



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

100 Prospect Street  
Spartanburg, South Carolina 29306

***Prepared for:***

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

***Prepared by:***

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

Project Number: 0118-14

August 14, 2017





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### 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

## Apex Project Number 0118-14

August 14, 2018

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

Reference: Asbestos and Lead-Based Paint Assessment Services  
100 Prospect Street  
Spartanburg, South Carolina 29306

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.**

Ted Shultz  
Project Manager

Appendices

**ASBESTOS AND LEAD BASED PAINT ASSESSMENT**

**CITY OF SPARTANBURG  
100 PROSPECT STREET  
SPARTANBURG, SOUTH CAROLINA 29306**

**APEX PROJECT NO. 0118-14**

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**SECTION I**

**Asbestos & Lead Evaluation Report**

**ASBESTOS EVALUATION REPORT  
APEX PROJECT NUMBER: 0118-14**

Date: 8/14/2018 Page Number: 1 of 4

Client: City of Spartanburg  
Client Address: 440 South Church Street  
Suite B  
Spartanburg, SC 29306

Client Contact: Mr. Jeff Tillerson  
Client Phone Number: (864) 596-2911

Project: Asbestos Evaluation and  
Lead Based Paint  
Assessment  
Property Address: 100 Prospect Street  
Spartanburg, SC 29306

Assessor: Ted Shultz  
Company: Apex Environmental  
Management  
7 Winchester Court  
Mauldin, SC 29662

Date of Assessment: 7/11/2018  
Phone Number: (864) 404-3210

Purpose of Assessment: Demolition Age of Structure: Approximately 80 years

Building Type: Residential Number of Stories: 1

Foundation: CMU Block Crawlspace Approximate Square Footage: 2,200 SF

**EXTERIOR BUILDING MATERIALS**

- Wood siding.
- Wood windows.
- Shingled roof.
- Black mastic/tar on chimney.

**INTERIOR BUILDING MATERIALS**

- Vinyl flooring.
- Carpeting.
- Wood flooring.
- Dry wall ceilings.
- Plaster walls.
- Wood paneling.

## **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, Inc. 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. Fourteen (14) 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). CEI 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. 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). Four (4) 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. 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. 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:

- Kitchen self-adhesive tile – 10% Chrysotile – 120 SF

### 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, SCDHEC defines LBP as paint containing in excess of, or equal to,  $1.0 \text{ mg}/\text{cm}^2$ . The laboratory analytical results and chain-of-custody are included in the Lead Analysis Reports in Appendix II. The approximate locations of the paint samples collected and analytical results are presented in the *LBP Data Table* included with this report.

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

#### *Exterior*

- Front porch siding – white – wood – 2.41
- Front porch window frame – white – wood – 2.12
- Front porch bead-board ceiling – green – 1.81
- Front porch header – white – wood – 1.75

#### *Interior*

- None

## **RECOMMENDATIONS AND DISCUSSION**

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. The State of 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.

Please note that this document is not a specification for asbestos removal. It does not contain means and methods for asbestos abatement. If you are planning an asbestos 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. Quantities provided in this report are estimated. Contractors must verify material amounts prior to bidding or removal.

This report summarizes our evaluation of the conditions observed at the site. The findings prepared by Apex are based upon testing performed in the building space. 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 South Carolina Department of Health and Environmental Control (SCDHEC) define LBP as paint containing greater than 1.0 milligram per square centimeter ( $\text{mg}/\text{cm}^2$ ) 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 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  $0.1 \text{ mg}/\text{cm}^2$  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  
PLM & TEM ANALYSIS**

Project Name: COS 100 Prospect Avenue ACM/LBP

Sampled By: Ted Shultz

Project Location: 100 Prospect Street, Spartanburg, SC 29306

Project Manager: Ted Shultz

Project Number: 0118-14

Date: 7/11/2018

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
1	Main roof	Roof shingles (2 layers) & felt (1 layer)	PLM - NAD	Friable	Damaged	2,430 SF
2						
3			TEM - NAD			
4	Addition roof	Roof shingles (1 layer) & felt (1 layer)	PLM - NAD	Friable	Damaged	900 SF
5						
6			TEM - NAD			
7	Windows	Window caulk	PLM - NAD	Non-Friable	Good	20 EA
8						
9			TEM - NAD			
10	Windows	Window glazing	PLM - NAD	Friable	Damaged	20 EA
11						
12			TEM - NAD			
13	Throughout interior	Drywall with joint compound & tape	PLM - NAD	Friable	Damaged	3,425 SF
14						
15						
16						
17						
18	Throughout interior	Plaster with no finish	PLM - NAD	Friable	Damaged	3,000 SF
19						
20						
21						
22						

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

Project Name: COS 100 Prospect Avenue ACM/LBP

Sampled By: Ted Shultz

Project Location: 100 Prospect Street, Spartanburg, SC 29306

Project Manager: Ted Shultz

Project Number: 0118-14

Date: 7/11/2018

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
23	Addition bathroom	Vinyl floor with no mastic	PLM - NAD	Non-Friable	Good	60 SF
24			TEM - NAD			
25						
26	Kitchen	12" x 12" black self-stick floor tile	<b>PLM - 10% chrysotile (2nd layer of flooring; NAD (black self-stick floor tile) &lt;1% chrysotile (mastic)</b>	Non-Friable	Good	120 SF
27			TEM - NAD (mastic)			
28						
29	Hallway bathroom	12" x 12" black marble self-stick floor tile & mastic	PLM - NAD	Non-Friable	Good	60 SF
30			TEM - NAD			
31						
32	Rear entrance	Tan square pattern vinyl floor & mastic	PLM - NAD	Non-Friable	Good	100 SF
33			TEM - NAD			
34						
35	sample # 37 is not reported	Brown flecked flooring & leveling compound	PLM - NAD	Non-Friable	Good	sample # 37 is not reported
36						
37						
<b>Assumed</b>	<b>Roof/chimney</b>	<b>Mastic/tar on 1 chimneys</b>	<b>Assumed</b>	<b>Non-Friable</b>	<b>Good</b>	<b>6 LF</b>

NAD = No Asbestos Detected

LF = Linear Feet

EA = Each

Amos = Amosite

**Bold = Positive For Asbestos**

SF = Square Feet

Chry = Chrysotile

# FIELD DATA SHEET

## LBP ANALYSIS

Project Name: COS 100 Prospect Avenue ACM/LBP

Sampled By: Ted Shultz

Project Location: 100 Prospect Avenue, Spartanburg, SC 29306

Project Manager: Ted Shultz

Project Number: 0118-14

Date: 7/11/2018

Sample No.	Sample Location	Component	Color	Substrate	Analytical Result (mg/m <sup>3</sup> )
14	Calibration				1.07
15	Calibration				0.97
16	Calibration				1.03
17	<b>Exterior</b>	<b>Siding</b>	<b>White</b>	<b>Wood</b>	<b>2.41</b>
18	Exterior	Window frame	White	Wood	Insufficient Time
19	<b>Front porch</b>	<b>Window frame</b>	<b>White</b>	<b>Wood</b>	<b>2.12</b>
20	<b>Front porch</b>	<b>Ceiling</b>	<b>Green</b>	<b>Wood</b>	<b>1.81</b>
21	Living room	Door	White	Wood	Insufficient Time
1	Standardization				Pass
2	Calibration				1.14
3	Calibration				1.24
4	Calibration				1.23
5	Front porch	Floor/steps	Red	Concrete	0.02
6	Front porch	Shake siding	Green	Wood	0.83
7	Front porch	Soffit	White	Wood	0.74
<b>8</b>	<b>Front porch</b>	<b>Porch header</b>	<b>White</b>	<b>Wood</b>	<b>1.75</b>
9	Carport	Post	Black	Metal	0.00
10	Carport	Ceiling	White	Metal	0.00
11	Back porch	Post	Black	Metal	0.00
12	Interior	Door frame	White	Wood	0.04
13	Interior	Base board	White	Wood	0.14
14	Interior	Cabinet	White	Wood	0.08
15	Interior	Ceiling	White	Drywall	0.00
16	Interior	Door	White	Wood	0.33

**FIELD DATA SHEET  
LBP ANALYSIS**

Project Name: COS 100 Prospect Avenue ACM/LBP

Sampled By: Ted Shultz

Project Location: 100 Prospect Avenue, Spartanburg, SC 29306

Project Manager: Ted Shultz

Project Number: 0118-14

Date: 7/11/2018

<b>Sample No.</b>	<b>Sample Location</b>	<b>Component</b>	<b>Color</b>	<b>Substrate</b>	<b>Analytical Result (mg/m<sup>3</sup>)</b>
17	Interior	Sink cabinet	White	Metal	0.04
18	Interior	Wall	White	Drywall	0.00
19		Calibration			1.31
20		Calibration			1.17
21		Calibration			Insufficient Time
22		Calibration			1.25

**Bold = LBP**

**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: 411806010

Customer ID: AXEM25

Customer PO:

Project ID:

**Attention:** Ted Shultz  
Apex Environmental Management  
7 Winchester Court  
Mauldin, SC 29662

**Phone:** (803) 348-4921

**Fax:**

**Received Date:** 07/26/2018 8:45 AM

**Analysis Date:** 08/01/2018 - 08/14/2018

**Collected Date:** 07/11/2018

**Project:** COS 100 Prospect Ave.

## 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 1 <small>411806010-0001</small>	Main Roof - 2 Shingles & Felt	Black/Green Non-Fibrous Homogeneous	25% Cellulose 2% Synthetic	5% Quartz 68% Non-fibrous (Other)	None Detected
1-Shingle 2 <small>411806010-0001A</small>	Main Roof - 2 Shingles & Felt	Gray/Black Fibrous Homogeneous	25% Cellulose 1% Synthetic	5% Quartz 69% Non-fibrous (Other)	None Detected
1-Felt <small>411806010-0001B</small>	Main Roof - 2 Shingles & Felt	Black Fibrous Homogeneous	75% Cellulose 3% Synthetic	22% Non-fibrous (Other)	None Detected
2-Shingle 1 <small>411806010-0002</small>	Main Roof - 2 Shingles & Felt	Black/Green Fibrous Homogeneous	25% Cellulose 1% Synthetic	5% Quartz 69% Non-fibrous (Other)	None Detected
2-Shingle 2 <small>411806010-0002A</small>	Main Roof - 2 Shingles & Felt	Gray/Black Fibrous Homogeneous	25% Cellulose 1% Synthetic	5% Quartz 69% Non-fibrous (Other)	None Detected
2-Felt <small>411806010-0002B</small>	Main Roof - 2 Shingles & Felt	Black Fibrous Homogeneous	75% Cellulose 2% Synthetic	23% Non-fibrous (Other)	None Detected
4-Shingle <small>411806010-0003</small>	Addition Roof - Shingle & Felt	Gray/Black Fibrous Homogeneous	15% Glass	5% Quartz 15% Ca Carbonate 65% Non-fibrous (Other)	None Detected
4-Felt <small>411806010-0003A</small>	Addition Roof - Shingle & Felt	Black Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (Other)	None Detected
5-Shingle <small>411806010-0004</small>	Addition Roof - Shingle & Felt	Gray/Black Fibrous Homogeneous	15% Glass	8% Quartz 15% Ca Carbonate 62% Non-fibrous (Other)	None Detected
5-Felt <small>411806010-0004A</small>	Addition Roof - Shingle & Felt	Black Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (Other)	None Detected
7 <small>411806010-0005</small>	Windows - Window Caulk	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
8 <small>411806010-0006</small>	Windows - Window Caulk	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
10 <small>411806010-0007</small>	Windows - Window Glazing	Gray/Tan Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (Other)	None Detected
11 <small>411806010-0008</small>	Windows - Window Glazing	Gray/Tan Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (Other)	None Detected
13-Drywall <small>411806010-0009</small>	Int. Throughout - DW/JC/Tape	Brown/Gray Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
13-Joint Compound <small>411806010-0009A</small>	Int. Throughout - DW/JC/Tape	White Non-Fibrous Homogeneous		35% Ca Carbonate 65% Non-fibrous (Other)	None Detected

Report amended: 08/14/2018 17:11:17 Replaces initial report from: 08/02/2018 08:04:44 Reason Code: Client-Additional Analysis



# 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:** 411806010  
**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
13-Tape <small>411806010-0009B</small>	Int. Throughout - DW/JC/Tape	Tan Fibrous Homogeneous	100% Cellulose		None Detected
14-Drywall <small>411806010-0010</small>	Int. Throughout - DW/JC/Tape	Brown/Gray Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
14-Joint Compound <small>411806010-0010A</small>	Int. Throughout - DW/JC/Tape	White Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
14-Tape <small>411806010-0010B</small>	Int. Throughout - DW/JC/Tape	Tan Fibrous Homogeneous	100% Cellulose		None Detected
15-Drywall <small>411806010-0011</small>	Int. Throughout - DW/JC/Tape	Brown/Gray Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
15-Joint Compound <small>411806010-0011A</small>	Int. Throughout - DW/JC/Tape	White Non-Fibrous Homogeneous		50% Ca Carbonate 50% Non-fibrous (Other)	None Detected
15-Tape <small>411806010-0011B</small>	Int. Throughout - DW/JC/Tape	Tan Fibrous Homogeneous	100% Cellulose		None Detected
16-Drywall <small>411806010-0012</small>	Int. Throughout - DW/JC/Tape	Brown/Gray Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
16-Joint Compound <small>411806010-0012A</small>	Int. Throughout - DW/JC/Tape	White Non-Fibrous Homogeneous		45% Ca Carbonate 55% Non-fibrous (Other)	None Detected
16-Tape <small>411806010-0012B</small>	Int. Throughout - DW/JC/Tape	Tan Fibrous Homogeneous	100% Cellulose		None Detected
17-Drywall <small>411806010-0013</small>	Int. Throughout - DW/JC/Tape	Brown/Gray Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
17-Joint Compound <small>411806010-0013A</small>	Int. Throughout - DW/JC/Tape	White Non-Fibrous Homogeneous		45% Ca Carbonate 55% Non-fibrous (Other)	None Detected
17-Tape <small>411806010-0013B</small>	Int. Throughout - DW/JC/Tape	Tan Fibrous Homogeneous	100% Cellulose		None Detected
18 <small>411806010-0014</small>	Int. Throughout - Plaster	Brown Fibrous Homogeneous	1% Cellulose 3% Synthetic	40% Quartz 56% Non-fibrous (Other)	None Detected
19 <small>411806010-0015</small>	Int. Throughout - Plaster	Brown/Black Non-Fibrous Homogeneous	3% Synthetic	35% Quartz 62% Non-fibrous (Other)	None Detected
20 <small>411806010-0016</small>	Int. Throughout - Plaster	Brown Fibrous Homogeneous	3% Synthetic	40% Quartz 57% Non-fibrous (Other)	None Detected
21 <small>411806010-0017</small>	Int. Throughout - Plaster	Brown Fibrous Homogeneous	1% Synthetic	40% Quartz 59% Non-fibrous (Other)	None Detected
22 <small>411806010-0018</small>	Int. Throughout - Plaster	Brown Non-Fibrous Homogeneous	1% Synthetic	40% Quartz 59% Non-fibrous (Other)	None Detected
23 <small>411806010-0019</small>	Addition Bathroom - Vinyl Flooring	Beige Fibrous Homogeneous	6% Cellulose 2% Glass	92% Non-fibrous (Other)	None Detected

Report amended: 08/14/2018 17:11:17 Replaces initial report from: 08/02/2018 08:04:44 Reason Code: Client-Additional Analysis





# 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:** 411806010  
**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
24 <i>411806010-0020</i>	Addition Bathroom - Vinyl Flooring	Beige Non-Fibrous Homogeneous	5% Cellulose 2% Glass	93% Non-fibrous (Other)	None Detected
26 <i>411806010-0021</i>	Kitchen - Self Adhesive Tile	Gray Non-Fibrous Homogeneous	<1% Cellulose	30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
27-Floor Tile <i>411806010-0022</i>	Kitchen - Self Adhesive Tile	Gray Non-Fibrous Homogeneous	<1% Cellulose	30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
27-Flooring <i>411806010-0022A</i>	Kitchen - Self Adhesive Tile	Brown Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
27-Mastic <i>411806010-0022B</i> <i>Possible contamination</i>	Kitchen - Self Adhesive Tile	Tan/Black Non-Fibrous Homogeneous	3% Cellulose	5% Ca Carbonate 92% Non-fibrous (Other)	<1% Chrysotile
29-Floor Tile <i>411806010-0023</i>	Hall Bath - Black Tile	Gray Non-Fibrous Homogeneous		35% Ca Carbonate 65% Non-fibrous (Other)	None Detected
29-Mastic <i>411806010-0023A</i>	Hall Bath - Black Tile	Tan/White Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
30-Floor Tile <i>411806010-0024</i>	Hall Bath - Black Tile	Gray Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
30-Mastic <i>411806010-0024A</i>	Hall Bath - Black Tile	Tan/Black Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
32-Flooring <i>411806010-0025</i>	Rear Entrance - Tan Sq. Vinyl Flooring	Tan Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
32-Mastic <i>411806010-0025A</i>	Rear Entrance - Tan Sq. Vinyl Flooring	Tan Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
33-Flooring <i>411806010-0026</i>	Rear Entrance - Tan Sq. Vinyl Flooring	Tan Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
33-Mastic <i>411806010-0026A</i>	Rear Entrance - Tan Sq. Vinyl Flooring	Tan Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
35-Backing <i>411806010-0027</i> <i>Sample does not match CoC description</i>	Rear Entrance - Brown Flecked Vinyl Flooring	Brown/Gray Fibrous Homogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
35-Leveler <i>411806010-0027A</i>	Rear Entrance - Brown Flecked Vinyl Flooring	White Non-Fibrous Homogeneous		35% Ca Carbonate 65% Non-fibrous (Other)	None Detected
36-Backing <i>411806010-0028</i> <i>Sample does not match CoC description</i>	Rear Entrance - Brown Flecked Vinyl Flooring	Gray/Tan Fibrous Homogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
36-Leveler <i>411806010-0028A</i> <i>Sample does not match CoC description</i>	Rear Entrance - Brown Flecked Vinyl Flooring	White Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected

Report amended: 08/14/2018 17:11:17 Replaces initial report from: 08/02/2018 08:04:44 Reason Code: Client-Additional Analysis



# 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:** 411806010  
**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
37-Backing	Rear Entrance - Brown Flecked Vinyl Flooring	Brown/Gray Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
411806010-0028B Sample does not match CoC description					
37-Leveler	Rear Entrance - Brown Flecked Vinyl Flooring	White Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
411806010-0028C					

Analyst(s) \_\_\_\_\_

- Aaron Hartley (27)
- Eric Loomis (2)
- Sarah Breneman (25)

Lee Plumley, Laboratory Manager  
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. 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 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. Interpretation and use of test results are the responsibility of the client. All samples received in acceptable condition unless otherwise noted. 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. EMSL recommends gravimetric reduction for all non-friable organically bound materials prior to analysis. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Pineville, NC NVLAP Lab Code 200841-0, VA 3333 00312

Report amended: 08/14/2018 17:11:17 Replaces initial report from: 08/02/2018 08:04:44 Reason Code: Client-Additional Analysis



# 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: 411806010

Customer ID: AXEM25

Customer PO:

Project ID:

**Attention:** Ted Shultz  
Apex Environmental Management  
7 Winchester Court  
Mauldin, SC 29662

**Phone:** (803) 348-4921

**Fax:**

**Received Date:** 07/26/2018 8:45 AM

**Analysis Date:** 08/03/2018

**Collected Date:** 07/11/2018

**Project:** COS 100 Prospect Ave.

## 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 1 411806010-0029	Main Roof - 2 Shingles & Felt	Black/Green Fibrous Homogeneous	100	None	No Asbestos Detected
3-Shingle 2 411806010-0030	Main Roof - 2 Shingles & Felt	Gray/Black Fibrous Homogeneous	100	None	No Asbestos Detected
3-Felt 411806010-0031	Main Roof - 2 Shingles & Felt	Black Fibrous Homogeneous	100	None	No Asbestos Detected
6-Shingle 1 411806010-0032	Addition Roof - Shingle & Felt	Gray/Black Fibrous Homogeneous	100	None	No Asbestos Detected
6-Felt 411806010-0034	Addition Roof - Shingle & Felt	Black Fibrous Homogeneous	100	None	No Asbestos Detected
9 411806010-0035	Windows - Window Caulk	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
12 411806010-0036	Windows - Window Glazing	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
25 411806010-0037	Addition Bathroom - Vinyl Flooring	Tan Fibrous Homogeneous	100	None	No Asbestos Detected
28-Floor Tile 411806010-0038	Kitchen - Self Adhesive Tile	White/Black Non-Fibrous Homogeneous	100	None	No Asbestos Detected
28-Mastic 411806010-0039	Kitchen - Self Adhesive Tile	Tan Non-Fibrous Homogeneous	100	None	No Asbestos Detected
31-Floor Tile 411806010-0040	Hall Bath - Black Tile	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
31-Mastic 411806010-0041	Hall Bath - Black Tile	Tan Non-Fibrous Homogeneous	100	None	No Asbestos Detected
34-Flooring 411806010-0042	Rear Entrance - Tan Sq. Vinyl Flooring	Tan Fibrous Homogeneous	100	None	No Asbestos Detected

This laboratory is not responsible for % asbestos in total sample when the residue only is submitted for analysis. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Pineville, NC

Initial report from: 08/03/2018 14:58:21



# 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: 411806010

Customer ID: AXEM25

Customer PO:

Project ID:

**Attention:** Ted Shultz  
Apex Environmental Management  
7 Winchester Court  
Mauldin, SC 29662

**Phone:** (803) 348-4921

**Fax:**

**Received Date:** 07/26/2018 8:45 AM

**Analysis Date:** 08/03/2018

**Collected Date:** 07/11/2018

**Project:** COS 100 Prospect Ave.

## 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
34-Mastic 411806010-0043	Rear Entrance - Tan Sq. Vinyl Flooring	Tan Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Aaron Hartley (14)

Lee Plumley, Laboratory Manager  
or other approved signatory

This laboratory is not responsible for % asbestos in total sample when the residue only is submitted for analysis. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Pineville, NC

Initial report from: 08/03/2018 14:58:21





EMSL ANALYTICAL, INC.  
LABORATORY • PRODUCTS • TRAINING

# Asbestos Bulk Building Material Chain of Custody

**EMSL Order Number** (Lab Use Only):

411806010

10801 Southern Loop Blvd

Pineville, NC 28134  
PHONE: (704) 525-2205  
FAX: (704) 525-2382

Company : Apex Environmental Management		EMSL-Bill to: <input type="checkbox"/> Same <input checked="" type="checkbox"/> Different <small>If Bill to is Different note instructions in Comments**</small>	
Street: 7 Winchester Court		<i>Third Party Billing requires written authorization from third party</i>	
City: Mauldin	State/Province: SC	Zip/Postal Code: 29662	Country: US
Report To (Name): Ted Shultz		Telephone #: 864-404-3210	
Email Address: tshultz@apex-ehs.com		Fax #:	Purchase Order:
Project Name/Number: <u>COS 100 Prospect Ave</u>		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email <input type="checkbox"/> Mail	
U.S. State Samples Taken: SC		CT Samples: <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	

**Turnaround Time (TAT) Options\* – Please Check**

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

\*For TEM Air 3 hr through 6 hr, please call ahead to schedule. \*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

PLM - Bulk (reporting limit)	TEM - Bulk
<input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%)	<input checked="" type="checkbox"/> TEM EPA NOB – EPA 600/R-93/116 Section 2.5.5.1
<input type="checkbox"/> PLM EPA NOB (<1%)	<input type="checkbox"/> NY ELAP Method 198.4 (TEM)
Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%)	<input type="checkbox"/> Chatfield Protocol (semi-quantitative)
Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%)	<input type="checkbox"/> TEM % by Mass – EPA 600/R-93/116 Section 2.5.5.2
<input type="checkbox"/> NIOSH 9002 (<1%)	<input type="checkbox"/> TEM Qualitative via Filtration Prep Technique
<input type="checkbox"/> NY ELAP Method 198.1 (friable in NY)	<input type="checkbox"/> TEM Qualitative via Drop Mount Prep Technique
<input type="checkbox"/> NY ELAP Method 198.6 NOB (non-friable-NY)	<b>Other</b>
<input type="checkbox"/> OSHA ID-191 Modified	<input type="checkbox"/>
<input type="checkbox"/> Standard Addition Method	

Check For Positive Stop – Clearly Identify Homogenous Group      Date Sampled: 7/11/18

Samplers Name: \_\_\_\_\_      Samplers Signature: \_\_\_\_\_

Sample #	HA #	Sample Location	Material Description
1		Main Roof	2 Shingles & Felt
2			
3			
4		Addition Roof	Shingle & Felt
5			
6			
7		Windows	Window Caulk
8			
9			

Client Sample # (s): -	Total # of Samples: <u>37</u>
Relinquished (Client): <u>[Signature]</u>	Date: <u>7/24/18</u> Time: <u>3:00pm</u>
Received (Lab): <u>[Signature]</u>	Date: <u>7/26/18</u> Time: <u>8:45am F/k</u>
Comments/Special Instructions: 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: <u>7955 2904 4295</u>	





EMSL ANALYTICAL, INC.  
LABORATORY • PRODUCTS • TRAINING

### Asbestos Bulk Building Material Chain of Custody

**EMSL Order Number** *(Lab Use Only):*

411806010

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
10		Windows	Window Glazing
11			
12			
13		Int. Throughout	DW / JC / Tape
14			
15			
16			
17			
18		Plaster	Plaster
19			
20			
21			
22			
23		Addition Bathroom	Vinyl Flooring
24			
25			
26		Kitchen	Self Adhesive Tile
27			
28			
29		Hall Bath	Black Marble Tile
30			
31			

**\*Comments/Special Instructions:**

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**



Asbestos & Lead Assessment  
City of Spartanburg  
100 Prospect Street  
Spartanburg, South Carolina



Photo 1 – 100 Prospect Street in Spartanburg, South Carolina.



Photo 2 – Rear addition.



Photo 3 – Window caulk and glaze.



Photo 4 – Dry wall.



Photo 5 – Ceiling plaster.



Photo 6 – Bathroom flooring in the addition.



Photo 7 – Kitchen self-stick flooring.



Photo 8 – Hall bath self-stick flooring.



Photo 9 – Tan flooring at rear entrance.



Photo 10 – Exterior view through burnt wall.

**SECTION V**

**SC DHEC Asbestos Inspector License**



# SCDHEC ISSUED

Asbestos ID Card

**Tedman K Shultz**



**CONSULTBI  
AIRSAMPLER**

**BI-00971  
AS-00355**

Expiration Date:

**01/17/19  
02/23/19**