



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

City of Spartanburg  
686 Saxon Avenue  
Spartanburg, South Carolina 29301

### ***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: 0118-14

December 28, 2018





**Apex Project Number 0118-14**

December 28, 2018

7 Winchester Court  
Mauldin, SC 29662  
864.404.3210 office  
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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  
686 Saxon Avenue  
Spartanburg, South Carolina 29301

**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.**

A handwritten signature in blue ink, appearing to read 'Tom Oliver', is written over a horizontal line.

Tom Oliver  
Director of Operations

Appendices

**ASBESTOS AND LEAD BASED PAINT ASSESSMENT**

**CITY OF SPARTANBURG  
686 SAXON AVENUE  
SPARTANBURG, SOUTH CAROLINA 29301**

**APEX PROJECT NO. 0118-14**

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**SECTION I**

**Asbestos & Lead Evaluation Report**

<b>ASBESTOS EVALUATION REPORT</b> <b>APEX PROJECT NUMBER: 0118-14</b>
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Date:	12/28/2018	Page Number:	1 of 3
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:	686 Saxon Avenue Spartanburg, SC 29301		
Assessor:	Ted Shultz	Date of Assessment:	12/7/2018
Company:	Apex Environmental Management 7 Winchester Court Mauldin, SC 29662	Phone Number:	(864) 404-3210
Purpose of Assessment:	Demolition	Age of Structure:	Approximately 80 years
Building Type:	Residential	Number of Stories:	1
Foundation:	Crawlspace	Approximate Square Footage:	1,025 SF

**EXTERIOR BUILDING MATERIALS**

- Pitched wooden roof with shingles & felt.
- Cement board siding with felt paper over wood.
- Wooden doors with no caulk.
- Wooden small bathroom window with glazing.
- Wooden big windows with caulk & no glazing.
- White mastic on HVAC in crawlspace & on HVAC ducts.
- Tar on 2 chimneys – sampled.

**INTERIOR BUILDING MATERIALS**

- Drywall with joint compound & tape throughout the house.
- Wooden floors.
- Carpet with no mastic over wooden floors.
- Multiple types & layers of vinyl floors with & without mastic.
- A portion of the floors are unstable.
- A portion of the roof and ceiling are collapsed.

## **SCOPE OF THE SURVEY**

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

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

## **METHODS**

### **Asbestos Containing Materials**

In order to determine if the suspect materials observed during the visual survey contained asbestos, representative bulk samples were collected and placed in sealed packages. Thirty-five (35) 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. 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). Eleven (11) 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.

No asbestos was detected in the samples collected and analyzed. Should additional suspect ACM should be discovered during demolition activities, Apex recommends that work activities stop until the suspect building materials may be sampled and analyzed. A specific *PLM and TEM Data Table* is located in Appendix II of this report.

### 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 are included in the LBP Analysis Report in Appendix II of this report. The approximate locations of the paint samples collected and analytical results are presented in the *LBP Data Table* included in Appendix II of this report.

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

- Interior white porcelain toilet.
- Exterior white wooden corner trim.
- Exterior white wooden back porch ceiling.
- Exterior white wooden back porch header boards.
- Exterior white wooden back porch door frame.
- Exterior white wooden roof trim molding.

## **RECOMMENDATIONS AND DISCUSSION**

### Asbestos Containing Materials

No asbestos was present in the materials sampled within the structure. Therefore, no recommendations are necessary at this time.

### Lead-Based Paint

Currently the South Carolina Department of Health and Environmental Control (SCDHEC) 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 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 RESULTS**

Project Name: COS 686 Saxon Avenue ACM/LBP

Sampled By: Ted Shultz

Project Location: 686 Saxon Avenue., Spartanburg, SC 29301

Project Manager: Tom Oliver

Project Number: 0118-14

Date: 12/7/2018

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
1	Roof	Roof shingles (1 layer) & felt (1 layer)	PLM - NAD	Non-Friable	Good	1,300 SF
2			TEM - NAD			
3						
4	Exterior siding	Cement board siding	PLM - NAD	Non-Friable	Good	1,500 SF
5						
6						
7	Exterior siding	Felt paper beneath cement board siding	PLM - NAD	Non-Friable	Good	1,500 SF
8			TEM - NAD			
9						
10	Crawlspace & HVAC	Beige HVAC mastic	PLM - NAD	Non-Friable	Good	250 SF
11			TEM - NAD			
12						
13	Big wooden windows	Window caulk	PLM - NAD	Non-Friable	Good	12 EA
14			TEM - NAD			
15						
16	Chimney's	Chimney tar	PLM - NAD	Non-Friable	Good	12 LF
17			TEM - NAD			
18						
19	Wooden bathroom window	Window glazing	PLM - NAD	Non-Friable	Good	1 EA
20			TEM - NAD			
21						
22	Bathroom	Shower stall caulk	PLM - NAD	Non-Friable	Good	35 LF
23			TEM - NAD			
24						

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

Project Name: COS 686 Saxon Avenue ACM/LBP

Sampled By: Ted Shultz

Project Location: 686 Saxon Avenue., Spartanburg, SC 29301

Project Manager: Tom Oliver

Project Number: 0118-14

Date: 12/7/2018

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
25	Throughout	Drywall with joint compound & tape	PLM - NAD	Friable	Good	2,500 SF
26						
27						
28						
29						
30	Kitchen (top layer) & Bathroom (2nd layer)	Tan multi-square pattern self-stick floor tile & tan adhesive	PLM - NAD	Non-Friable	Good	115 SF
31			TEM - NAD			
32						
33	Bathroom (top layer)	Grey stone pattern vinyl floor with no mastic	PLM - NAD	Non-Friable	Good	25 SF
34			TEM - NAD			
35						

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 686 Saxon Avenue ACM/LBP

Sampled By: Tom Oliver

Project Location: 686 Saxon Avenue, Spartanburg SC 29301

Project Manager: Tom Oliver

Project Number: 0118-14

Date: 12/7/2018

Sample No.	Sample Location	Component	Color	Substrate	Analytical Result (mg/m <sup>3</sup> )
1	Standardization				184.00
2	Calibration				1.19
3	Calibration				1.10
4	Calibration				1.10
5	Exterior Front Porch	Siding	Yellow	Cement board	0.00
6	Exterior Front Porch	Porch ceiling	White	Wood	0.00
7	Exterior Front Porch	Porch floor/steps	Grey	Concrete	0.01
8	Exterior Front Porch	Porch column	White	Concrete	0.00
9	Exterior Front Porch	Railing	White	Wood	0.00
10	Exterior Front Porch	Porch header board	White	Wood	0.00
11	Exterior Front Porch	Big window frame	White	Wood	0.00
12	Exterior Front Porch	Door frame	White	Wood	0.00
<b>13</b>	<b>Exterior Left Side</b>	<b>Corner trim</b>	<b>White</b>	<b>Wood</b>	<b>2.98</b>
14	Exterior Left Side	Roof trim	White	Wood	0.00
15	Exterior Left Side	Roof sheathing overhang	White	Wood	0.00
<b>16</b>	<b>Exterior Back Porch</b>	<b>Porch ceiling</b>	<b>White</b>	<b>Wood</b>	<b>2.47</b>
<b>17</b>	<b>Exterior Back Porch</b>	<b>Porch header board</b>	<b>White</b>	<b>Wood</b>	<b>3.43</b>
18	Exterior Back Porch	Porch column	White	Wood	0.00
19	Exterior Back Porch	Railing	White	Wood	0.00
20	Exterior Back Porch	Porch floor/steps	Grey	Concrete	0.00
<b>21</b>	<b>Exterior Back Porch</b>	<b>Door frame</b>	<b>White</b>	<b>Wood</b>	<b>1.74</b>
<b>22</b>	<b>Exterior Back Porch</b>	<b>Roof trim molding</b>	<b>White</b>	<b>Wood</b>	<b>3.40</b>
23	Exterior Back Porch	Small window frame	White	Wood	0.68
24	Exterior Back Porch	Door frame	Brown	Wood	0.00
25	Crawlspace	Door frame	Grey	Wood	0.00
26	Crawlspace	Wall	Yellow	Brick	0.00
27	Exterior Left Side	Big window	White	Wood	0.00
28	Interior	Wall	Tan	Drywall	0.00

**FIELD DATA SHEET  
LBP ANALYSIS**

Project Name: COS 686 Saxon Avenue ACM/LBP

Sampled By: Tom Oliver

Project Location: 686 Saxon Avenue, Spartanburg SC 29301

Project Manager: Tom Oliver

Project Number: 0118-14

Date: 12/7/2018

Sample No.	Sample Location	Component	Color	Substrate	Analytical Result (mg/m <sup>3</sup> )
29	Interior	Window	White	Wood	0.00
30	Interior	Window frame	White	Wood	0.00
31	Interior	Short baseboard	White	Wood	0.00
32	Interior	Door	Brown	Wood	0.00
33	Interior	Door frame	White	Wood	0.00
34	Interior	Fireplace	White	Wood	0.00
35	Interior	Fireplace mantle	White	Wood	0.00
36	Interior	Ceiling	White	Drywall	0.00
37	Interior	Wall	White	Drywall	0.00
38	Interior	Tall baseboard	White	Wood	0.07
39	Interior	Door	Brown	Wood	0.00
40	Interior	Floor	Brown	Wood	0.00
41	Interior	Bath tub	White	Metal	0.00
<b>42</b>	<b>Interior</b>	<b>Toilet</b>	<b>White</b>	<b>Porcelain</b>	<b>1.00</b>
43	Interior	Sink	White	Composite	0.00
44	Interior	Vanity	White	Wood	0.00
45	Interior	Kitchen cabinet	Grey	Wood	0.00
46		Calibration			1.13
47		Calibration			1.07
48		Calibration			1.21

**Bold is Lead Based Paint**

**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: 411812975

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:** 12/10/2018 10:45 AM

**Analysis Date:** 12/15/2018

**Collected Date:**

**Project:** 0118-14 / COS 686 Saxon 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-Shingle <small>411812975-0001</small>	Roof Shingles (1 Layer) + Felt (1 Layer)	Black Fibrous Homogeneous	5% Glass	8% Quartz 10% Ca Carbonate 77% Non-fibrous (Other)	None Detected
1-Felt <small>411812975-0001A</small>	Roof Shingles (1 Layer) + Felt (1 Layer)	Black Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
2-Shingle <small>411812975-0002</small>	Roof Shingles (1 Layer) + Felt (1 Layer)	Gray/Black Fibrous Homogeneous	10% Glass	5% Quartz 10% Ca Carbonate 75% Non-fibrous (Other)	None Detected
2-Felt <small>411812975-0002A</small>	Roof Shingles (1 Layer) + Felt (1 Layer)	Black Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (Other)	None Detected
4 <small>411812975-0003</small>	Cement Board Siding	Brown/Gray Non-Fibrous Homogeneous	25% Cellulose	30% Ca Carbonate 45% Non-fibrous (Other)	None Detected
5 <small>411812975-0004</small>	Cement Board Siding	Gray Fibrous Homogeneous	25% Cellulose	30% Ca Carbonate 45% Non-fibrous (Other)	None Detected
6 <small>411812975-0005</small>	Cement Board Siding	Gray Fibrous Homogeneous	15% Cellulose	10% Quartz 75% Non-fibrous (Other)	None Detected
7 <small>411812975-0006</small>	Felt under Cement Board Siding	Black Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
8 <small>411812975-0007</small>	Felt under Cement Board Siding	Black Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (Other)	None Detected
10 <small>411812975-0008</small>	Beige HVAC Mastic	Gray Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
11 <small>411812975-0009</small>	Beige HVAC Mastic	Beige Non-Fibrous Homogeneous	2% Synthetic	5% Ca Carbonate 93% Non-fibrous (Other)	None Detected
13 <small>411812975-0010</small>	Window Caulk	White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
14 <small>411812975-0011</small>	Window Caulk	White Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (Other)	None Detected
16 <small>411812975-0012</small>	Chimney Tar	Black Non-Fibrous Homogeneous	15% Cellulose	5% Ca Carbonate 80% Non-fibrous (Other)	None Detected
17 <small>411812975-0013</small>	Chimney Tar	Black Non-Fibrous Homogeneous	15% Cellulose	5% Ca Carbonate 80% Non-fibrous (Other)	None Detected
19 <small>411812975-0014</small>	Window Glazing	Gray Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected

Initial report from: 12/17/2018 08:16:42



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10801 Southern Loop Blvd Pineville, NC 28134

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EMSL Order: 411812975

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
20 411812975-0015	Window Glazing	Gray/White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
22 411812975-0016	Shower Stall Caulk	White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
23 411812975-0017	Shower Stall Caulk	Beige Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
25-Drywall 411812975-0018	Drywall w/ Joint Compound + Tape	Gray Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
25-Joint Compound 411812975-0018A	Drywall w/ Joint Compound + Tape	White Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
25-Tape 411812975-0018B	Drywall w/ Joint Compound + Tape	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
26-Drywall 411812975-0019	Drywall w/ Joint Compound + Tape	Gray Fibrous Homogeneous	5% Cellulose 1% Glass	94% Non-fibrous (Other)	None Detected
26-Joint Compound 411812975-0019A	Drywall w/ Joint Compound + Tape	White Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
26-Tape 411812975-0019B	Drywall w/ Joint Compound + Tape	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
27-Drywall 411812975-0020	Drywall w/ Joint Compound + Tape	Gray Fibrous Homogeneous	5% Cellulose 1% Glass	94% Non-fibrous (Other)	None Detected
27-Joint Compound 411812975-0020A	Drywall w/ Joint Compound + Tape	White Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
27-Tape 411812975-0020B	Drywall w/ Joint Compound + Tape	Tan Non-Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
28-Drywall 411812975-0021	Drywall w/ Joint Compound + Tape	Brown/White Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
28-Joint Compound 411812975-0021A	Drywall w/ Joint Compound + Tape	White Non-Fibrous Homogeneous		50% Ca Carbonate 50% Non-fibrous (Other)	None Detected
28-Tape 411812975-0021B	Drywall w/ Joint Compound + Tape	Tan/White Fibrous Homogeneous	100% Cellulose		None Detected
29-Drywall 411812975-0022	Drywall w/ Joint Compound + Tape	Brown/White Fibrous Homogeneous	12% Cellulose	88% Non-fibrous (Other)	None Detected
29-Joint Compound 411812975-0022A	Drywall w/ Joint Compound + Tape	White Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
29-Tape 411812975-0022B	Drywall w/ Joint Compound + Tape	Tan Fibrous Homogeneous	100% Cellulose		None Detected

Initial report from: 12/17/2018 08:16:42



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**EMSL Order:** 411812975  
**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
30-Floor Tile <i>411812975-0023</i>	Tan Multi-Square Pattern Self-Stick Floor Tile w/ Tan Adhesive	Gray/Tan Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
30-Mastic <i>411812975-0023A</i>	Tan Multi-Square Pattern Self-Stick Floor Tile w/ Tan Adhesive	Brown/Tan Non-Fibrous Homogeneous	1% Cellulose	5% Ca Carbonate 94% Non-fibrous (Other)	None Detected
31-Floor Tile <i>411812975-0024</i>	Tan Multi-Square Pattern Self-Stick Floor Tile w/ Tan Adhesive	Gray Non-Fibrous Homogeneous	1% Cellulose	30% Ca Carbonate 69% Non-fibrous (Other)	None Detected
31-Mastic <i>411812975-0024A</i>	Tan Multi-Square Pattern Self-Stick Floor Tile w/ Tan Adhesive	Tan Non-Fibrous Homogeneous	1% Cellulose	20% Ca Carbonate 79% Non-fibrous (Other)	None Detected
33 <i>411812975-0025</i>	Grey Stone Pattern Vinyl Floor w/ no Mastic	Gray Non-Fibrous Homogeneous	5% Cellulose	10% Ca Carbonate 85% Non-fibrous (Other)	None Detected
34 <i>411812975-0026</i>	Grey Stone Pattern Vinyl Floor w/ no Mastic	Gray/Pink Fibrous Homogeneous	10% Cellulose	15% Ca Carbonate 75% Non-fibrous (Other)	None Detected

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

Aaron Hartley (18)

Lacy Searcy (22)

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

Initial report from: 12/17/2018 08:16:42





# EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

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

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**EMSL Order:** 411812975

**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:** 12/10/2018 10:45 AM  
**Analysis Date:** 12/19/2018  
**Collected Date:**

**Project:** 0118-14 / COS 686 Saxon 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-Shingle 411812975-0027	Roof Shingles (1 Layer ) + Felt (1 Layer)	Gray/Black Fibrous Homogeneous	100.0	None	No Asbestos Detected
3-Felt 411812975-0028	Roof Shingles (1 Layer ) + Felt (1 Layer)	Black Fibrous Homogeneous	100.0	None	No Asbestos Detected
9 411812975-0029	Felt under Cement Board Siding	Black Fibrous Homogeneous	100.0	None	No Asbestos Detected
12 411812975-0030	Beige HVAC Mastic	White Non-Fibrous Homogeneous	100.0	None	No Asbestos Detected
15 411812975-0031	Window Caulk	White Non-Fibrous Homogeneous	100.0	None	No Asbestos Detected
18 411812975-0032	Chimney Tar	Black Non-Fibrous Homogeneous	100.0	None	No Asbestos Detected
21 411812975-0033	Window Glazing	Gray Non-Fibrous Homogeneous	100.0	None	No Asbestos Detected
24 411812975-0034	Shower Stall Caulk	White Non-Fibrous Homogeneous	100.0	None	No Asbestos Detected
32-Floor Tile 411812975-0035	Tan Multi-Square Pattern Self-Stick Floor Tile w/ Tan Adhesive	Brown Non-Fibrous Homogeneous	100.0	None	No Asbestos Detected
32-Mastic 411812975-0036	Tan Multi-Square Pattern Self-Stick Floor Tile w/ Tan Adhesive	Tan Non-Fibrous Homogeneous	100.0	None	No Asbestos Detected
35 411812975-0037	Grey Stone Pattern Vinyl Floor w/ no Mastic	Gray Non-Fibrous Homogeneous	100.0	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: 12/19/2018 14:09:41



# 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)


<b>EMSL Order:</b> 411812975 <b>Customer ID:</b> AXEM25 <b>Customer PO:</b> <b>Project ID:</b> City of Spartanburg
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<b>Attention:</b> Tom Oliver Apex Environmental Management 7 Winchester Court Mauldin, SC 29662  <b>Project:</b> 0118-14 / COS 686 Saxon Avenue (City of Spartanburg)	<b>Phone:</b> (864) 640-5274 <b>Fax:</b> <b>Received Date:</b> 12/10/2018 10:45 AM <b>Analysis Date:</b> 12/19/2018 <b>Collected Date:</b>
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## 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
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Analyst(s)  
 \_\_\_\_\_  
 Aaron Hartley (11)

  
 \_\_\_\_\_  
 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: 12/19/2018 14:09:41



EMSL ANALYTICAL, INC.  
LABORATORY • PRODUCTS • TRAINING

# Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (Lab Use Only):

411812975

376 Crompton Street

Charlotte, NC 28273  
PHONE: (704) 525-2205  
FAX: (704) 525 2382

Company : Apex Environmental Management, Inc.		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input 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): Tom Oliver		Telephone #: 864-404-3210	
Email Address: tolover@apex-ehs.com		Fax #: 864-404-3213	Purchase Order:
Project Name/Number: 0118-14 COS 686 Saxon Ave		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: 12-7-18

Samplers Name: Tom Oliver    Samplers Signature:

Sample #	HA #	Sample Location	Material Description
1		Roof shingles (1layer) & felt (1layer)	PLM
2			
3			TEM
4		Cement Board siding	PLM
5			
6			
7		Felt under cement board	PLM
8		siding	
9			TEM

Client Sample # (s): 1-35    Total # of Samples: 35

Relinquished (Client): Date: 12-7-18    Time:

Received (Lab): Date: 12/10/18    Time: 1045AM EMSL Fk

Comments/Special Instructions: City of Spartanburg Project Pricing

7956 - 3734 6286



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS TRAINING

## Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (Lab Use Only):

411812975

376 Crompton Street

Charlotte, NC 28273

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		Beige HVAC Mastic	PLM
11			
12			TEM
13		Window Caulk	PLM
14			
15			TEM
16		Chimney Tar	PLM
17			
18			TEM
19		Window Glazing	PLM
20			
21			TEM
22		Shower Stall Caulk	PLM
23			
24			TEM
25		Drywall w/ Joint compound	PLM
26		& tape	
27			
28			
29			
30		Tan multi-square pattern self-stick	PLM
31		floor tile w/ tan adhesive	
32			TEM
*Comments/Special Instructions: Same as Page 1			



EMSL ANALYTICAL, INC.  
LABORATORY • PRODUCTS • TRAINING

## Asbestos Bulk Building Material Chain of Custody

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

411812975

376 Crompton Street

Charlotte, NC 28273

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
33		Grey stone pattern vinyl	PLM
34		floor w/ <sup>T-S</sup> <del>tan</del> nonastil	
35			TEM

\*Comments/Special Instructions:

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



Photo 1 – 686 Saxon Avenue in Spartanburg, South Carolina



Photo 2 – Roof shingles & felt



Photo 3 – Cement board siding with felt paper over wood



Photo 4 – Beige HVAC mastic in crawlspace & on HVAC



Photo 5 – Bid wooden windows with caulk



Photo 6 – Tar on 2 chimneys



Photo 7 – Window glazing on small wooden bathroom window



Photo 8 – Drywall with joint compound & tape throughout



Photo 9 – Drywall with joint compound & tape throughout



Photo 10 – Tan multi-square pattern self-stick floor tile & tan adhesive in the kitchen (top layer) & bathroom (2<sup>nd</sup> layer)



Photo 11 – Grey stone pattern vinyl floor with no mastic in the bathroom (top layer)



Photo 12 – View of collapsed roof and ceiling



*Asbestos & Lead Assessment  
City of Spartanburg  
686 Saxon Avenue  
Spartanburg, South Carolina 29301*



Photo 13 – View of unstable flooring

**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**

**SCDHEC ISSUED**  
Asbestos ID Card

**Thomas H Oliver**



**CONSULTBI BI-00680**  
**AIRSAMPLER AS-00202**

Expiration Date:  
**01/18/19**  
**04/04/19**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

**YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.**

For information of corrections contact: SCDHEC – Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289