



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

City of Spartanburg  
250 Palisade Street  
Spartanburg, South Carolina

***Prepared for:***

The City of Spartanburg  
201 Caulder Avenue  
Spartanburg, South Carolina

***Prepared by:***

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

Project Number: 0815-163

October 12, 2015





7 Winchester Court  
Mauldin, SC 29662  
864.404.3210 office  
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[www.apex-ehs.com](http://www.apex-ehs.com)

### 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 0815-163

October 12, 2015

Mr. Demian Carpenter  
City of Spartanburg  
P.O. Box 1749  
Spartanburg, South Carolina 29304

Reference: Asbestos and Lead-Based Paint Assessment Services  
250 Palisade Street  
Spartanburg, South Carolina

Dear Mr. Carpenter:

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 'Rebecca W. Shultz'.

Rebecca W. Shultz, CIH, CSP  
President

Appendices

**ASBESTOS AND LEAD BASED PAINT ASSESSMENT**

**CITY OF SPARTANBURG  
250 PALISADE STREET  
SPARTANBURG, SOUTH CAROLINA**

**APEX PROJECT NO. 0815-163**

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**SECTION I**

**Asbestos & Lead Evaluation Report**

**ASBESTOS/LEAD EVALUATION REPORT**  
**APEX PROJECT NUMBER: 0815-163**

Date:	10/12/2015	Page Number:	1 of 4
Client:	City of Spartanburg	Client Contact:	Mr. Demian Carpenter
Client Address:	201 Caulder Avenue Spartanburg, SC 29304	Client Phone Number:	
Project:	Asbestos and Lead Evaluation		
Property Address:	250 Palisade Street Spartanburg, SC		
Assessor:	Rebecca W Shultz	Date of Assessment:	9/22/2015
Company:	Apex Environmental Management 7 Winchester Court Mauldin, SC 29662	Phone Number:	
Purpose of Assessment:	Demolition	Age of Structure:	Approx. 50 years
Building Type:	Residential	Number of Stories:	1
Foundation:	Brick crawlspace	Approximate Square Footage:	1000 SF

**EXTERIOR BUILDING MATERIALS**  
 Aluminum Siding Over Asphalt/Wood  
 Roof Shingles  
 Two Chimneys w/ mastic  
 Wood Windows  
 Wood Doors  
 Window Glazing

**INTERIOR BUILDING MATERIALS**  
 Plaster  
 Ceiling Texture  
 Ceiling Tiles  
 Linoleum  
 Drywall and Joint Compound  
 Carpeting (No mastic)

## 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-two (32) bulk samples were collected during the survey and submitted to EMSL in Charlotte, 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 Charlotte 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). Twelve (12) 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 as a material containing more than one percent asbestos. Provided below is a general discussion of the asbestos containing materials identified in the residence. Specific *PLM* and *TEM* tables are located in Tables 1 and 2 of this report and identify positive materials and designate approximate quantities.

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

- Exterior Window Glazing
- Chimney Caulk - assumed

### 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, 0.7mg/cm<sup>3</sup>. The laboratory analytical results and chain-of-custody are included in the Lead Analysis Reports in Appendix A. The approximate locations of the paint samples collected and analytical results are presented in the Tables included with this report .

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

#### Exterior

- Brown Window Frame
- Brown Window Sill
- Brown Wood Ceiling
- White Wood Door Frame
- White Wood Door

#### Interior

- White Wood Door Frame
- White Wood Mantle
- White Wood Window Frame
- White Wood Window Sill

## **RECOMMENDATIONS AND DISCUSSION**

### Asbestos Containing Materials

If the above referenced asbestos materials are to be disturbed by renovations or demolition, the asbestos must be removed in accordance with EPA, State of South Carolina and OSHA asbestos regulations. 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.

### Lead-Based Paint

Currently the South Carolina Department of Health and Environmental Control (SCDHEC) define LBP as paint containing greater than 0.7 milligrams per square centimeter (mg/cm<sup>2</sup>) 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 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**

### **Tables**

## ASBESTOS SURVEY FIELD DATA SHEET

Project Name: 250 Palisade Street COS

Sampled By: Rebecca Shultz

Project Location: Spartanburg, SC

Project Manager: Rebecca Shultz

Project Number: 0815-163

Date: 9/22/2015

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
1	Throughout	Plaster	NAD	Friable	Good	2800 SF
2						
3						
4						
5						
6	Kitchen	Sheetrock/Joint Compound	NAD	Friable	Good	300 SF
7						
8						
9	Kitchen	Ceiling Texture	NAD	Friable	Good	120 SF
10						
11						
12	Kitchen	Gray 12"x12" Floor tile	NAD	Non-Friable	Good	60 SF
13						
14						
15	Kitchen	White 12"x12" Floor tile	NAD	Non-Friable	Good	60 SF
16						
17						
18	Bath	White 12"x12" Floor tile	NAD	Non-Friable	Good	15 SF
19						
20						
21	Bath	Black 12"x12" Floor tile	NAD	Non-Friable	Good	10 SF
22						
23						

NAD = No Asbestos Detected

LF = Linear Feet

EA = Each

**Bold = Positive For Asbestos**

SF = Square Feet



**FIELD DATA SHEET  
LBP ANALYSIS**

Project Name: COS 250 Palisade Street

Sampled By: Rebecca Shultz

Project Location: Spartanburg SC

Project Manager: Rebecca Shultz

Project Number: 0815-163

Date: 9/22/2015

Sample No.	Sample Location	Component	Color	Substrate	Analytical Result (mg/cm <sup>2</sup> )
2	Exterior	Column	Green	Brick	0.01
3	Exterior	Beam	Green	Wood	0.00
4	Exterior	Floor	Green	Wood	0.19
5	Exterior	Steps	Green	Concrete	0.07
6	Exterior	Siding	Green	Metal	0.00
<b>7</b>	<b>Exterior</b>	<b>Window Frame</b>	<b>Brown</b>	<b>Wood</b>	<b>3.25</b>
<b>8</b>	<b>Exterior</b>	<b>Window Sill</b>	<b>Brown</b>	<b>Wood</b>	<b>3.19</b>
<b>9</b>	<b>Exterior</b>	<b>Ceiling</b>	<b>Brown</b>	<b>Wood</b>	<b>2.20</b>
<b>10</b>	<b>Exterior</b>	<b>Door Frame</b>	<b>White</b>	<b>Wood</b>	<b>2.81</b>
<b>11</b>	<b>Exterior</b>	<b>Door</b>	<b>White</b>	<b>Wood</b>	<b>2.63</b>
<b>12</b>	<b>Interior</b>	<b>Door Frame</b>	<b>White</b>	<b>Wood</b>	<b>3.02</b>
<b>14</b>	<b>Interior</b>	<b>Mantle</b>	<b>White</b>	<b>Wood</b>	<b>0.93</b>
<b>16</b>	<b>Interior</b>	<b>Window Frame</b>	<b>White</b>	<b>Wood</b>	<b>1.54</b>
<b>17</b>	<b>Interior</b>	<b>Window</b>	<b>White</b>	<b>Wood</b>	<b>1.31</b>
18	Interior	Wall	Yellow	Plaster	0.00
19	Interior	Cabinets	White	Wood	0.06
20	Interior	Wall	White	Drywall	0.31
21	Interior	Wall	White	Plaster	0.13
22	Interior	Bead Board Wall	Blue	Wood	0.41

**Bold is Lead Based Paint**

**SECTION III**

**Laboratory Analytical Results**



# EMSL Analytical, Inc.

376 Crompton Street, Charlotte, NC 28273

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

<http://www.EMSL.com>

[charlottelab@emsl.com](mailto:charlottelab@emsl.com)

EMSL Order:	411506843
CustomerID:	AXEM25
CustomerPO:	
ProjectID:	

Attn: <b>Rebecca Shultz</b> <b>Apex Environmental Management</b> <b>7 Winchester Court</b> <b>Mauldin, SC 29662</b>	Phone: (864) 640-5274 Fax: Received: 09/23/15 9:30 AM Analysis Date: 9/28/2015 Collected: 9/22/2015
Project: <b>0815-163 250 Palisade</b>	

## 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-Skim Coat 411506843-0001	Throughout - Plaster	White Non-Fibrous Homogeneous	<1% Cellulose	20% Quartz 80% Non-fibrous (other)	None Detected
1-Rough Coat 411506843-0001A	Throughout - Plaster	Brown Fibrous Homogeneous	3% Synthetic	40% Quartz 57% Non-fibrous (other)	None Detected
2-Skim Coat 411506843-0002	Throughout - Plaster	White Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (other)	None Detected
2-Rough Coat 411506843-0002A	Throughout - Plaster	Brown Non-Fibrous Homogeneous	3% Synthetic	40% Quartz 57% Non-fibrous (other)	None Detected
3-Skim Coat 411506843-0003	Throughout - Plaster	White Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (other)	None Detected
3-Rough Coat 411506843-0003A	Throughout - Plaster	Brown Fibrous Homogeneous	2% Synthetic	40% Quartz 58% Non-fibrous (other)	None Detected
4-Skim Coat 411506843-0004	Throughout - Plaster	Tan Non-Fibrous Homogeneous		30% Quartz 10% Ca Carbonate 60% Non-fibrous (other)	None Detected
4-Rough Coat 411506843-0004A	Throughout - Plaster	Gray Fibrous Homogeneous	2% Synthetic	30% Quartz 10% Ca Carbonate 58% Non-fibrous (other)	None Detected

Analyst(s)  
 Aaron Hartley (23)                      Kyle Collins (2)  
 Eric Loomis (16)

  
 Lee Plumley, Laboratory Manager  
 or other approved signatory

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

Initial report from 09/28/2015 08:56:01



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Project: <b>0815-163 250 Palisade</b>	

## 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
5-Skim Coat 411506843-0005	Throughout - Plaster	White Non-Fibrous Homogeneous		20% Quartz 5% Ca Carbonate 75% Non-fibrous (other)	None Detected
5-Rough Coat 411506843-0005A	Throughout - Plaster	Tan Fibrous Heterogeneous	<1% Cellulose 2% Synthetic	20% Quartz 5% Ca Carbonate 73% Non-fibrous (other)	None Detected
6-Sheetrock 411506843-0006	Kitchen - SR/ JC	White Non-Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (other)	None Detected
No joint compound present					
7-Sheetrock 411506843-0007	Kitchen - SR/ JC	Brown/Gray Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (other)	None Detected
No joint compound present					
8-Sheetrock 411506843-0008	Kitchen - SR/ JC	Gray Non-Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (other)	None Detected
No joint compound present					
9 411506843-0009	Kitchen - Ceiling Texture	White Non-Fibrous Homogeneous		35% Ca Carbonate 65% Non-fibrous (other)	None Detected
10 411506843-0010	Kitchen - Ceiling Texture	White Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (other)	None Detected

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

Aaron Hartley (23)

Kyle Collins (2)

Eric Loomis (16)

Lee Plumley, Laboratory Manager  
or other approved signatory

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

Initial report from 09/28/2015 08:56:01



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## 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
11 411506843-0011	Kitchen - Ceiling Texture	White Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (other)	None Detected
12-Floor Tile 411506843-0012	Kitchen - 12x12 Gray FT & Mastic	Gray Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected
12-Mastic 411506843-0012A	Kitchen - 12x12 Gray FT & Mastic	Tan Non-Fibrous Homogeneous	2% Cellulose	5% Ca Carbonate 93% Non-fibrous (other)	None Detected
13-Floor Tile 411506843-0013	Kitchen - 12x12 Gray FT & Mastic	Gray Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected
13-Mastic 411506843-0013A	Kitchen - 12x12 Gray FT & Mastic	Tan Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (other)	None Detected
15-Floor Tile 411506843-0014	Kitchen - 12x12 White FT & Mastic	White Non-Fibrous Homogeneous		35% Ca Carbonate 65% Non-fibrous (other)	None Detected
15-Mastic 411506843-0014A	Kitchen - 12x12 White FT & Mastic	Tan Non-Fibrous Homogeneous	4% Cellulose	96% Non-fibrous (other)	None Detected
16-Floor Tile 411506843-0015	Kitchen - 12x12 White FT & Mastic	White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected

Analyst(s)

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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
16-Mastic 411506843-0015A	Kitchen - 12x12 White FT & Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
18-Floor Tile 411506843-0016	Bath - 12x12 White FT & Mastic	Beige Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected
18-Mastic 411506843-0016A	Bath - 12x12 White FT & Mastic	Tan Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (other)	None Detected
19-Floor Tile 411506843-0017	Bath - 12x12 White FT & Mastic	White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected
19-Mastic 411506843-0017A	Bath - 12x12 White FT & Mastic	Tan Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (other)	None Detected
21-Floor Tile 411506843-0018	Bath - 12x12 Black FT & Mastic	Black Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (other)	None Detected
21-Mastic 411506843-0018A	Bath - 12x12 Black FT & Mastic	Tan Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (other)	None Detected
22-Floor Tile 411506843-0019	Bath - 12x12 Black FT & Mastic	Black Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected

### Analyst(s)

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or other approved signatory

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
22-Mastic 411506843-0019A	Bath - 12x12 Black FT & Mastic	Tan Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (other)	None Detected
24 411506843-0020	Exterior - Asphalt Siding	Brown/Gray/Black Fibrous Homogeneous	20% Cellulose	5% Quartz 75% Non-fibrous (other)	None Detected
25 411506843-0021	Exterior - Asphalt Siding	Various/Black Fibrous Heterogeneous	20% Cellulose	5% Quartz 75% Non-fibrous (other)	None Detected
27 411506843-0022	Exterior - Window Glazing	White Non-Fibrous Homogeneous		50% Ca Carbonate 48% Non-fibrous (other)	2% Chrysotile
28 411506843-0023	Exterior - Window Glazing				Stop Positive (Not Analyzed)
30-Black Shingle 411506843-0024	Exterior - Roofing	Black Fibrous Homogeneous	10% Glass	5% Quartz 15% Ca Carbonate 70% Non-fibrous (other)	None Detected
30-Gray Shingle 411506843-0024A	Exterior - Roofing	Gray/Black Non-Fibrous Homogeneous	8% Glass	5% Quartz 10% Ca Carbonate 77% Non-fibrous (other)	None Detected
30-Felt 411506843-0024B	Exterior - Roofing	Black Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (other)	None Detected

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

Aaron Hartley (23)

Kyle Collins (2)

Eric Loomis (16)

Lee Plumley, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported 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. 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. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

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

Initial report from 09/28/2015 08:56:01



# EMSL Analytical, Inc.

376 Crompton Street, Charlotte, NC 28273

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

<http://www.EMSL.com>

[charlottelab@emsl.com](mailto:charlottelab@emsl.com)

EMSL Order:	411506843
CustomerID:	AXEM25
CustomerPO:	
ProjectID:	

Attn: <b>Rebecca Shultz</b> <b>Apex Environmental Management</b> <b>7 Winchester Court</b> <b>Mauldin, SC 29662</b>	Phone: (864) 640-5274 Fax: Received: 09/23/15 9:30 AM Analysis Date: 9/28/2015 Collected: 9/22/2015
Project: 0815-163 250 Palisade	

## 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
31-Black Shingle 411506843-0025	Exterior - Roofing	Various/Black Non-Fibrous Homogeneous	8% Glass	8% Quartz 5% Ca Carbonate 79% Non-fibrous (other)	None Detected
31-Gray Shingle 411506843-0025A	Exterior - Roofing	Gray/Black Fibrous Heterogeneous	8% Glass	8% Quartz 5% Ca Carbonate 79% Non-fibrous (other)	None Detected
31-Felt 411506843-0025B	Exterior - Roofing	Black Non-Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (other)	None Detected

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

Aaron Hartley (23)

Kyle Collins (2)

Eric Loomis (16)

Lee Plumley, Laboratory Manager  
or other approved signatory

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

Initial report from 09/28/2015 08:56:01

**EMSL Analytical, Inc.**

376 Crompton Street, Charlotte, NC 28273  
 Phone/Fax: (704) 525-2205 / (704) 525-2382  
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EMSL Order: 411506843  
 CustomerID: AXEM25  
 CustomerPO:  
 ProjectID:

Attn: **Rebecca Shultz**  
**Apex Environmental Management**  
**7 Winchester Court**  
**Mauldin, SC 29662**

Phone: (864) 640-5274  
 Fax:  
 Received: 09/28/15 8:40 AM  
 Analysis Date: 10/1/2015  
 Collected: 9/22/2015

Project: **0815-163 250 Palisade**

**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
14-Floor Tile 411506843-0026	Kitchen - 12x12 Gray FT & Mastic	Gray Non-Fibrous Homogeneous	99.6	0.41 Fibrous (other)	No Asbestos Detected
14-Mastic 411506843-0027	Kitchen - 12x12 Gray FT & Mastic	Tan Non-Fibrous Homogeneous	100	<0.35 Fibrous (other)	No Asbestos Detected
17-Floor Tile 411506843-0028	Kitchen - 12x12 White FT & Mastic	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
17-Mastic 411506843-0029	Kitchen - 12x12 White FT & Mastic	Clear Non-Fibrous Homogeneous	99.8	0.20 Fibrous (other)	No Asbestos Detected
20-Floor Tile 411506843-0030	Bath - 12x12 White FT & Mastic	White Non-Fibrous Homogeneous	100	<0.57 Fibrous (other)	No Asbestos Detected
20-Mastic 411506843-0031	Bath - 12x12 White FT & Mastic	Tan Non-Fibrous Homogeneous	100	<0.50 Fibrous (other)	No Asbestos Detected
23-Floor Tile 411506843-0032	Bath - 12x12 Black FT & Mastic	Black Non-Fibrous Homogeneous	99.4	0.56 Fibrous (other)	No Asbestos Detected
23-Mastic 411506843-0033	Bath - 12x12 Black FT & Mastic	Tan Non-Fibrous Homogeneous	99.5	0.55 Fibrous (other)	No Asbestos Detected
26 411506843-0034	Exterior - Asphalt Siding	White/Black Fibrous Homogeneous	100	<0.45 Fibrous (other)	No Asbestos Detected

Analyst(s)

Charles Harris (12)

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. Charlotte, NC

Initial report from 10/01/2015 14:37:31



**EMSL Analytical, Inc.**

376 Crompton Street, Charlotte, NC 28273  
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<http://www.EMSL.com> [charlottelab@emsl.com](mailto:charlottelab@emsl.com)

EMSL Order: 411506843  
CustomerID: AXEM25  
CustomerPO:  
ProjectID:

Attn: **Rebecca Shultz**  
**Apex Environmental Management**  
**7 Winchester Court**  
**Mauldin, SC 29662**

Phone: (864) 640-5274  
Fax:  
Received: 09/28/15 8:40 AM  
Analysis Date: 10/1/2015  
Collected: 9/22/2015

Project: **0815-163 250 Palisade**

**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
32-Black Shingle 411506843-0035	Exterior - Roofing	Black Fibrous Homogeneous	100	<0.50 Fibrous (other)	No Asbestos Detected
32-Gray Shingle 411506843-0036	Exterior - Roofing	Gray/Black Fibrous Homogeneous	98.4	1.6 Fibrous (other)	No Asbestos Detected
32-Felt 411506843-0037	Exterior - Roofing	Black Fibrous Homogeneous	100	<0.1 Fibrous (other)	No Asbestos Detected

Analyst(s)  
Charles Harris (12)

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. Charlotte, NC

Initial report from 10/01/2015 14:37:31



EMSL ANALYTICAL, INC.  
LABORATORY • PRODUCTS • TRAINING

**Asbestos Bulk Building Material  
Chain of Custody**  
EMSL Order Number (Lab Use Only):

411506843

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

Company : Apex Environmental Management		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: 7 Winchester Court		Third Party Billing requires written authorization from third party	
City: Mauldin	State/Province: SC	Zip/Postal Code: 29662	Country: United States
Report To (Name): Rebecca Shultz		Telephone #: 864-404-3210	
Email Address: rshultz@apex-ehs.com		Fax #:	Purchase Order:
Project Name/Number: 0815-163 250 Palisade		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)	<u>Other</u>
<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: 9/22/15

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

Sample #	HA #	Sample Location	Material Description
1		Throughout	Plaster
2		↓	↓
3			
4			
5			
6			
7		Kitchen	SR/JC
8		↓	↓

Client Sample # (s):	32	Total # of Samples:	32
Relinquished (Client):	[Signature]	Date:	9/22/15
Received (Lab):	[Signature]	Date:	9/23/15
Comments/Special Instructions:	Time: 9:30 AM EMSL/KA 7950 7172 8130		



EMSL ANALYTICAL, INC.  
LABORATORY • PRODUCTS • TRAINING

**Asbestos Bulk Building Material  
Chain of Custody**  
EMSL Order Number (Lab Use Only):

411506843

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	
9		Kitchen   	Ceiling Texture	
10				
11				
12			12x12 Gray FT $\approx$ Master	
13				
14				
15			12x12 White FT $\approx$ Master	
16				
17				
18			Bath	12x12 White FT $\approx$ Master
19				
20				
21				12x12 Black FT $\approx$ Master
22				
23				
24			Exterior	Asphalt Siding
25				
26				
27			Window Glazing	
28				
29				
30			Roofing	
31				
32				

\*Comments/Special Instructions:

**SECTION IV**  
**Photographs**



Photo 1 -- Front Elevation



Photo 2 --Roofing



Photo 3 – Composite Wood Ceiling Tiles



Photo 4 --Plaster behind paneling



Photo 5 – Floor tile in Kitchen



Photo 6 – Floor tile in Bathroom

**SECTION V**

**SC Asbestos Inspector License**

North Carolina  
Asbestos Accreditation



Rebecca W Shultz  
7 Winchester Ct  
Mauldin, SC 29662

108487

**EXPIRATION**

06-30-2016

DOB	SEX	HT	WT
09-19-1974	F	5'4"	175
CLASS	#	EXP	
DESIGNER	40465	06-16	
INSPECTOR	12394	06-16	
SUPER AIR MONITOR	90151	08-15	

**SCDHEC ISSUED**  
**Asbestos ID Card**

Rebecca Shultz



CONSULTPD  
CONSULTBI

Expires  
PD-00060 06/10/16  
BI-00492 06/09/16