 – Unfinished basement area with building material debris.

**SECTION V**

**SC DHEC Asbestos Inspector License**

**SCDHEC ISSUED**  
Asbestos ID Card

**STEPHANIE HAMBY**



AIRSAMPLER  
CONSULTBI

AS-000632  
BI-01894

Expiration Date:  
08/05/22  
01/12/22