



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

City of Spartanburg  
312 East Park Avenue  
Spartanburg, South Carolina 29306

### ***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: 0120-17

September 22, 2020





**Apex Project Number 0120-17**

September 22, 2020

7 Winchester Court  
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[www.apex-ehs.com](http://www.apex-ehs.com)

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

Reference: Asbestos and Lead-Based Paint Assessment Services  
312 East Park Avenue  
Spartanburg, South Carolina 29306

**SERVICES**

- Indoor Air Quality
- Mold Remediation
- Asbestos & Lead
- Industrial Hygiene
- Worker Health & Safety
- Mold Consulting
- Moisture Management Plans
- Safety Assessment
- Environmental Site Assessments
- Hazard Communication

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  
Field Scientist

Tom Oliver  
Vice President

Appendices

**ASBESTOS AND LEAD BASED PAINT ASSESSMENT**

**CITY OF SPARTANBURG  
312 EAST PARK AVENUE  
SPARTANBURG, SOUTH CAROLINA 29306**

**APEX PROJECT NO. 0120-17**

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**SECTION I**

**Asbestos & Lead Evaluation Report**

**ASBESTOS EVALUATION REPORT  
APEX PROJECT NUMBER: 0120-17**

Client:	City of Spartanburg	Client Contact:	Mr. Jeff Tillerson
Client Address:	440 South Church Street Suite B Spartanburg, SC 29306	Client Phone Number:	(864) 596-2911
Project:	Asbestos Evaluation and Lead Based Paint Assessment		
Property Address:	312 East Park Avenue Spartanburg, SC 29306		
Assessor:	Stephanie Hamby	Date of Assessment:	9/2/2020
Company:	Apex Environmental Management 7 Winchester Court Mauldin, SC 29662	Phone Number:	(864) 404-3210
Purpose of Assessment:	Demolition	Age of Structure:	Approximately 100 years
Building Type:	Residential	Number of Stories:	1
Foundation:	Partial Piers Partial Crawl Space	Approximate Square Footage	1,850 SF

**EXTERIOR BUILDING MATERIALS**

- Pitched wood roof with shingles and no felt.
- Wood siding.
- Wood windows with glazing and caulk on the glass panes.
- Wooden doors with no caulk
- A portion of the doors and windows are missing.

**INTERIOR BUILDING MATERIALS**

- Appears a renovation was started then stopped.
- Bare wood studs and open ceiling exists throughout with remnants of drywall.
- Plaster with finish in debris piles throughout.
- A portion of the floors are missing.
- Vinyl floor with adhesive exists in patches on the floor and in debris at the back open area of house.

## **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. Twenty-four (24) 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. Thirty-three (33) 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). Thirteen (13) 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. OSHA defines ACM as a material containing detectable amounts of asbestos. 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.

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

- No ACM was identified in the samples collected.

#### 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:

#### Exterior:

- White wood windows.
- Gray wood front porch ceiling.
- White wood front porch column.

#### Interior:

- No LBP was identified in the sampled areas.

## **RECOMMENDATIONS AND DISCUSSION**

### Asbestos Containing Materials

No ACM was identified in the sampled areas therefore Apex has no recommendations for asbestos removal.

This report summarizes our evaluation of the conditions observed at the site. The findings prepared by Apex are based upon testing performed at 312 East Park Avenue in Spartanburg, South Carolina. Additional ACM may exist (undetected) in other areas due to their inaccessibility or due to the limited nature of our testing. Our assessment procedures and recommendations are based on the guidelines presented in EPA, State of South Carolina or OSHA asbestos regulations.

### Lead-Based Paint

Currently the Environmental Protection Agency (EPA) define LBP as paint containing greater than  $1.0 \text{ milligrams per square centimeter (mg}/\text{cm}^2)$  lead or in excess of, or equal to, 0.5 percent lead. Building materials identified as being painted with LBP should be segregated from the other building materials and recycled or disposed of in a municipal lined landfill. The removed wastes would need to be containerized and further tested by Toxic Characteristic Leaching procedures (TCLP) to determine if the waste is classified as hazardous. The remaining building materials that

*City of Spartanburg  
312 East Park Avenue  
Apex Project No. 0120-17  
September 22, 2020*

are not painted with LBP may be disposed of in a construction and demolition landfill. 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 ( $\mu\text{g}/\text{m}^3$ ) 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

Project Name: COS 312 East Park Avenue NIP ACM-LBP

Sampled By: Stephanie Hamby

Project Location: 312 East Park Avenue, Spartanburg, SC 29306

Project Manager: Tom Oliver

Project Number: 0120-17

Date: 9/10/2020

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
1	Roof	Roof Shingle (2 layers & no felt)	PEM - NAD	Non Friable	Good	2,200 SF
2			TEM - NAD			
3						
4	Wood Windows	Window glazing on glass panes	PEM - NAD	Non Friable	Good	7 EA
5			TEM - NAD			
6						
7	Wood Windows	Window caulk on glass panes	PEM - NAD	Non Friable	Good	7 EA
8			TEM - NAD			
9						
10	Scattered throughout on nail heads	Drywall remnants on nail heads on walls	PEM - NAD	Friable	Significantly Damaged	50 SF
11						
12						
13	Throughout	Plaser with finish	PEM - NAD	Friable	Significantly Damaged	750 SF
14						
15						
16	Big back right room (portion under wood)	Rainbow snakeskin pattern vinyl floor with no adhesive	PEM - NAD	Non Friable	Good	140 SF
17			TEM - NAD			
18						
19	Back area of house where wall is missing	4 types of vinyl floor with and without mastic	PEM - NAD	Non Friable	Damaged	500 SF
20			TEM - NAD			
21						
22 - 24	Sample numbers not used					
25	Wood window sills (front porch window & front far left window)	Caulk	PEM - NAD	Non Friable	Good	2 EA
26			TEM - NAD			
27						

NAD = No Asbestos Detected

LF = Linear Feet

EA = Each

**Bold = Positive For Asbestos**

SF = Square Feet

**FIELD DATA SHEET  
XRF LBP ANALYSIS**

Project Name: COS 312 East Park Avenue NIP ACM-LBP

Sampled By: Stephanie Hamby

Project Location: 312 East Park Avenue, Spartanburg, SC 29306

Project Manager: Tom Oliver

Project Number: 0120-17

Date: 9/10/2020

Sample No.	Sample Location	Component	Color	Substrate	Analytical Result (mg/m <sup>3</sup> )
1		Standardization			187.00
2		Calibration			1.12
3		Calibration			1.21
4		Calibration			1.16
<b>5</b>	<b>Exterior</b>	<b>Window</b>	<b>White</b>	<b>Wood</b>	<b>5.00</b>
6	Exterior	Siding	Blue	Wood	0.02
7	Exterior	Front porch floor	Green	Wood	0.02
8	Exterior	Front porch column	Green	Brick	0.02
9	Exterior	Front porch handrail	White	Brick	0.00
10	Exterior	Corner trim	White	Wood	0.39
11	Exterior	Door casing	White	Wood	0.00
<b>12</b>	<b>Exterior</b>	<b>Front porch ceiling</b>	<b>Gray</b>	<b>Wood</b>	<b>2.77</b>
13	Exterior	Front porch ceiling	Blue	Wood	0.14
<b>14</b>	<b>Exterior</b>	<b>Front porch column</b>	<b>White</b>	<b>Wood</b>	<b>1.56</b>
15	Exterior	Front porch column cap	White	Concrete	0.19
16	Exterior	Front porch header	Blue	Wood	0.01
17	Exterior	Window casing	White	Wood	0.84
18	Exterior	Lattice	Green	Wood	0.00
19	Exterior	Window casing	White	Wood	0.00
20	Exterior	Door	Green	Metal	0.00
21	Interior	Floor	Blue	Wood	0.01
22	Interior	Window	White	Wood	0.05
23		Calibration			1.06
24		Calibration			1.08
25		Calibration			1.10

### **SECTION III**

#### **Laboratory Analytical Results**



# 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: 412007470

Customer ID: AXEM25

Customer PO:

Project ID: City of Spartanburg

**Attention:** Tom Oliver  
Apex Environmental Management  
7 Winchester Court  
Mauldin, SC 29662

**Phone:** (864) 640-5274

**Fax:**

**Received Date:** 09/03/2020 9:50 AM

**Analysis Date:** 09/09/2020 - 09/10/2020

**Collected Date:** 09/02/2020

**Project:** 0120-17 COS 312 E. Park Avenue (City of Spartanburg)

## 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-Brown Shingle <small>412007470-0001</small>	Roof Shingles (2 Layers) w/ No Felt	Brown/Black Non-Fibrous Homogeneous	5% Glass	8% Quartz 10% Ca Carbonate 77% Non-fibrous (Other)	None Detected
1-Black Shingle <small>412007470-0001A</small>	Roof Shingles (2 Layers) w/ No Felt	Black Non-Fibrous Homogeneous	5% Glass	8% Quartz 10% Ca Carbonate 77% Non-fibrous (Other)	None Detected
2-Brown Shingle <small>412007470-0002</small>	Roof Shingles (2 Layers) w/ No Felt	Brown/Black Fibrous Homogeneous	5% Glass	5% Quartz 10% Ca Carbonate 80% Non-fibrous (Other)	None Detected
2-Black Shingle <small>412007470-0002A</small>	Roof Shingles (2 Layers) w/ No Felt	Black Fibrous Homogeneous	5% Glass	5% Quartz 10% Ca Carbonate 80% Non-fibrous (Other)	None Detected
4 <small>412007470-0003</small>	Window Glazing on Glass Panes	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
5 <small>412007470-0004</small>	Window Glazing on Glass Panes	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
7 <small>412007470-0005</small>	Window Caulk on Glass Panes	White Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
8 <small>412007470-0006</small>	Window Caulk on Glass Panes	White Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
10 <small>412007470-0007</small>	Drywall Remnants on Nail Heads on Walls	Gray Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
11 <small>412007470-0008</small>	Drywall Remnants on Nail Heads on Walls	Gray Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
12 <small>412007470-0009</small>	Drywall Remnants on Nail Heads on Walls	Gray Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
13-Skim Coat <small>412007470-0010</small>	Plaster w/ Finish	White Non-Fibrous Homogeneous		5% Quartz 5% Ca Carbonate 90% Non-fibrous (Other)	None Detected
13-Rough Coat <small>412007470-0010A</small>	Plaster w/ Finish	Tan Non-Fibrous Homogeneous		30% Quartz 5% Ca Carbonate 65% Non-fibrous (Other)	None Detected
14-Skim Coat <small>412007470-0011</small>	Plaster w/ Finish	White Non-Fibrous Homogeneous		5% Quartz 95% Non-fibrous (Other)	None Detected
14-Rough Coat <small>412007470-0011A</small>	Plaster w/ Finish	Tan Non-Fibrous Homogeneous		30% Quartz 70% Non-fibrous (Other)	None Detected
15-Rough Coat <small>412007470-0012</small> <i>No skim coat present</i>	Plaster w/ Finish	Tan Non-Fibrous Homogeneous		25% Quartz 5% Ca Carbonate 70% Non-fibrous (Other)	None Detected

Initial report from: 09/10/2020 15:46:27



# 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: 412007470

Customer ID: AXEM25

Customer PO:

Project ID: City of Spartanburg

## 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 412007470-0013	Rainbow Snakeskin Pattern Vinyl Floor w/ No Adhesive	Gray/Tan Non-Fibrous Homogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
17 412007470-0014	Rainbow Snakeskin Pattern Vinyl Floor w/ No Adhesive	Tan/Black Fibrous Homogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
19-Beige Flooring 412007470-0015	4 Types of Vinyl Floors w/ & w/out Mastics	Green Fibrous Homogeneous	15% Cellulose	8% Ca Carbonate 77% Non-fibrous (Other)	None Detected
19-Mastic 412007470-0015A	4 Types of Vinyl Floors w/ & w/out Mastics	White Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
19-Brown/White Flooring 412007470-0015B	4 Types of Vinyl Floors w/ & w/out Mastics	Brown/White Non-Fibrous Homogeneous	1% Glass	8% Ca Carbonate 91% Non-fibrous (Other)	None Detected
19-White Flooring 412007470-0015C	4 Types of Vinyl Floors w/ & w/out Mastics	White Non-Fibrous Homogeneous	20% Cellulose	8% Ca Carbonate 72% Non-fibrous (Other)	None Detected
19-Mastic 412007470-0015D	4 Types of Vinyl Floors w/ & w/out Mastics	White Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
19-Tan Flooring 412007470-0015E	4 Types of Vinyl Floors w/ & w/out Mastics	Tan Non-Fibrous Homogeneous	5% Cellulose	10% Ca Carbonate 85% Non-fibrous (Other)	None Detected
19-Mastic 412007470-0015F	4 Types of Vinyl Floors w/ & w/out Mastics	White Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
20-Beige Flooring 412007470-0016	4 Types of Vinyl Floors w/ & w/out Mastics	Beige Non-Fibrous Homogeneous	2% Cellulose	5% Ca Carbonate 93% Non-fibrous (Other)	None Detected
20-Mastic 412007470-0016A	4 Types of Vinyl Floors w/ & w/out Mastics	Gray Non-Fibrous Homogeneous	1% Glass	2% Ca Carbonate 97% Non-fibrous (Other)	None Detected
20-Brown/White Flooring 412007470-0016B	4 Types of Vinyl Floors w/ & w/out Mastics	Brown/White Non-Fibrous Homogeneous	2% Glass	5% Ca Carbonate 93% Non-fibrous (Other)	None Detected
20-White Flooring 412007470-0016D	4 Types of Vinyl Floors w/ & w/out Mastics	White Non-Fibrous Homogeneous	20% Cellulose	10% Ca Carbonate 70% Non-fibrous (Other)	None Detected
20-Mastic 412007470-0016E	4 Types of Vinyl Floors w/ & w/out Mastics	White Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
20-Tan Flooring 412007470-0016F	4 Types of Vinyl Floors w/ & w/out Mastics	Tan Fibrous Homogeneous	30% Cellulose	5% Ca Carbonate 65% Non-fibrous (Other)	None Detected
20-Mastic 412007470-0016G	4 Types of Vinyl Floors w/ & w/out Mastics	White Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
25 412007470-0017	Caulk on Wooden Window Sills	Tan/Green Non-Fibrous Homogeneous		2% Quartz 98% Non-fibrous (Other)	None Detected
26 412007470-0018	Caulk on Wooden Window Sills	Tan/Green Non-Fibrous Homogeneous		1% Quartz 99% Non-fibrous (Other)	None Detected

Initial report from: 09/10/2020 15:46:27



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**EMSL Order:** 412007470

**Customer ID:** AXEM25

**Customer PO:**

**Project ID:** City of Spartanburg

Analyst(s)

*James Kincheloe (15)*

*Sarah Breneman (19)*

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. Pineville, NC NVLAP Lab Code 200841-0, VA 3333 00312

Initial report from: 09/10/2020 15:46:27



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**EMSL Order:** 412007470

**Customer ID:** AXEM25

**Customer PO:**

**Project ID:** City of Spartanburg

**Attention:** Tom Oliver  
Apex Environmental Management  
7 Winchester Court  
Mauldin, SC 29662

**Phone:** (864) 640-5274

**Fax:**

**Received Date:** 09/03/2020 9:50 AM

**Analysis Date:** 09/12/2020

**Collected Date:** 09/02/2020

**Project:** 0120-17 COS 312 E. Park Avenue (City of Spartanburg)

## 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-Brown Shingle 412007470-0019	Roof Shingles (2 Layers) w/ No Felt	Brown/Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
3-Black Shingle 412007470-0020	Roof Shingles (2 Layers) w/ No Felt	Gray/Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
6 412007470-0021	Window Glazing on Glass Panels	White/Beige Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
9 412007470-0022	Window Caulk on Glass Panels	White Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
18 412007470-0023	Rainbow Snakeskin Pattern Vinyl Floor w/ No Adhesive	White/Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
21-Beige Flooring 412007470-0024	4 Types of Vinyl Floors w/ & w/out Mastics	Beige Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
21-Mastic 412007470-0025	4 Types of Vinyl Floors w/ & w/out Mastics	Gray Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
21-Brown/White Flooring 412007470-0026	4 Types of Vinyl Floors w/ & w/out Mastics	Brown/White Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
21-White Flooring 412007470-0027	4 Types of Vinyl Floors w/ & w/out Mastics	White Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
21-Mastic 412007470-0028	4 Types of Vinyl Floors w/ & w/out Mastics	White Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
21-Tan Flooring 412007470-0029	4 Types of Vinyl Floors w/ & w/out Mastics	Tan Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
21-Mastic 412007470-0030	4 Types of Vinyl Floors w/ & w/out Mastics	Gray Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected

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. Pineville, NC

Initial report from: 09/14/2020 08:49:25





# EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

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<b>EMSL Order:</b> 412007470
<b>Customer ID:</b> AXEM25
<b>Customer PO:</b>
<b>Project ID:</b> City of Spartanburg

<b>Attention:</b> Tom Oliver Apex Environmental Management 7 Winchester Court Mauldin, SC 29662	<b>Phone:</b> (864) 640-5274 <b>Fax:</b> <b>Received Date:</b> 09/03/2020 9:50 AM <b>Analysis Date:</b> 09/12/2020 <b>Collected Date:</b> 09/02/2020
<b>Project:</b> 0120-17 COS 312 E. Park Avenue (City of Spartanburg)	

## 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
27 412007470-0031	Caulk on Wooden Window Sills	Gray/Green Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Aaron Hartley (13)

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. Pineville, NC

Initial report from: 09/14/2020 08:49:25



EMSL ANALYTICAL, INC.  
LABORATORY-PRODUCTS-TRAINING

# Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (lab use only):

412007470

EMSL Analytical, Inc.  
10801 Southern Loop Blvd

Pineville, NC 28134  
Phone (704) 525-2205  
Fax (704) 525-2382

Company Name : Apex Environmental Management, Inc.		EMSL Customer ID:	
Street: 7 Winchester Court		City: Mauldin	State or Province: SC
Zip/Postal Code: 29662	Country: US	Telephone #: 864-404-3210	Fax #: 864-404-3213
Report To (Name): Tom Oliver		Please Provide Results via: <input type="checkbox"/> Fax <input type="checkbox"/> Email	
email Address: tolover@apex-ehs.com		Purchase Order Number:	
Client Project ID: 0120-17 COS 312 E. Park Avenue		EMSL Project ID (internal use only):	
State or Province Collected: SC		CT only <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
EMSL-Bill to: <input type="checkbox"/> Same <input checked="" type="checkbox"/> Different - If bill to is different note instructions in comment. Third party billing requires written authorization from third party			
<b>Turnaround Time (TAT) Options Please Check</b>			
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input type="checkbox"/> 24 Hour	<input type="checkbox"/> 32 Hour* <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input checked="" type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week
*32 Hour TAT available for select tests only; samples must be submitted by 11:30am. Please call ahead for large projects and/or turnaround times 6 hours or less.			
<b>PLM - Bulk (reporting limit)</b>		<b>TEM - Bulk</b>	
<input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NIOSH 9002 (<1%) <input type="checkbox"/> NY ELAP Method 198.1- friable - NY <input type="checkbox"/> NY ELAP Method 198.6 NOB- non-friable - NY <input type="checkbox"/> NY ELAP Method 198.8- Vermiculite Surfacing Material <input type="checkbox"/> OSHA ID-191 Modified <input type="checkbox"/> EMSL Standard Addition Method		<input checked="" type="checkbox"/> TEM EPA NOB - EPA 600/R-93/116 Section 2.5.5.1 <input type="checkbox"/> NY ELAP Method 198.4 non-friable - NY <input type="checkbox"/> Chatfield Protocol (semi-quantitative) <input type="checkbox"/> TEM % by Mass - EPA 600/R-93/116 Section 2.5.5.2 <input type="checkbox"/> TEM Qualitative via Filtration Prep Technique <input type="checkbox"/> TEM Qualitative via Drop Mount Prep Technique Other tests (please specify)	
<input checked="" type="checkbox"/> Positive Stop - Clearly Identify Homogenous Areas (HA)		Date Sampled: 9-2-2020	
Sampler's Name: Stephanie Hamby		Sampler's Signature:	
Sample #	HA #	Sample Location	Material Description
1		Roof shingles (2 layers) w/	PLM
2		no felt ↓	↓
3			TEM
4		Window glazing on glass panes	PLM
5			↓
6			TEM
Client Sample # (s): 1-21 + 25-27		Total # of Samples: 24	
Relinquished by (Client): <i>[Signature]</i>		Date: 9-2-2020	Time: 5:15 PM
Received by (Lab): <i>[Signature]</i>		Date: 9/3/20	Time: 9:50 AM EMSL FL
Comments/Special Instructions: <small>Positive stop on all sample layers BulTo: Apex Environmental Management, 7 Winchester Court, Mauldin, SC, 29662, US Attention: Rebecca Shultz Phone: 864-404-3210 Email: rshultz@apex-ehs.com Purchase Order:</small>			7959 2532 6690



EMSL ANALYTICAL, INC.  
LABORATORY-PRODUCTS-TRAINING

### Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (lab use only):

7470

EMSL Analytical, Inc.  
10801 Southern Loop Blvd

Pineville, NC 28134  
Phone (704) 525-2205  
Fax (704) 525-2382

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

Sample #	HA #	Sample Location	Material Description
7		Window caulk on glass panes	PLM
8			
9			TEM
10		Drywall remnants on nail	PLM
11		heads on walls	
12			
13		Plaster w/ finish	PLM
14			
15			
16		Rainbow snakeskin pattern	PLM
17		vinyl floor w/ no adhesive	
18			TEM
19		4 types of Vinyl floors	PLM
20		w/ & w/out mastic	
21			TEM
22	<del>X</del>	Sample #'s not used	<del>X</del>
23	<del>X</del>		<del>X</del>
24	<del>X</del>		<del>X</del>
25		Caulk on wooden window	PLM
26		sims	
27			TEM

**\*Comments/Special Instructions:**  
 Positive stop on all sample layers  
 Bill To: Apex Environmental Management, 7 Winchester Court, Mauldin, SC, 29662, US  
 Attention: Rebecca Shultz Phone: 864-404-3210 Email: rshultz@apex-ehs.com Purchase Order:

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



Photo 1 – 312 East Park Avenue in Spartanburg, South Carolina.



Photo 2 – Vinyl paper under shingles.



Photo 3 – Exterior window glazing.



Photo 4 – Exterior window caulk.



Photo 5 – Remnants of glazing between sill and sub sill of window.



Photo 6 – Side view of structure.



Photo 7 – Debris scattered throughout structure.



Photo 8 – Remnants of fireplace and missing floor back right area of structure.



Photo 9 – Remnants of fireplace and missing floor front right area of structure.



Photo 10 – Missing floor back left area of structure.

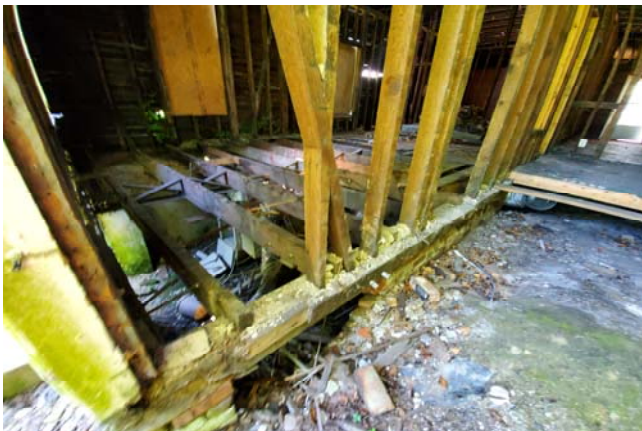


Photo 11 – Debris scattered back area.



Photo 12 – Debris scattered in back crawl space.

**SECTION V**

**SC DHEC Asbestos Inspector License**

# SCDHEC ISSUED

Asbestos ID Card

**Stephanie Hamby**



**CONSULTBI**

**BI-01894**

Expiration Date:

**01/14/21**