



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

City of Spartanburg  
669 Clinchfield 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

August 4, 2021





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## SERVICES

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Hazard  
Communication

## Apex Project Number 0521-99

August 4, 2021

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

Reference: Asbestos and Lead-Based Paint Assessment Services  
669 Clinchfield 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

**ASBESTOS AND LEAD BASED PAINT ASSESSMENT**

**CITY OF SPARTANBURG  
669 CLINCHFIELD STREET  
SPARTANBURG, SOUTH CAROLINA 29303**

**APEX PROJECT NO. 0521-99**

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## **SECTION I**

### **Asbestos & Lead Evaluation Report**

**ASBESTOS EVALUATION REPORT  
APEX PROJECT NUMBER: 0521-99**

Date:	8/4/2021	Page Number:	1 of 4
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:	669 Clinchfield Street Spartanburg, SC 29303		
Assessor:	Stephanie Hamby	Date of Assessment:	7/16/2021
Company:	Apex Environmental Management 7 Winchester Court 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:	Brick Crawlspcace	Approximate Square Footage	850 SF

**EXTERIOR BUILDING MATERIALS**

- Vinyl siding over wood.
- Brick basement/crawlspcace.
- Two layers of shingles. Damage to roof was identified.
- 10 vinyl windows with window caulk.
- 3 wooden doors. 2 doors are located on the front of the house and 1 located at rear of basement.
- Damage to wood porch was identified. Some boards are unstable.
- Several wasps and hornets' nests are located around front entrance of house.

**INTERIOR BUILDING MATERIALS**

- Wooden floors throughout.
- Two layers of roll vinyl floors are located over wooden floors in kitchen, bathroom, bedroom and hallway.
- Wall paneling with no mastic over wooden walls.
- Water damage was observed inside of the residence.
- Textured ceilings over drywall throughout.
- Large amounts of items, trash & debris exists.

## **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 (30) 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). Nine (9) 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.

A portion of the roof was observed to have holes and evidence of water damage was identified inside the building. 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:

- 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 µg/m<sup>3</sup>) during an eight-hour workday and a permissible exposure level of fifty micrograms per cubic meter (50 µg/m<sup>3</sup>) for employees.

Currently, EPA defines LBP as paint containing in excess of, or equal to, 1.0 mg/cm<sup>2</sup>. *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.

One surface in the building tested positive for lead in excess of the regulatory definition:

- Exterior red concrete steps.
- Exterior tan wooden siding.
- Exterior red wooden window sills.
- Exterior white wooden porch trim.
- Exterior red wooden basement door.
- Interior light gray wooden wall panel.
- Interior yellow wooden beadboard on wall and ceiling.
- Interior white wooden window casings.
- Interior dark gray wooden door casings.
- Interior dark gray wooden doors.
- Interior green wooden beadboard ceiling.
- Interior white wooden door casings.
- Interior dark gray wooden window casings.

## **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 669 Clinchfield Street 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 milligrams per square centimeter (mg/cm<sup>2</sup>) lead or in excess of, or equal to, 0.5 percent lead.

Changes to South Carolina 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 669 Clinchfield Street ACM-LBP

Sampled By: Stephanie Hamby

Project Location: 669 Clinchfield Street, Spartanburg, SC 29303

Project Manager: Tom Oliver

Project Number: 0521-99

Date: 7/16/2021

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
1	Ceiling throughout	Ceiling Texture	PLM - NAD	Friable	Damaged	850 SF
2						
3						
4	Ceiling throughout & closet wall in big bedroom	Drywall, joint compound and tape	PLM - NAD	Friable	Damaged	900 SF
5						
6						
7	Floors throughout except living room and big bedroom (top layer)	Roll vinyl flooring - tan pebble pattern with no adhesive	PLM - NAD	Non-Friable	Damaged	335 SF
8			TEM - NAD			
9						
10	Floors throughout except living room and big bedroom (2nd layer)	12x12 tan/brown square flooring with adhesive	PLM - NAD	Non-Friable	Damaged	335 SF
11			TEM - NAD			
12						
13	Bathroom - under surround	Tan adhesive	PLM - NAD	Non-Friable	Good	65 SF
14			TEM - NAD			
15						
16	Vinyl window exterior	White window caulk	PLM - NAD	Non-Friable	Good	10 EA
17			TEM - NAD			
18						
19	Basement HVAC	HVAC tape	PLM - NAD	Friable	Good	50 LF
20			TEM - NAD			
21						
22	Roof	2 layers of shingles with no felt paper	PLM - NAD	Friable	Significantly Damaged	1,275 SF
23			TEM - NAD			
24						

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 669 Clinchfield Street ACM-LBP

Sampled By: Stephanie Hamby

Project Location: 669 Clinchfield Street, Spartanburg, SC 29303

Project Manager: Tom Oliver

Project Number: 0521-99

Date: 7/16/2021

Sample No.	Sample Location	Component	Color	Substrate	Analytical Result (mg/m <sup>3</sup> )
1	Standardization				184.00/Pass
2	Calibration				1.07
3	Calibration				1.09
4	Calibration				1.12
5	Exterior	Steps	Red	Concrete	1.00
6	Exterior	Foundation	Red	Concrete	0.00
7	Exterior	Siding	Tan	Wood	2.03
8	Exterior	Window Sill	Red	Wood	1.88
9	Exterior	Door Casing	Gray	Wood	0.00
10	Exterior	Door	Gray	Wood	0.00
11	Exterior	Door Threshold	Gray	Wood	0.06
12	Exterior	Porch Floor	Red	Wood	0.00
13	Exterior	Porch Trim	White	Wood	2.27
14	Exterior	Window Casing	Tan	FFM	0.41
15	Exterior	Basement Door Casing	Red	Wood	0.00
16	Exterior	Basement Door	Red	Wood	1.85
17	Interior - Living Room	Wall Panel	Light Gray	Wood	1.79
18	Interior - Living Room	Wall/Ceiling	Yellow	Bead Board	3.84
19	Interior - Living Room	Ceiling	White	Drywall	0.00
20	Interior - Living Room	Window Casing	White	Wood	2.11
21	Interior - Living Room	Window Sill	White	Wood	0.08
22	Interior - Living Room	Door Casing	Dark Gray	Wood	4.35
23	Interior - Living Room	Door	Dark Gray	Wood	2.86
24	Interior - Living Room	Wall	White	Bead Board	0.15
25	Interior - Living Room	Floor	Gray	Wood	0.16
26	Interior - Living Room	Baseboard	Dark Gray	Wood	0.00

# FIELD DATA SHEET XRF LBP ANALYSIS

Project Name: COS 669 Clinchfield Street ACM-LBP

Sampled By: Stephanie Hamby

Project Location: 669 Clinchfield Street, Spartanburg, SC 29303

Project Manager: Tom Oliver

Project Number: 0521-99

Date: 7/16/2021

Sample No.	Sample Location	Component	Color	Substrate	Analytical Result (mg/m <sup>3</sup> )
27	Interior - Living Room	Crown Molding	Dark Gray	Wood	0.00
28	Interior - Kitchen	Cabinets	Blue	Wood	0.00
29	Interior - Kitchen	Wall Panel	Tan	Wood	0.00
30	Interior - Kitchen	Wall	Green	Wood	0.03
<b>31</b>	<b>Interior - Kitchen</b>	<b>Ceiling</b>	<b>Green</b>	<b>Wood</b>	<b>2.80</b>
32	Interior - Kitchen	Door Casing	Blue	Wood	0.00
33	Interior - Kitchen	Door	Tan	Wood	0.00
34	Interior - Hallway	Floor	Green	Wood	0.14
<b>35</b>	<b>Interior - Hallway</b>	<b>Door Casing</b>	<b>White</b>	<b>Wood</b>	<b>2.12</b>
36	Interior - Bathroom	Panel Wall	Green	Wood	0.01
37	Interior - Bathroom	Vanity	Green	Wood	0.00
<b>38</b>	<b>Interior - Big Bedroom</b>	<b>Window Casing</b>	<b>Dark Gray</b>	<b>Wood</b>	<b>3.92</b>
39	Interior - Big Bedroom	Window Sill	Dark Gray	Wood	0.66
40	Calibration				1.11
41	Calibration				1.14
42	Calibration				1.08

**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: 412106215

Customer ID: AXEM25

Customer PO:

Project ID: City of Spartanburg

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

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

**Fax:**

**Received Date:** 07/19/2021 9:15 AM

**Analysis Date:** 07/21/2021 - 07/23/2021

**Collected Date:**

**Project:** 0521-99 COS 669 Clinchfield Street ACM/LBP (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 412106215-0001	Ceiling Throughout - Ceiling Texture	Tan Non-Fibrous Homogeneous		40% Ca Carbonate 5% Mica 55% Non-fibrous (Other)	None Detected
2 412106215-0002	Ceiling Throughout - Ceiling Texture	Tan Non-Fibrous Homogeneous		40% Ca Carbonate 5% Mica 55% Non-fibrous (Other)	None Detected
3 412106215-0003	Ceiling Throughout - Ceiling Texture	Gray/White Non-Fibrous Homogeneous		45% Ca Carbonate 5% Mica 50% Non-fibrous (Other)	None Detected
4-Drywall 412106215-0004	Ceiling Throughout & Big Bedroom Closet Wall - Drywall, Joint Compound & Tape	Gray Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
4-Joint Compound 412106215-0004A	Ceiling Throughout & Big Bedroom Closet Wall - Drywall, Joint Compound & Tape	White Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
4-Tape 412106215-0004B	Ceiling Throughout & Big Bedroom Closet Wall - Drywall, Joint Compound & Tape	Beige Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
5-Drywall 412106215-0005	Ceiling Throughout & Big Bedroom Closet Wall - Drywall, Joint Compound & Tape	Gray Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
5-Joint Compound 412106215-0005A	Ceiling Throughout & Big Bedroom Closet Wall - Drywall, Joint Compound & Tape	White Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
5-Tape 412106215-0005B	Ceiling Throughout & Big Bedroom Closet Wall - Drywall, Joint Compound & Tape	Beige Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
6-Drywall 412106215-0006	Ceiling Throughout & Big Bedroom Closet Wall - Drywall, Joint Compound & Tape	Gray Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
6-Joint Compound 412106215-0006A	Ceiling Throughout & Big Bedroom Closet Wall - Drywall, Joint Compound & Tape	White Non-Fibrous Homogeneous		45% Ca Carbonate 55% Non-fibrous (Other)	None Detected
6-Tape 412106215-0006B	Ceiling Throughout & Big Bedroom Closet Wall - Drywall, Joint Compound & Tape	White Non-Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
7 412106215-0007	Floors Throughout except Living Room & Big Bedroom - Tan Pebble Pattern Roll Vinyl Flooring	Gray Fibrous Heterogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected

Initial report from: 07/23/2021 13:36:32



# 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: 412106215

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
8 412106215-0008	Floors Throughout except Living Room & Big Bedroom - Tan Pebble Pattern Roll Vinyl Flooring	Gray/Tan/White Non-Fibrous Homogeneous	15% Cellulose 3% Glass	82% Non-fibrous (Other)	None Detected
10-Flooring 412106215-0009	Floors Throughout except Living Room & Big Bedroom - 12x12 Tan/Brown Square Flooring w/ Adhesive	Tan/White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
10-Mastic 412106215-0009A	Floors Throughout except Living Room & Big Bedroom - 12x12 Tan/Brown Square Flooring w/ Adhesive	Yellow Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
11-Flooring 412106215-0010	Floors Throughout except Living Room & Big Bedroom - 12x12 Tan/Brown Square Flooring w/ Adhesive	Gray/Tan Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (Other)	None Detected
11-Mastic 412106215-0010A	Floors Throughout except Living Room & Big Bedroom - 12x12 Tan/Brown Square Flooring w/ Adhesive	Tan Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
13-Top Layer 412106215-0011	Under Bathroom Shower Surround - Tan Surround Adhesive	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
13-Mastic 412106215-0011A	Under Bathroom Shower Surround - Tan Surround Adhesive	Tan Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
14-Top Layer 412106215-0012	Under Bathroom Shower Surround - Tan Surround Adhesive	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
14-Mastic 412106215-0012A	Under Bathroom Shower Surround - Tan Surround Adhesive	Tan Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
16 412106215-0013	Ext. Window - White Caulk	White Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
17 412106215-0014	Ext. Window - White Caulk	Gray/White Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
19 412106215-0015	Basement HVAC - White HVAC Tape	Tan Fibrous Homogeneous	80% Synthetic	20% Non-fibrous (Other)	None Detected
20 412106215-0016	Basement HVAC - White HVAC Tape	Gray/Tan Non-Fibrous Homogeneous	75% Synthetic	25% Non-fibrous (Other)	None Detected
22-Silver Shingle 412106215-0017	Roof - 2 Layers of Shingles (Silver & Red Layer)	Black/Silver Fibrous Heterogeneous	10% Cellulose	10% Quartz 10% Ca Carbonate 70% Non-fibrous (Other)	None Detected
22-Red Shingle 412106215-0017A	Roof - 2 Layers of Shingles (Silver & Red Layer)	Red/Black Fibrous Heterogeneous	10% Cellulose	10% Quartz 10% Ca Carbonate 70% Non-fibrous (Other)	None Detected

Initial report from: 07/23/2021 13:36:32



# 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>

EMSL Order: 412106215

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
23-Silver Shingle 412106215-0018	Roof - 2 Layers of Shingles (Silver & Red Layer)	Gray/Black/Silver Non-Fibrous Homogeneous	10% Cellulose	10% Quartz 10% Ca Carbonate 70% Non-fibrous (Other)	None Detected
23-Red Shingle 412106215-0018A	Roof - 2 Layers of Shingles (Silver & Red Layer)	Red/Black Non-Fibrous Homogeneous	10% Cellulose	10% Quartz 10% Ca Carbonate 70% Non-fibrous (Other)	None Detected

Analyst(s)

Brant Alyea (13)

Ky Nguyen (17)

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: 07/23/2021 13:36:32





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EMSL Order: 412106215

Customer ID: AXEM25

Customer PO:

Project ID: City of Spartanburg

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

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

**Fax:**

**Received Date:** 07/19/2021 9:15 AM

**Analysis Date:** 07/30/2021

**Collected Date:**

**Project:** 0521-99 COS 669 Clinchfield Street ACM/LBP (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
9 412106215-0019	Floors Throughout except Living Room & Big Bedroom - Tan Pebble Pattern Roll Vinyl Flooring	Tan Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
12-Flooring 412106215-0020	Floors Throughout except Living Room & Big Bedroom - 12x12 Tan/Brown Square Flooring w/ Adhesive	Tan Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
12-Mastic 412106215-0021	Floors Throughout except Living Room & Big Bedroom - 12x12 Tan/Brown Square Flooring w/ Adhesive	Tan Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
15-Top layer 412106215-0022	Under Bathroom Shower Surround - Tan Surround Adhesive	Beige Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
15-Mastic 412106215-0023	Under Bathroom Shower Surround - Tan Surround Adhesive	Tan Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
18 412106215-0024	Ext. Window - White Caulk	White Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
21 412106215-0025	Basement HVAC - White HVAC Tape	Tan Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
24 Silver Shingle 412106215-0026	Roof - 2 Layers of Shingles (Silver & Red Layer)	Silver Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
24-Red Shingle 412106215-0027	Roof - 2 Layers of Shingles (Silver & Red Layer)	Red Fibrous Homogeneous	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: 07/30/2021 13:31:37



# 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: 412106215

Customer ID: AXEM25

Customer PO:

Project ID: City of Spartanburg

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

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

**Fax:**

**Received Date:** 07/19/2021 9:15 AM

**Analysis Date:** 07/30/2021

**Collected Date:**

**Project:** 0521-99 COS 669 Clinchfield Street ACM/LBP (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
-----------	-------------	------------	-------------------	-----------------------	----------------

Analyst(s)

Derrick Young (9)

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: 07/30/2021 13:31:37



EMSL Order Number / Lab Use Only

Pineville, NC 28134  
PHONE: (704) 525-2205  
EMAIL: charlotte@EMSL.comEMSL ANALYTICAL, INC.  
LABORATORY-PRODUCTS-TRAINING

412106215

<b>Customer Information</b>	Customer ID:			Billing ID:		
	Company Name: <b>Apex Environmental Management</b>			Company Name: <b>Apex Environmental Management</b>		
	Contact Name: <b>Stephanie Hamby</b>			Billing Contact: <b>Rebecca Shultz</b>		
	Street Address: <b>7 Winchester Court</b>			Street Address: <b>7 Winchester Court</b>		
	City, State, Zip: <b>Mauldin SC 29662</b> Country: <b>US</b>			City, State, Zip: <b>Mauldin SC</b> Country: <b>US</b>		
	Phone: <b>864-640-5274</b>			Phone: <b>864-640-5274</b>		
Email(s) for Report: <b>shamby@apex-ehs.com</b>			Email(s) for Invoice: <b>rshultz@apex-ejs.com</b>			
<b>Project Information</b>						
Project Name/No: <b>0521-99 COS 669 Clinchfield Street ACM/LBP</b>						Purchase Order:
EMSL LIMS Project ID: (If applicable, EMSL will provide)				US State where samples collected: <b>SC</b>	State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)	
Sampled By Name: <b>Stephanie Hamby</b>			Sampled By Signature: <i>A. Hamby</i>		No. of Samples in Shipment:	
Turn-Around-Time (TAT)						
<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 <small>Please call ahead for large projects and/or turnaround times 6 Hours or Less *32 Hour TAT available for select tests only; samples must be submitted by 11:30am</small>						
<b>Test Selection</b>						
<b>PLM - Bulk (reporting limit)</b> <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) <input type="checkbox"/> POINT COUNT <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) POINT COUNT w/ GRAVIMETRIC <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) <input type="checkbox"/> NIOSH 9002 (<1%) <input type="checkbox"/> NYS 198.1 (Friable - NY) <input type="checkbox"/> NYS 198.6 NOB (Non-Friable - NY) <input type="checkbox"/> NYS 198.8 (Vermiculite SM-V)			<b>TEM - Bulk</b> <input type="checkbox"/> TEM - Bulk <input checked="" type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (Non-Friable-NY) <input type="checkbox"/> TEM EPA 600/R-93/116 w Milling Prep (0.1%)  <b>Other Tests (please specify)</b>			
<input checked="" type="checkbox"/> Positive Stop - Clearly Identified Homogeneous Areas (HA)						
Sample Number	HA Number	Sample Location	Material Description			
1		Ceiling throughout	Ceiling texture			
2		├	├			
3						
4		Ceiling throughout & big	Drywall, Joint compd,			
5		bedroom closet wall	drape			
6		├	├			
7		Floors throughout except	Tan pebble pattern			
8		living room & big bed room	roll vinyl flooring			
9		├	├			
10		Floors throughout except living rm & big bedroom	12x12 tan/brown square flooring w/ adhesive			
Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)						
Method of Shipment: <b>Fedex</b>						
Relinquished by: <i>A. Hamby</i>			Date/Time: <b>7-16-21 2:45 PM</b>		Sample Condition Upon Receipt:	
Relinquished by:			Date/Time:		Received by: <i>Kyle Nelson</i>	
					Date/Time: <b>7/19/21 9:54 AM</b>	
					Received by: <b>EMSL FX 7961 7308 3320</b>	
					Date/Time:	

Controlled Document - Asbestos Bulk R5 03/18/2021

☐ 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

Pineville, NC 28134

PHONE: (704) 525-2205

EMAIL: [charlotte.lab@EMSL.com](mailto:charlotte.lab@EMSL.com)

6215

**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.)

[illegible]Method of Shipment: air

Sample Condition Upon Receipt:
--------------------------------

Relinquished by:

Date/Time:

Received by:

Date/Time	Location	Activity	Remarks
11/11/2023 10:00	Room 101	Meeting with Mr. Smith	Discussed project progress
11/11/2023 14:30	Room 202	Training session	Completed module 3
11/12/2023 09:15	Room 101	Meeting with Mr. Jones	Reviewed contract terms
11/12/2023 16:00	Room 303	Workshop	Brainstorming ideas for Q4
11/13/2023 08:45	Room 101	Meeting with Mr. Brown	Finalized meeting agenda
11/13/2023 11:30	Room 202	Training session	Completed module 4
11/13/2023 15:00	Room 303	Workshop	Group discussion on goals
11/14/2023 10:30	Room 101	Meeting with Mr. Green	Discussed budget allocation
11/14/2023 13:45	Room 202	Training session	Completed module 5
11/14/2023 17:15	Room 303	Workshop	Team building exercise
11/15/2023 09:00	Room 101	Meeting with Mr. White	Reviewed project timeline
11/15/2023 12:15	Room 202	Training session	Completed module 6
11/15/2023 15:45	Room 303	Workshop	Brainstorming ideas for Q1
11/16/2023 10:15	Room 101	Meeting with Mr. Black	Discussed marketing strategy
11/16/2023 13:30	Room 202	Training session	Completed module 7
11/16/2023 16:45	Room 303	Workshop	Group discussion on feedback
11/17/2023 08:30	Room 101	Meeting with Mr. Grey	Reviewed project status
11/17/2023 11:45	Room 202	Training session	Completed module 8
11/17/2023 15:15	Room 303	Workshop	Brainstorming ideas for Q2
11/18/2023 09:45	Room 101	Meeting with Mr. Yellow	Discussed financial reports
11/18/2023 13:00	Room 202	Training session	Completed module 9
11/18/2023 16:30	Room 303	Workshop	Group discussion on innovation
11/19/2023 10:00	Room 101	Meeting with Mr. Purple	Reviewed project outcomes
11/19/2023 13:15	Room 202	Training session	Completed module 10
11/19/2023 16:45	Room 303	Workshop	Brainstorming ideas for Q3
11/20/2023 08:15	Room 101	Meeting with Mr. Blue	Discussed future plans
11/20/2023 11:30	Room 202	Training session	Completed module 11
11/20/2023 15:00	Room 303	Workshop	Group discussion on challenges
11/21/2023 09:30	Room 101	Meeting with Mr. Orange	Reviewed project progress
11/21/2023 12:45	Room 202	Training session	Completed module 12
11/21/2023 16:15	Room 303	Workshop	Brainstorming ideas for Q4
11/22/2023 10:45	Room 101	Meeting with Mr. Red	Discussed project results
11/22/2023 14:00	Room 202	Training session	Completed module 13
11/22/2023 17:30	Room 303	Workshop	Group discussion on lessons learned
11/23/2023 08:00	Room 101	Meeting with Mr. Pink	Reviewed project outcomes
11/23/2023 11:15	Room 202	Training session	Completed module 14
11/23/2023 14:45	Room 303	Workshop	Brainstorming ideas for Q1
11/24/2023 09:15	Room 101	Meeting with Mr. Brown	Discussed project status
11/24/2023 12:30	Room 202	Training session	Completed module 15
11/24/2023 16:00	Room 303	Workshop	Group discussion on goals
11/25/2023 10:30	Room 101	Meeting with Mr. Green	Reviewed project timeline
11/25/2023 13:45	Room 202	Training session	Completed module 16
11/25/2023 17:15	Room 303	Workshop	Brainstorming ideas for Q2
11/26/2023 08:45	Room 101	Meeting with Mr. White	Discussed budget allocation
11/26/2023 12:00	Room 202	Training session	Completed module 17
11/26/2023 15:30	Room 303	Workshop	Group discussion on feedback
11/27/2023 09:00	Room 101	Meeting with Mr. Black	Reviewed project status
11/27/2023 12:15	Room 202	Training session	Completed module 18
11/27/2023 15:45	Room 303	Workshop	Brainstorming ideas for Q3
11/28/2023 10:15	Room 101	Meeting with Mr. Grey	Discussed marketing strategy
11/28/2023 13:30	Room 202	Training session	Completed module 19
11/28/2023 16:45	Room 303	Workshop	Group discussion on innovation
11/29/2023 08:30	Room 101	Meeting with Mr. Yellow	Reviewed project outcomes
11/29/2023 11:45	Room 202	Training session	Completed module 20
11/29/2023 15:15	Room 303	Workshop	Brainstorming ideas for Q4
11/30/2023 09:45	Room 101	Meeting with Mr. Purple	Discussed future plans
11/30/2023 13:00	Room 202	Training session	Completed module 21
11/30/2023 16:30	Room 303	Workshop	Group discussion on challenges
12/01/2023 10:00	Room 101	Meeting with Mr. Blue	Reviewed project progress
12/01/2023 13:15	Room 202	Training session	Completed module 22
12/01/2023 16:45	Room 303	Workshop	Brainstorming ideas for Q1
12/02/2023 08:15	Room 101	Meeting with Mr. Orange	Discussed project status
12/02/2023 11:30	Room 202	Training session	Completed module 23
12/02/2023 15:00	Room 303	Workshop	Group discussion on goals
12/03/2023 09:30	Room 101	Meeting with Mr. Red	Reviewed project timeline
12/03/2023 12:45	Room 202	Training session	Completed module 24
12/03/2023 16:15	Room 303	Workshop	Brainstorming ideas for Q2
12/04/2023 08:00	Room 101	Meeting with Mr. Pink	Discussed budget

Relinquished by:

Date/Time:

Received by:

	Date/Time
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Controlled Document - Asbestos Bulk R5 03/18/2021

**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 – 669 Clinchfield Street in Spartanburg, South Carolina 29303



Photo 2 – Living room with household debris.



Photo 3 – Textured ceiling over drywall throughout.



Photo 4 – Two layers of roll vinyl located over wood floors in kitchen, bathroom, bedroom and hallway.



Photo 5 – Bathroom surround mastic.



Photo 6 – Household debris located in bathroom.





Photo 7 – Rear entrance into basement.



Photo 8 – HVAC insulation and tape.



Photo 9 – Vinyl windows with window caulk.



Photo 10 – Kitchen with household debris.



Photo 11 – Rotten wood on front porch is unstable.

## **SECTION V**

### **SC DHEC Asbestos Inspector License**





January 8, 2021

To whom it may concern:

Due to an unforeseen printer outage the SC Department of Health and Environmental Control Asbestos Program cannot issue a Standard Asbestos License

AS-000632 exp 8/13/2021  
for license number: BI-01894 exp 1/12/2022

Please accept this correspondence as a temporary acknowledgment

of Air Sampler & Building Inspector licensing status.

Stephanie Hamby will be  
issued a standard license card once our systems are fully operational.

**Keep this letter with you all the time during work at the job site.**

If you have any questions, please call the Asbestos Section at 803-898-4289.

Sincerely,

Jennifer Lynn Boryk  
Manager, Asbestos Section  
Bureau of Air Quality