



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

City of Spartanburg  
187 Sunny 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

September 16, 2015





7 Winchester Court  
Mauldin, SC 29662  
864.404.3210 office  
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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 0815-163

September 16, 2015

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

Reference: Asbestos and Lead-Based Paint Assessment Services  
187 Sunny 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 'R. Shultz', is written over a horizontal line.

Rebecca W. Shultz, CIH, CSP  
President

Appendices

**ASBESTOS AND LEAD BASED PAINT ASSESSMENT**

**CITY OF SPARTANBURG  
187 SUNNY 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:                  | 9/16/2015  | Page Number:                | 1 of 3               |
| Client:                | City of Spartanburg  | Client Contact:             | Mr. Demian Carpenter |
| Client Address:        | 201 Caulder Avenue<br>Spartanburg, SC 29304                              | Client Phone Number:        |                      |
| Project:               | Asbestos and Lead Evaluation   |                             |                      |
| Property Address:      | 187 Sunny Street<br>Spartanburg, SC                                      |                             |                      |
| Assessor:              | Thomas H. Oliver   | Date of Assessment:         | 9/01/2015            |
| Company:               | Apex Environmental Management<br>7 Winchester Court<br>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: | 960 SF               |

**EXTERIOR BUILDING MATERIALS**

Brick  
Roof Shingles  
No Chimney

**INTERIOR BUILDING MATERIALS**

Roll vinyl floor  
12x12 vinyl tile  
Drywall  
Wood windows w/caulk

## 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. Seventeen (17) 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). Seven (7) 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:

- Drywall and Joint Compound

Lead Based Paint

Lead based paint was not identified during the survey.

**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

No lead-based paint surfaces were found within the site location therefore no recommendations are indicated at this time.

**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: 187 Sunny Street COS

Sampled By: Thomas Oliver

Project Location: 187 Sunny Street

Project Manager: Thomas Oliver

Spartanburg, SC

Project Number: 0815-163

Date: 8/31/2015

| Sample No. | Location   | Sample Description               | Analytical Results             | Friable/Non Friable | Condition | Quantity |
|------------|------------|----------------------------------|--------------------------------|---------------------|-----------|----------|
| 1          | Kitchen    | White/Black Roll Vinyl no Mastic | NAD                            | Non-Friable         | Damaged   | 160 SF   |
| 2          |            |                                  |                                |                     |           |          |
| 3          |            |                                  |                                |                     |           |          |
| 4          | Bathroom   | 12x12 Self Stick Grey            | NAD                            | Non-Friable         | Good      | 50 SF    |
| 5          |            |                                  |                                |                     |           |          |
| 6          |            |                                  |                                |                     |           |          |
| 7          | Throughout | Drywall and Joint Compound       | 2% Chrysotile (Joint Compound) | Friable             | Good      | 2000 SF  |
| 8          |            |                                  |                                |                     |           |          |
| 9          |            |                                  |                                |                     |           |          |
| 10         |            |                                  |                                |                     |           |          |
| 11         |            |                                  |                                |                     |           |          |
| 12         | Windows    | Window Caulk                     | NAD                            | Non-Friable         | Good      | 11 ea    |
| 13         |            |                                  |                                |                     |           |          |
| 14         |            |                                  |                                |                     |           |          |
| 15         | Roof       | Shingles and Felt Multilayer     | NAD                            | Non-Friable         | Good      | 1300 SF  |
| 16         |            |                                  |                                |                     |           |          |
| 17         |            |                                  |                                |                     |           |          |

NAD = No Asbestos Detected

LF = Linear Feet

EA = Each

**Bold = Positive For Asbestos**

SF = Square Feet

**FIELD DATA SHEET  
LBP ANALYSIS**

Project Name: COS 187 Sunny Street

Sampled By: Thomas Oliver

Project Location: Spartanburg SC

Project Manager: Thomas Oliver

Project Number: 0815-163

Date: 9/1/2015

| Sample No. | Sample Location | Component     | Color     | Substrate | Analytical Result (mg/m <sup>3</sup> ) |
|------------|-----------------|---------------|-----------|-----------|--|
| 44         | Exterior        | Wall          | Red       | Brick     | 0.00                                   |
| 45         | Exterior        | Roof Overhang | White     | Wood      | 0.00                                   |
| 46         | Exterior        | Trim          | White     | Wood      | 0.70                                   |
| 47         | Exterior        | Door Frame    | White     | Wood      | 0.00                                   |
| 48         | Interior        | Door Frame    | White     | Wood      | 0.15                                   |
| 49         | Interior        | Window Frame  | White     | Wood      | 0.02                                   |
| 50         | Interior        | Window        | White     | Wood      | 0.03                                   |
| 51         | Interior        | Baseboard     | White     | Wood      | 0.05                                   |
| 52         | Interior        | Wall          | White     | Drywall   | 0.17                                   |
| 53         | Interior        | Wall          | Light Tan | Drywall   | 0.00                                   |
| 54         | Interior        | Door          | White     | Wood      | 0.00                                   |
| 55         | Interior        | Wall          | Brown     | Drywall   | 0.05                                   |
| 56         | Interior        | Door Frame    | Green     | Wood      | 0.04                                   |
| 57         | Interior        | Door          | Green     | Wood      | 0.00                                   |
| 58         | Interior        | Cabinets      | White     | Wood      | 0.06                                   |

**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: | 411506252         |
| CustomerID: | AXEM25            |
| CustomerPO: |                   |
| ProjectID:  | COS - Spartanburg |

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

Phone: (864) 640-5274  
 Fax:  
 Received: 09/03/15 8:45 AM  
 Analysis Date: 9/7/2015  
 Collected: 8/31/2015

Project: **COS 0815-163/ 187 Sunny St., Spartanburg, SC**

## 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<br>411506252-0001                 | Kitchen - White/Black Roll Vinyl Floor - No Mastic | Gray/White Fibrous Homogeneous | 10% Cellulose | 90% Non-fibrous (other)                     | None Detected |
| 2<br>411506252-0002                 | Kitchen - White/Black Roll Vinyl Floor - No Mastic | Gray/White Fibrous Homogeneous | 15% Cellulose | 85% Non-fibrous (other)                     | None Detected |
| 4<br>411506252-0003                 | Bathroom - 12x12 Grey Self Stick Tile              | Gray Non-Fibrous Homogeneous   | 2% Synthetic  | 30% Ca Carbonate<br>68% Non-fibrous (other) | None Detected |
| 5<br>411506252-0004                 | Bathroom - 12x12 Grey Self Stick Tile              | Gray Non-Fibrous Homogeneous   | 2% Synthetic  | 30% Ca Carbonate<br>68% Non-fibrous (other) | None Detected |
| 7-Drywall<br>411506252-0005         | Throughout - Drywall & Joint Compound              | Gray Fibrous Homogeneous       | 5% Cellulose  | 95% Non-fibrous (other)                     | None Detected |
| 7-Joint Compound<br>411506252-0005A | Throughout - Drywall & Joint Compound              | Tan Non-Fibrous Homogeneous    |               | 20% Ca Carbonate<br>78% Non-fibrous (other) | 2% Chrysotile |
| 7-Tape<br>411506252-0005B           | Throughout - Drywall & Joint Compound              | Tan Fibrous Homogeneous        | 98% Cellulose | 2% Non-fibrous (other)                      | None Detected |
| 8-Drywall<br>411506252-0006         | Throughout - Drywall & Joint Compound              | Gray Fibrous Homogeneous       | 8% Cellulose  | 92% Non-fibrous (other)                     | None Detected |

Analyst(s)

Erin Guzowski (14)  
 Kyle Collins (11)

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 09/08/2015 13:19:30



# EMSL Analytical, Inc.

376 Crompton Street, Charlotte, NC 28273

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

<http://www.EMSL.com>

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Project: **COS 0815-163/ 187 Sunny St., Spartanburg, SC**

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

| Sample                               | Description                           | Appearance                     | Non-Asbestos  |                         | Asbestos                     |
|--------------------------------------|---------------------------------------|--------------------------------|---------------|-------------------------|------------------------------|
|                                      |                                       |                                | % Fibrous     | % Non-Fibrous           | % Type                       |
| 8-Joint Compound<br>411506252-0006A  | Throughout - Drywall & Joint Compound |                                |               |                         | Stop Positive (Not Analyzed) |
| 8-Tape<br>411506252-0006B            | Throughout - Drywall & Joint Compound | Tan Fibrous Homogeneous        | 98% Cellulose | 2% Non-fibrous (other)  | None Detected                |
| 9-Drywall<br>411506252-0007          | Throughout - Drywall & Joint Compound | Gray Fibrous Homogeneous       | 5% Cellulose  | 95% Non-fibrous (other) | None Detected                |
| 9-Joint Compound<br>411506252-0007A  | Throughout - Drywall & Joint Compound |                                |               |                         | Stop Positive (Not Analyzed) |
| 9-Tape<br>411506252-0007B            | Throughout - Drywall & Joint Compound | Tan Fibrous Homogeneous        | 95% Cellulose | 5% Non-fibrous (other)  | None Detected                |
| 10-Drywall<br>411506252-0008         | Throughout - Drywall & Joint Compound | Brown/Gray Fibrous Homogeneous | 10% Cellulose | 90% Non-fibrous (other) | None Detected                |
| 10-Joint Compound<br>411506252-0008A | Throughout - Drywall & Joint Compound |                                |               |                         | Stop Positive (Not Analyzed) |
| 10-Tape<br>411506252-0008B           | Throughout - Drywall & Joint Compound | Beige Fibrous Homogeneous      | 98% Cellulose | 2% Non-fibrous (other)  | None Detected                |
| 11-Drywall<br>411506252-0009         | Throughout - Drywall & Joint Compound | Brown/Gray Fibrous Homogeneous | 10% Cellulose | 90% Non-fibrous (other) | None Detected                |

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

Erin Guzowski (14)  
Kyle Collins (11)

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 09/08/2015 13:19:30

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376 Crompton Street, Charlotte, NC 28273

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Phone: (864) 640-5274  
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 Received: 09/03/15 8:45 AM  
 Analysis Date: 9/7/2015  
 Collected: 8/31/2015

Project: **COS 0815-163/ 187 Sunny St., Spartanburg, SC**

## 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-Joint Compound<br>411506252-0009A | Throughout - Drywall & Joint Compound |                                   |               |  | <b>Stop Positive (Not Analyzed)</b> |
| 11-Tape<br>411506252-0009B           | Throughout - Drywall & Joint Compound | Beige Fibrous Homogeneous         | 98% Cellulose | 2% Non-fibrous (other)                                   | <b>None Detected</b>                |
| 12<br>411506252-0010                 | Windows - Window Caulk                | Tan/White Non-Fibrous Homogeneous |               | 10% Ca Carbonate<br>90% Non-fibrous (other)              | <b>None Detected</b>                |
| 13<br>411506252-0011                 | Windows - Window Caulk                | White Non-Fibrous Homogeneous     |               | 15% Ca Carbonate<br>85% Non-fibrous (other)              | <b>None Detected</b>                |
| 15-Black Shingle<br>411506252-0012   | Roof - Multi-Layer Shingles & Felt    | White/Black Fibrous Homogeneous   | 5% Glass      | 5% Quartz<br>10% Ca Carbonate<br>80% Non-fibrous (other) | <b>None Detected</b>                |
| 15-Brown Shingle<br>411506252-0012A  | Roof - Multi-Layer Shingles & Felt    | Brown/Black Fibrous Homogeneous   | 10% Cellulose | 5% Quartz<br>5% Ca Carbonate<br>80% Non-fibrous (other)  | <b>None Detected</b>                |
| 15-Gray Shingle<br>411506252-0012B   | Roof - Multi-Layer Shingles & Felt    | Gray/Black Fibrous Homogeneous    | 8% Cellulose  | 5% Quartz<br>5% Ca Carbonate<br>82% Non-fibrous (other)  | <b>None Detected</b>                |
| 15-Felt<br>411506252-0012C           | Roof - Multi-Layer Shingles & Felt    | Black Fibrous Homogeneous         | 60% Cellulose | 40% Non-fibrous (other)                                  | <b>None Detected</b>                |

Analyst(s)  
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 Kyle Collins (11)

Lee Plumley, Laboratory Manager  
 or other approved signatory

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| Project: <b>COS 0815-163/ 187 Sunny St., Spartanburg, SC</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        |
| 16-Black Shingle<br>411506252-0013  | Roof - Multi-Layer Shingles & Felt | White/Black Fibrous Homogeneous | 5% Glass      | 5% Quartz<br>10% Ca Carbonate<br>80% Non-fibrous (other) | None Detected |
| 16-Brown Shingle<br>411506252-0013A | Roof - Multi-Layer Shingles & Felt | Brown/Black Fibrous Homogeneous | 10% Cellulose | 5% Quartz<br>10% Ca Carbonate<br>75% Non-fibrous (other) | None Detected |
| 16-Gray Shingle<br>411506252-0013B  | Roof - Multi-Layer Shingles & Felt | Gray/Black Fibrous Homogeneous  | 10% Cellulose | 5% Quartz<br>10% Ca Carbonate<br>75% Non-fibrous (other) | None Detected |
| 16-Felt<br>411506252-0013C          | Roof - Multi-Layer Shingles & Felt | Black Fibrous Homogeneous       | 60% Cellulose | 40% Non-fibrous (other)                                  | None Detected |

Analyst(s)  
 Erin Guzowski (14)  
 Kyle Collins (11)

Lee Plumley, Laboratory Manager  
 or other approved signatory

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Phone: (864) 640-5274  
 Fax:  
 Received: 09/08/15 2:55 PM  
 Analysis Date: 9/11/2015  
 Collected: 8/31/2015

Project: **COS 0815-163/ 187 Sunny St., Spartanburg, SC**

**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<br>411506252-0014                | Kitchen - White/ Black Roll Vinyl Floor - No Mastic | White<br>Non-Fibrous<br>Homogeneous     | 99.4              | 0.59 Fibrous (other)  | No Asbestos Detected |
| 6<br>411506252-0015                | Bathroom - 12x12 Grey Self Stick Tile               | Gray<br>Non-Fibrous<br>Homogeneous      | 100               | None                  | No Asbestos Detected |
| 14<br>411506252-0016               | Windows - Window Caulk                              | Tan/White<br>Non-Fibrous<br>Homogeneous | 100               | <0.55 Fibrous (other) | No Asbestos Detected |
| 17-Black Shingle<br>411506252-0017 | Roof - Multi-Layer Shingles & Felt                  | Black<br>Fibrous<br>Homogeneous         | 99.3              | 0.75 Fibrous (other)  | No Asbestos Detected |
| 17-Brown Shingle<br>411506252-0018 | Roof - Multi-Layer Shingles & Felt                  | Brown/Black<br>Fibrous<br>Homogeneous   | 99.0              | 1.0 Fibrous (other)   | No Asbestos Detected |
| 17-Gray Shingle<br>411506252-0019  | Roof - Multi-Layer Shingles & Felt                  | Gray<br>Fibrous<br>Homogeneous          | 98.9              | 1.1 Fibrous (other)   | No Asbestos Detected |
| 17-Felt<br>411506252-0020          | Roof - Multi-Layer Shingles & Felt                  | Black<br>Fibrous<br>Homogeneous         | 100               | None                  | No Asbestos Detected |

Analyst(s)  
 Aaron Hartley (7)

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 09/11/2015 12:44:55



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS TRAINING

# Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (Lab Use Only):

411506252

376 Crompton Street

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<br>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: COS 0815-103       |                    | 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.

|   |   |   |  |
|---|---|---|--|
| <b>PLM - Bulk (reporting limit)</b>   |   | <b>TEM - Bulk</b>   |  |
| <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%)  | <input type="checkbox"/> TEM EPA NOB - EPA 600/R-93/116 Section 2.5.5.1 | <input type="checkbox"/> NY ELAP Method 198.4 (TEM)                       |  |
| <input type="checkbox"/> PLM EPA NOB (<1%)  | <input type="checkbox"/> Chatfield Protocol (semi-quantitative)         | <input type="checkbox"/> TEM % by Mass - EPA 600/R-93/116 Section 2.5.5.2 |  |
| Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%)               | <input type="checkbox"/> TEM Qualitative via Filtration Prep Technique  | <input type="checkbox"/> TEM Qualitative via Drop Mount Prep Technique    |  |
| Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) | <b>Other</b>  |   |  |
| <input type="checkbox"/> NIOSH 9002 (<1%)   | <input type="checkbox"/> COS 187 Sunny St. Spartanburg, SC              |   |  |
| <input type="checkbox"/> NY ELAP Method 198.1 (friable in NY)   |   |   |  |
| <input type="checkbox"/> NY ELAP Method 198.6 NOB (non-friable-NY)                                    |   |   |  |
| <input type="checkbox"/> OSHA ID-191 Modified   |   |   |  |
| <input type="checkbox"/> Standard Addition Method   |   |   |  |

Check For Positive Stop - Clearly Identify Homogenous Group Date Sampled: 8-31-15

Samplers Name: Tom Oliver Samplers Signature:

| Sample # | HA # | Sample Location | Material Description                 |
|----------|------|-----------------|--------------------------------------|
| 1        |      | Kitchen         | wht/blk roll vinyl flr               |
| 2        |      | L               | no mastic                            |
| 3        |      | L               | L                                    |
| 4        |      | bath rm         | 12x12 <sup>grt</sup> self stick tile |
| 5        |      | L               | L                                    |
| 6        |      | L               | L                                    |

Client Sample # (s): ~~1-17~~ 1-17 Total # of Samples: 17

Relinquished (Client): Date: 9-2-15 Time: 10:10 am

Received (Lab): Kyle Nelson Date: 9/3/15 Time: 8:45 am EMSL PL

Comments/Special Instructions: 7950 2272 6849



**SECTION IV**

**Photographs**



Photo 1 -- Front Elevation



Photo 2 – Kitchen Vinyl Flooring



Photo 3 – Bathroom Vinyl Tile Flooring



Photo 4 – Drywall Wall with Joint Compound



Photo 5 – Window Caulk



Photo 6 – Crawlspace

**SECTION V**

**SC Asbestos Inspector License**

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

Thomas H Oliver



CONSULTBI  
AIRSAMPLER

Expires  
BI-00680 01/21/16  
AS-00202 01/16/16

This card is nontransferable and 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 or corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289



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

City of Spartanburg  
191 Sunny 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

September 16, 2015





7 Winchester Court  
Mauldin, SC 29662  
864.404.3210 office  
864.404.3213 fax  
[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

September 16, 2015

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

Reference: Asbestos and Lead-Based Paint Assessment Services  
191 Sunny 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 'R. Shultz', is written over a horizontal line.

Rebecca W. Shultz, CIH, CSP  
President

Appendices

**ASBESTOS AND LEAD BASED PAINT ASSESSMENT**

**CITY OF SPARTANBURG  
191 SUNNY STREET  
SPARTANBURG, SOUTH CAROLINA**

**APEX PROJECT NO. 0815-163**

**TABLE OF CONTENTS**

**SECTION**

- I Asbestos & Lead Evaluation Report
- II Tables
- III Laboratory Analytical Results
- IV Photographs
- V SC Asbestos Inspector License

**SECTION I**

**Asbestos & Lead Evaluation Report**

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

Date: 9/16/2015 Page Number: 1 of 5

Client: City of Spartanburg Client Contact: Mr. Demian Carpenter  
 Client Address: 201 Caulder Avenue Client Phone Number:  
 Spartanburg, SC 29304

Project: Asbestos and Lead Evaluation

Property Address: 191 Sunny Street  
 Spartanburg, SC

Assessor: Thomas H. Oliver Date of Assessment: 8/31/2015  
 Company: Apex Environmental Management Phone Number:  
 7 Winchester Court

Mauldin, SC 29662

Purpose of Assessment: Demolition Age of Structure: Approx. 50 years

Building Type: Residential Number of Stories: 1

Foundation: CMU crawlspace Approximate Square Footage: 1,400 SF

EXTERIOR BUILDING MATERIALS

- Metal Siding
- Wood Siding no felt
- Roof shingles
- 2 Chimneys
- Wood windows
- Window glaze
- Window caulk

INTERIOR BUILDING MATERIALS

- Wood Panel Walls
- Drywall walls
- Plaster walls
- Plaster ceilings
- Sheetrock ceiling
- Roll vinyl flooring
- Wood floors
- Vinyl tile

## SCOPE OF THE SURVEY

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

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

## METHODS

### Asbestos Containing Materials

In order to determine if the suspect materials observed during the visual survey contained asbestos, representative bulk samples were collected and placed in sealed packages. Twenty-Five (25) 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). Ten (10) 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:

- Joint Compound
- 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:

- White wood door frame
- White wood door
- White wood siding
- White wood window frame
- White wood trim
- White wood door.

## **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: COS 191 Sunny Street

Sampled By: Thomas Oliver

Project Location: 191 Sunny Street

Project Manager: Thomas Oliver

Project Number: Spartanburg, SC  
0815-163

Date: 8/31/2015

| Sample No. | Location   | Sample Description                             | Analytical Results             | Friable/Non Friable | Condition | Quantity |
|------------|------------|--|--------------------------------|---------------------|-----------|----------|
| 1          | Bathroom   | Tan Self-Stick Tile w/ Mastic                  | NAD                            | Non-Friable         | Good      | 60 SF    |
| 2          |            |  |                                |                     |           |          |
| 3          |            |  |                                |                     |           |          |
| 4          | Kitchen    | Tan Roll Vinly no Mastic over Tile with Mastic | NAD                            | Non-Friable         | Good      | 150 SF   |
| 5          |            |  |                                |                     |           |          |
| 6          |            |  |                                |                     |           |          |
| 7          | Throughout | Dry Wall & Joint Compound                      | 2% Chrysotile (Joint Compound) | Friable             | Good      | 1,500 SF |
| 8          |            |  |                                |                     |           |          |
| 9          |            |  |                                |                     |           |          |
| 10         |            |  |                                |                     |           |          |
| 11         | Throughout | Plaster  | NAD                            | Friable             | Good      | 1,500 SF |
| 12         |            |  |                                |                     |           |          |
| 13         |            |  |                                |                     |           |          |
| 14         |            |  |                                |                     |           |          |
| 15         |            |  |                                |                     |           |          |
| 16         | Outside    | Window Caulk                                   | NAD                            | Non-Friable         | Good      | 6 ea     |
| 17         |            |  |                                |                     |           |          |
| 18         |            |  |                                |                     |           |          |
| 19         | Outside    | Window Glaze                                   | NAD                            | Non-Friable         | Good      | 6 ea     |
| 20         |            |  |                                |                     |           |          |
| 21         |            |  |                                |                     |           |          |
| 22         | Roof       | 2 Layers Black Shingle w/ Felt                 | NAD                            | Non-Friable         | Good      | 1,700 SF |
| 23         |            |  |                                |                     |           |          |
| 24         |            |  |                                |                     |           |          |
| 25         |            |  |                                |                     |           |          |

NAD = No Asbestos Detected

LF = Linear Feet

EA = Each

**Bold = Positive For Asbestos**

SF = Square Feet

**FIELD DATA SHEET  
LBP ANALYSIS**

Project Name: COS 191 Sunny Street

Sampled By: Thomas Oliver

Project Location: Spartanburg SC

Project Manager: Thomas Oliver

Project Number: 0815-163

Date: 9/1/2015

| Sample No. | Sample Location | Component           | Color        | Substrate      | Analytical Result (mg/m <sup>3</sup> ) |
|------------|-----------------|---------------------|--------------|----------------|--|
| <b>24</b>  | <b>Exterior</b> | <b>Door Frame</b>   | <b>White</b> | <b>Wood</b>    | <b>1.11</b>                            |
| <b>25</b>  | <b>Exterior</b> | <b>Door</b>         | <b>White</b> | <b>Wood</b>    | <b>1.31</b>                            |
| 26         | Exterior        | Siding              | White        | Metal          | 0.06                                   |
| 27         | Exterior        | Rail                | Black        | Metal          | 0.02                                   |
| 28         | Exterior        | Porch Ceiling       | White        | Wood           | 0.18                                   |
| 29         | Exterior        | Foundation          | Red          | Concrete Block | 0.00                                   |
| <b>30</b>  | <b>Exterior</b> | <b>Siding</b>       | <b>White</b> | <b>Wood</b>    | <b>1.30</b>                            |
| <b>31</b>  | <b>Exterior</b> | <b>Window Frame</b> | <b>White</b> | <b>Wood</b>    | <b>2.65</b>                            |
| <b>32</b>  | <b>Exterior</b> | <b>Trim</b>         | <b>White</b> | <b>Wood</b>    | <b>4.25</b>                            |
| 33         | Interior        | Door Frame          | White        | Wood           | 0.04                                   |
| <b>34</b>  | <b>Interior</b> | <b>Door</b>         | <b>White</b> | <b>Wood</b>    | <b>2.95</b>                            |
| 35         | Interior        | Baseboard           | White        | Wood           | 0.12                                   |
| 36         | Interior        | Panel               | Brown        | Wood           | 0.00                                   |
| 37         | Interior        | Wall                | White        | Plaster        | 0.03                                   |
| 38         | Interior        | Fireplace Mantle    | White        | Wood           | 0.14                                   |
| 39         | Interior        | Window Frame        | White        | Wood           | 0.03                                   |
| 40         | Interior        | Window              | White        | Wood           | 0.00                                   |
| 41         | Interior        | Wall                | White        | Drywall        | N/A                                    |
| 42         | Interior        | Wall                | White        | Drywall        | 0.00                                   |
| 43         | Interior        | Cabinets            | White        | Wood           | 0.05                                   |

**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: | 411506249         |
| CustomerID: | AXEM25            |
| CustomerPO: |                   |
| ProjectID:  | COS - Spartanburg |

|  |  |
|--|--|
| Attn: <b>Rebecca Shultz</b><br><b>Apex Environmental Management</b><br><b>7 Winchester Court</b><br><b>Mauldin, SC 29662</b> | Phone: (864) 640-5274<br>Fax:<br>Received: 09/03/15 8:45 AM<br>Analysis Date: 9/6/2015<br>Collected: 8/31/2015 |
| Project: <b>COS 0815-163/ 191 Sunny St., Spartanburg, SC</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-Floor Tile<br>411506249-0001  | Bathroom - Tan Self Stick Tile w/ Mastic                       | Gray/Tan<br>Non-Fibrous<br>Homogeneous          |                           | 35% Ca Carbonate<br>65% Non-fibrous (other) | <b>None Detected</b> |
| 1-Mastic<br>411506249-0001A     | Bathroom - Tan Self Stick Tile w/ Mastic                       | Tan/Clear<br>Non-Fibrous<br>Homogeneous         | <1% Cellulose             | 5% Ca Carbonate<br>95% Non-fibrous (other)  | <b>None Detected</b> |
| 2-Floor Tile<br>411506249-0002  | Bathroom - Tan Self Stick Tile w/ Mastic                       | Tan<br>Non-Fibrous<br>Homogeneous               |                           | 25% Ca Carbonate<br>75% Non-fibrous (other) | <b>None Detected</b> |
| 2-Mastic<br>411506249-0002A     | Bathroom - Tan Self Stick Tile w/ Mastic                       | Tan<br>Non-Fibrous<br>Homogeneous               |                           | 100% Non-fibrous (other)                    | <b>None Detected</b> |
| 4-Flooring<br>411506249-0003    | Kitchen - Tan Roll Vinyl (No Mastic) over Vinyl Tile w/ Mastic | Brown/Gray/Tan<br>Fibrous<br>Homogeneous        | 10% Cellulose             | 90% Non-fibrous (other)                     | <b>None Detected</b> |
| 4-Floor Tile<br>411506249-0003A | Kitchen - Tan Roll Vinyl (No Mastic) over Vinyl Tile w/ Mastic | Brown/Green/Beige<br>Non-Fibrous<br>Homogeneous | 3% Cellulose              | 8% Ca Carbonate<br>89% Non-fibrous (other)  | <b>None Detected</b> |
| 4-Mastic<br>411506249-0003B     | Kitchen - Tan Roll Vinyl (No Mastic) over Vinyl Tile w/ Mastic | Brown<br>Non-Fibrous<br>Homogeneous             | <1% Cellulose             | 100% Non-fibrous (other)                    | <b>None Detected</b> |
| 5-Flooring<br>411506249-0004    | Kitchen - Tan Roll Vinyl (No Mastic) over Vinyl Tile w/ Mastic | Tan<br>Fibrous<br>Homogeneous                   | 15% Cellulose<br>1% Glass | 84% Non-fibrous (other)                     | <b>None Detected</b> |

Analyst(s)  
Erin Guzowski (23)  
Maria Cao (18)

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 09/08/2015 13:17:50

**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: | 411506249         |
| CustomerID: | AXEM25            |
| CustomerPO: |                   |
| ProjectID:  | COS - Spartanburg |

|  |  |
|--|--|
| Attn: <b>Rebecca Shultz</b><br><b>Apex Environmental Management</b><br><b>7 Winchester Court</b><br><b>Mauldin, SC 29662</b> | Phone: (864) 640-5274<br>Fax:<br>Received: 09/03/15 8:45 AM<br>Analysis Date: 9/6/2015<br>Collected: 8/31/2015 |
| Project: <b>COS 0815-163/ 191 Sunny St., Spartanburg, SC</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-Floor Tile<br>411506249-0004A     | Kitchen - Tan Roll Vinyl (No Mastic) over Vinyl Tile w/ Mastic | Tan<br>Non-Fibrous<br>Homogeneous        |               | 15% Ca Carbonate<br>85% Non-fibrous (other) | None Detected                |
| 5-Mastic<br>411506249-0004B         | Kitchen - Tan Roll Vinyl (No Mastic) over Vinyl Tile w/ Mastic | Brown<br>Non-Fibrous<br>Homogeneous      | <1% Cellulose | 100% Non-fibrous (other)                    | None Detected                |
| 7-Drywall<br>411506249-0005         | Throughout - Drywall - No JC                                   | Gray<br>Fibrous<br>Homogeneous           | 10% Cellulose | 90% Non-fibrous (other)                     | None Detected                |
| 7-Joint Compound<br>411506249-0005A | Throughout - Drywall - No JC                                   | Gray/White<br>Non-Fibrous<br>Homogeneous |               | 25% Ca Carbonate<br>73% Non-fibrous (other) | 2% Chrysotile                |
| 7-Tape<br>411506249-0005B           | Throughout - Drywall - No JC                                   | Tan<br>Fibrous<br>Homogeneous            | 98% Cellulose | 2% Non-fibrous (other)                      | None Detected                |
| 8-Drywall<br>411506249-0006         | Throughout - Drywall - No JC                                   | Gray<br>Fibrous<br>Homogeneous           | 10% Cellulose | 90% Non-fibrous (other)                     | None Detected                |
| 8-Joint Compound<br>411506249-0006A | Throughout - Drywall - No JC                                   |  |               |   | Stop Positive (Not Analyzed) |
| 8-Tape<br>411506249-0006B           | Throughout - Drywall - No JC                                   | Tan<br>Fibrous<br>Homogeneous            | 98% Cellulose | 2% Non-fibrous (other)                      | None Detected                |

Analyst(s)  
Erin Guzowski (23)  
Maria Cao (18)

  
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 09/08/2015 13:17:50



# 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: | 411506249         |
| CustomerID: | AXEM25            |
| CustomerPO: |                   |
| ProjectID:  | COS - Spartanburg |

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

Phone: (864) 640-5274  
Fax:  
Received: 09/03/15 8:45 AM  
Analysis Date: 9/6/2015  
Collected: 8/31/2015

Project: **COS 0815-163/ 191 Sunny St., Spartanburg, SC**

## 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                       |
| 9-Drywall<br>411506249-0007          | Throughout -<br>Drywall - No JC | Gray<br>Fibrous<br>Homogeneous         | 10% Cellulose  | 90% Non-fibrous (other) | None Detected                |
| 9-Joint Compound<br>411506249-0007A  | Throughout -<br>Drywall - No JC |  |                |                         | Stop Positive (Not Analyzed) |
| 9-Tape<br>411506249-0007B            | Throughout -<br>Drywall - No JC | Tan<br>Fibrous<br>Homogeneous          | 98% Cellulose  | 2% Non-fibrous (other)  | None Detected                |
| 10-Drywall<br>411506249-0008         | Throughout -<br>Drywall - No JC | Brown/Gray<br>Fibrous<br>Heterogeneous | 10% Cellulose  | 90% Non-fibrous (other) | None Detected                |
| 10-Joint Compound<br>411506249-0008A | Throughout -<br>Drywall - No JC |  |                |                         | Stop Positive (Not Analyzed) |
| 10-Tape<br>411506249-0008B           | Throughout -<br>Drywall - No JC | Beige<br>Fibrous<br>Homogeneous        | 100% Cellulose | 0% Non-fibrous (other)  | None Detected                |
| 11-Drywall<br>411506249-0009         | Throughout -<br>Drywall - No JC | Brown/Gray<br>Fibrous<br>Heterogeneous | 10% Cellulose  | 90% Non-fibrous (other) | None Detected                |
| 11-Joint Compound<br>411506249-0009A | Throughout -<br>Drywall - No JC |  |                |                         | Stop Positive (Not Analyzed) |
| 11-Tape<br>411506249-0009B           | Throughout -<br>Drywall - No JC | Beige<br>Fibrous<br>Homogeneous        | 100% Cellulose | 0% Non-fibrous (other)  | None Detected                |

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

Erin Guzowski (23)  
Maria Cao (18)

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 09/08/2015 13:17:50



# 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: | 411506249         |
| CustomerID: | AXEM25            |
| CustomerPO: |                   |
| ProjectID:  | COS - Spartanburg |

|  |  |
|--|--|
| Attn: <b>Rebecca Shultz</b><br><b>Apex Environmental Management</b><br><b>7 Winchester Court</b><br><b>Mauldin, SC 29662</b> | Phone: (864) 640-5274<br>Fax:<br>Received: 09/03/15 8:45 AM<br>Analysis Date: 9/6/2015<br>Collected: 8/31/2015 |
| Project: <b>COS 0815-163/ 191 Sunny St., Spartanburg, SC</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        |
| 12-Skim Coat<br>411506249-0010   | Throughout - Plaster | White<br>Non-Fibrous<br>Homogeneous |               | 5% Ca Carbonate<br>95% Non-fibrous (other)               | None Detected |
| 12-Rough Coat<br>411506249-0010A | Throughout - Plaster | Brown/Tan<br>Fibrous<br>Homogeneous | <1% Cellulose | 20% Quartz<br>5% Ca Carbonate<br>75% Non-fibrous (other) | None Detected |
| 13-Skim Coat<br>411506249-0011   | Throughout - Plaster | White<br>Non-Fibrous<br>Homogeneous |               | 5% Ca Carbonate<br>95% Non-fibrous (other)               | None Detected |
| 13-Rough Coat<br>411506249-0011A | Throughout - Plaster | Brown/Tan<br>Fibrous<br>Homogeneous |               | 20% Quartz<br>5% Ca Carbonate<br>75% Non-fibrous (other) | None Detected |
| 14-Skim Coat<br>411506249-0012   | Throughout - Plaster | White<br>Non-Fibrous<br>Homogeneous |               | 5% Ca Carbonate<br>95% Non-fibrous (other)               | None Detected |
| 14-Rough Coat<br>411506249-0012A | Throughout - Plaster | Brown/Tan<br>Fibrous<br>Homogeneous | 2% Cellulose  | 15% Quartz<br>5% Ca Carbonate<br>78% Non-fibrous (other) | None Detected |
| 15-Skim Coat<br>411506249-0013   | Throughout - Plaster | White<br>Non-Fibrous<br>Homogeneous |               | 5% Ca Carbonate<br>95% Non-fibrous (other)               | None Detected |

Analyst(s)  
 Erin Guzowski (23)  
 Maria Cao (18)

  
 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 09/08/2015 13:17:50



# EMSL Analytical, Inc.

376 Crompton Street, Charlotte, NC 28273

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|             |                   |
|-------------|-------------------|
| EMSL Order: | 411506249         |
| CustomerID: | AXEM25            |
| CustomerPO: |                   |
| ProjectID:  | COS - Spartanburg |

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

Phone: (864) 640-5274  
 Fax:  
 Received: 09/03/15 8:45 AM  
 Analysis Date: 9/6/2015  
 Collected: 8/31/2015

Project: **COS 0815-163/ 191 Sunny St., Spartanburg, SC**

## 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        |
| 15-Rough Coat<br>411506249-0013A  | Throughout - Plaster             | Gray<br>Fibrous<br>Homogeneous          | 2% Cellulose | 25% Quartz<br>5% Ca Carbonate<br>68% Non-fibrous (other) | None Detected |
| 16-Skim Coat<br>411506249-0014    | Throughout - Plaster             | White<br>Non-Fibrous<br>Homogeneous     |              | 10% Ca Carbonate<br>90% Non-fibrous (other)              | None Detected |
| 16-Rough Coat<br>411506249-0014A  | Throughout - Plaster             | Gray<br>Fibrous<br>Homogeneous          | 2% Cellulose | 30% Quartz<br>5% Ca Carbonate<br>63% Non-fibrous (other) | None Detected |
| 17<br>411506249-0015              | Outside - Widow Caulk            | White<br>Non-Fibrous<br>Homogeneous     |              | 15% Ca Carbonate<br>85% Non-fibrous (other)              | None Detected |
| 18<br>411506249-0016              | Outside - Widow Caulk            | White<br>Non-Fibrous<br>Homogeneous     |              | 10% Ca Carbonate<br>90% Non-fibrous (other)              | None Detected |
| 20<br>411506249-0017              | Outside - Window Glaze           | Tan/White<br>Non-Fibrous<br>Homogeneous |              | 15% Ca Carbonate<br>85% Non-fibrous (other)              | None Detected |
| 21<br>411506249-0018              | Outside - Window Glaze           | Tan<br>Non-Fibrous<br>Homogeneous       |              | 15% Ca Carbonate<br>85% Non-fibrous (other)              | None Detected |
| 23-Gray Shingle<br>411506249-0019 | Roof - 2 Layers Shingles w/ Felt | Gray/Black<br>Fibrous<br>Homogeneous    | 5% Glass     | 8% Quartz<br>10% Ca Carbonate<br>77% Non-fibrous (other) | None Detected |

Analyst(s)

Erin Guzowski (23)  
Maria Cao (18)

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 09/08/2015 13:17:50



# EMSL Analytical, Inc.

376 Crompton Street, Charlotte, NC 28273

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|             |                   |
|-------------|-------------------|
| EMSL Order: | 411506249         |
| CustomerID: | AXEM25            |
| CustomerPO: |                   |
| ProjectID:  | COS - Spartanburg |

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

Phone: (864) 640-5274  
 Fax:  
 Received: 09/03/15 8:45 AM  
 Analysis Date: 9/6/2015  
 Collected: 8/31/2015

Project: **COS 0815-163/ 191 Sunny St., Spartanburg, SC**

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

| Sample                              | Description                      | Appearance                           | Non-Asbestos  |   | Asbestos      |
|-------------------------------------|----------------------------------|--------------------------------------|---------------|---|---------------|
|                                     |                                  |                                      | % Fibrous     | % Non-Fibrous   | % Type        |
| 23-White Shingle<br>411506249-0019A | Roof - 2 Layers Shingles w/ Felt | Gray/White/Black Fibrous Homogeneous | 5% Glass      | 5% Quartz<br>10% Ca Carbonate<br>80% Non-fibrous (other)  | None Detected |
| 23-Felt<br>411506249-0019B          | Roof - 2 Layers Shingles w/ Felt | Black Fibrous Homogeneous            | 65% Cellulose | 35% Non-fibrous (other)                                   | None Detected |
| 24-Gray Shingle<br>411506249-0020   | Roof - 2 Layers Shingles w/ Felt | Gray/Black Fibrous Heterogeneous     | 5% Glass      | 5% Quartz<br>10% Ca Carbonate<br>80% Non-fibrous (other)  | None Detected |
| 24-White Shingle<br>411506249-0020A | Roof - 2 Layers Shingles w/ Felt | White/Black Fibrous Heterogeneous    | 5% Glass      | 10% Quartz<br>10% Ca Carbonate<br>75% Non-fibrous (other) | None Detected |
| 24-Felt<br>411506249-0020B          | Roof - 2 Layers Shingles w/ Felt | Black Fibrous Homogeneous            | 80% Cellulose | 20% Non-fibrous (other)                                   | None Detected |

Analyst(s)  
 Erin Guzowski (23)  
 Maria Cao (18)

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 09/08/2015 13:17:50

**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: 411506249  
 CustomerID: AXEM25  
 CustomerPO:  
 ProjectID: COS - Spartanburg

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

Phone: (864) 640-5274  
 Fax:  
 Received: 09/08/15 2:45 PM  
 Analysis Date: 9/10/2015  
 Collected: 8/31/2015

Project: **COS 0815-163/ 191 Sunny St., Spartanburg, SC**

**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-Floor Tile<br>411506249-0021     | Bathroom - Tan Self Stick Tile w/ Mastic                       | Gray<br>Non-Fibrous<br>Homogeneous    | 100               | None                  | No Asbestos Detected |
| 3-Mastic<br>411506249-0022         | Bathroom - Tan Self Stick Tile w/ Mastic                       | Tan<br>Non-Fibrous<br>Homogeneous     | 100               | None                  | No Asbestos Detected |
| 6-Flooring<br>411506249-0023       | Kitchen - Tan Roll Vinyl (No Mastic) over Vinyl Tile w/ Mastic | Tan<br>Non-Fibrous<br>Homogeneous     | 100               | <0.26 Fibrous (other) | No Asbestos Detected |
| 6-Floor Tile<br>411506249-0024     | Kitchen - Tan Roll Vinyl (No Mastic) over Vinyl Tile w/ Mastic | Tan<br>Non-Fibrous<br>Homogeneous     | 100               | None                  | No Asbestos Detected |
| 6-Mastic<br>411506249-0025         | Kitchen - Tan Roll Vinyl (No Mastic) over Vinyl Tile w/ Mastic | Brown<br>Non-Fibrous<br>Homogeneous   | 100               | None                  | No Asbestos Detected |
| 19<br>411506249-0026               | Outside - Window Caulk   | White<br>Non-Fibrous<br>Homogeneous   | 100               | None                  | No Asbestos Detected |
| 22<br>411506249-0027               | Outside - Window Glaze   | White<br>Non-Fibrous<br>Homogeneous   | 99.4              | 0.61 Fibrous (other)  | No Asbestos Detected |
| 25-Gray Shingle<br>411506249-0028  | Roof - 2 Layers Shingles w/ Felt                               | Gray/Black<br>Fibrous<br>Homogeneous  | 98.9              | 1.1 Fibrous (other)   | No Asbestos Detected |
| 25-White Shingle<br>411506249-0029 | Roof - 2 Layers Shingles w/ Felt                               | White/Black<br>Fibrous<br>Homogeneous | 100               | <0.57 Fibrous (other) | No Asbestos Detected |

Analyst(s)  
 Aaron Hartley (10)

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 09/11/2015 08:09:24





# Asbestos Bulk Building Material Chain of Custody

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

**EMSL ANALYTICAL, INC.**  
LABORATORY • PRODUCTS • TRAINING

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

411506249

|   |                    |  |                        |
|---|--------------------|--|------------------------|
| Company : Apex Environmental Management |                    | EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different<br>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: COS 0815-103       |                    | 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 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 checked="" type="checkbox"/> COS 191 Sunny St. Spartanburg, SC     |
| <input type="checkbox"/> Standard Addition Method   |   |

Check For Positive Stop - Clearly Identify Homogenous Group      Date Sampled: 8-31-15

Samplers Name: Tom Oliver      Samplers Signature:

| Sample # | HA # | Sample Location | Material Description            |
|----------|------|-----------------|---------------------------------|
| 1        |      | Bath rm         | Tan self stick tile             |
| 2        |      | └               | w/ mastic                       |
| 3        |      |                 |                                 |
| 4        |      | Kitchen         | Tan roll vinyl (w/ mastic) over |
| 5        |      | └               | vinyl tile w/ mastic            |
| 6        |      |                 |                                 |
|          |      |                 |                                 |
|          |      |                 |                                 |
|          |      |                 |                                 |
|          |      |                 |                                 |

Client Sample # (s): 1 - 25      Total # of Samples: 25

Relinquished (Client): Date: 9-2-15      Time: 10:15am

Received (Lab): Date: 9/3/15      Time: 8:45am EMSL FX

Comments/Special Instructions: 7950 2272 6849



**SECTION IV**

**Photographs**

Asbestos Assessment  
City of Spartanburg  
191 Sunny Street  
Spartanburg, South Carolina



Photo 1 -- Front Elevation



Photo 2 – Living Room



Photo 3 – Wood Paneling over Drywall over Plaster



Photo 4 – Window Caulk

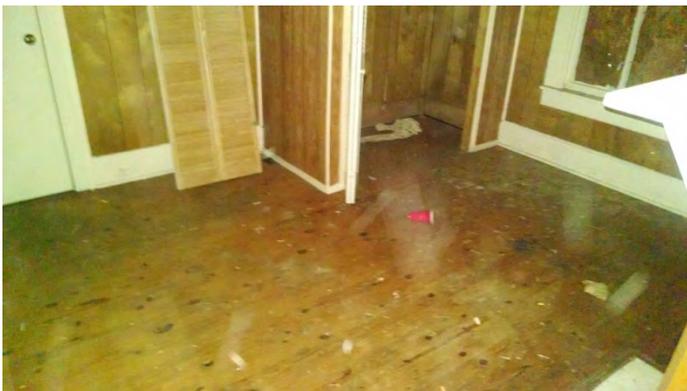


Photo 5 – Wood Flooring



Photo 6 – Rear Elevation



Photo 7 – Kitchen Vinyl Flooring



Photo 8 – Bathroom 12"x12" Vinyl Tile Flooring



Photo 9 – Metal Siding over Wood.



Photo 10-- Drop ceiling



Photo 11 – Chimney with Assumed Caulk.

**SECTION V**

**SC Asbestos Inspector License**

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

Thomas H Oliver



CONSULTBI  
AIRSAMPLER

Expires  
BI-00680 01/21/16  
AS-00202 01/16/16

This card is nontransferable and 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 or corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289



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

City of Spartanburg  
201 Sunny 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

September 16, 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

September 16, 2015

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

Reference: Asbestos and Lead-Based Paint Assessment Services  
201 Sunny 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  
201 SUNNY 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: 9/16/2015 Page Number: 1 of 3

Client: City of Spartanburg Client Contact: Mr. Demian Carpenter  
Client Address: 201 Caulder Avenue Client Phone  
Spartanburg, SC 29304 Number:

Project: Asbestos and Lead Evaluation

Property Address: 201 Sunny Street  
Spartanburg, SC

Assessor: Thomas H. Oliver Date of Assessment: 8/31/2015  
Company: Apex Environmental Management Phone Number  
7 Winchester Court

Mauldin, SC 29662

Purpose of Assessment: Demolition Age of Structure: Approx. 50 years

Building Type: Residential Number of Stories: 1

Foundation: Brick crawlspace Approximate Square Footage: 950 SF

EXTERIOR BUILDING MATERIALS

Brick  
Wood windows w/ caulk  
Roof Shingles

INTERIOR BUILDING MATERIALS

Multiple roll vinyl floors  
Drywall and Joint compound  
Leveling Compound

## SCOPE OF THE SURVEY

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

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

## METHODS

### Asbestos Containing Materials

In order to determine if the suspect materials observed during the visual survey contained asbestos, representative bulk samples were collected and placed in sealed packages. Twenty-Three (23) 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:

- Joint Compound

Lead-Based Paint

No lead-based paint surfaces were found within the site location therefore no recommendations are indicated at this time.

**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

No lead-based paint surfaces were found within the site location therefore no recommendations are indicated at this time.

**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: 201 Sunny Street COS

Sampled By: Thomas Oliver

Project Location: 201 Sunny Street

Project Manager: Thomas Oliver

Spartanburg, SC

Project Number: 0815-163

Date: 8/31/2015

| Sample No. | Location             | Sample Description   | Analytical Results             | Friable/Non Friable | Condition | Quantity |
|------------|----------------------|--|--------------------------------|---------------------|-----------|----------|
| 1          | Kitchen              | Roll Vinyl Floor w/ Yellow Square Pattern                      | NAD                            | Non-Friable         | Good      | 150 SF   |
| 2          |                      |  |                                |                     |           |          |
| 3          |                      |  |                                |                     |           |          |
| 4          | Throughout           | Drywall & Joint Compound                                       | 2% Chrysotile (Joint Compound) | Non-Friable         | Good      | 2200 SF  |
| 5          |                      |  |                                |                     |           |          |
| 6          |                      |  |                                |                     |           |          |
| 7          |                      |  |                                |                     |           |          |
| 8          | Bathroom             | 2 Layer Roll Vinyl, both w/ Mastic, both w/ Tan Square Pattern | NAD                            | Non-Friable         |           | 60 SF    |
| 9          |                      |  |                                |                     |           |          |
| 10         |                      |  |                                |                     |           |          |
| 11         | Kitchen and Bathroom | Leveling Compound  | NAD                            | Friable             | Good      | 210 SF   |
| 12         |                      |  |                                |                     |           |          |
| 13         |                      |  |                                |                     |           |          |
| 14         | Windows              | Window Caulk   | NAD                            | Non-Friable         | Good      | 9 ea     |
| 15         |                      |  |                                |                     |           |          |
| 16         |                      |  |                                |                     |           |          |
| 17         | Roof                 | Shingles and Felt (2 Layer)                                    | NAD                            | Non-Friable         | Good      | 1300 SF  |
| 18         |                      |  |                                |                     |           |          |
| 19         |                      |  |                                |                     |           |          |
| 20         |                      |  |                                |                     |           |          |

**FIELD DATA SHEET  
LBP ANALYSIS**

Project Name: 201 Sunny Street COS

Sampled By: Thomas Oliver

Project Location: Spartanburg SC

Project Manager: Thomas Oliver

Project Number: 0815-163

Date: 9/1/2015

| Sample No. | Sample Location | Component    | Color | Substrate | Analytical Result (mg/cm3) |
|------------|-----------------|--------------|-------|-----------|----------------------------|
| 5          | Exterior        | Wall         | Red   | Brick     | 0.00                       |
| 6          | Exterior        | Soffit       | White | Wood      | 0.64                       |
| 7          | Exterior        | Door Frame   | Gray  | Wood      | 0.40                       |
| 8          | Exterior        | Door         | Gray  | Wood      | 0.00                       |
| 9          | Exterior        | Window Frame | Gray  | Wood      | 0.23                       |
| 10         | Exterior        | Window       | Gray  | Wood      | 0.19                       |
| 11         | Exterior        | Door         | Brown | Wood      | 0.00                       |
| 12         | Exterior        | Trim         | White | Wood      | 0.07                       |
| 14         | Interior        | Wall         | Tan   | Drywall   | 0.13                       |
| 15         | Interior        | Wall         | Tan   | Drywall   | 0.13                       |
| 16         | Interior        | Window Frame | White | Wood      | 0.09                       |
| 17         | Interior        | Window       | White | Wood      | 0.13                       |
| 18         | Interior        | Door Frame   | White | Wood      | 0.04                       |
| 19         | Interior        | Door         | White | Wood      | 0.00                       |
| 20         | Interior        | Baseboard    | White | Wood      | 0.06                       |
| 21         | Interior        | Floor        | Brown | Wood      | 0.00                       |
| 22         | Interior        | Cabinets     | White | Wood      | 0.03                       |
| 23         | Interior        | Ceiling      | White | Drywall   | 0.10                       |

### **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: | 411506251         |
| CustomerID: | AXEM25            |
| CustomerPO: |                   |
| ProjectID:  | COS - Spartanburg |

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

Phone: (864) 640-5274  
 Fax:  
 Received: 09/03/15 8:45 AM  
 Analysis Date: 9/5/2015  
 Collected: 8/31/2015

Project: **COS 0815-163/ 201 Sunny St., Spartanburg, SC**

## 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-Flooring<br>411506251-0001   | Kitchen - Yellow Square Pattern Roll Vinyl Floor w/ Mastic | Gray/Tan Fibrous Homogeneous   | 15% Cellulose<br>1% Glass | 84% Non-fibrous (other)  | None Detected |
| 1-Mastic<br>411506251-0001A    | Kitchen - Yellow Square Pattern Roll Vinyl Floor w/ Mastic | Tan Non-Fibrous Homogeneous    | <1% Cellulose             | 100% Non-fibrous (other) | None Detected |
| 1-Red Layer<br>411506251-0001B | Kitchen - Yellow Square Pattern Roll Vinyl Floor w/ Mastic | Red Non-Fibrous Homogeneous    | 2% Cellulose              | 98% Non-fibrous (other)  | None Detected |
| 2-Flooring<br>411506251-0002   | Kitchen - Yellow Square Pattern Roll Vinyl Floor w/ Mastic | Gray/Tan Fibrous Homogeneous   | 10% Cellulose<br>1% Glass | 89% Non-fibrous (other)  | None Detected |
| 2-Mastic<br>411506251-0002A    | Kitchen - Yellow Square Pattern Roll Vinyl Floor w/ Mastic | Tan Non-Fibrous Homogeneous    | <1% Cellulose             | 100% Non-fibrous (other) | None Detected |
| 2-Red Layer<br>411506251-0002B | Kitchen - Yellow Square Pattern Roll Vinyl Floor w/ Mastic | Red Non-Fibrous Homogeneous    | 3% Cellulose              | 97% Non-fibrous (other)  | None Detected |
| 4-Drywall<br>411506251-0003    | Throughout - Drywall & Joint Compound                      | Brown/Gray Fibrous Homogeneous | 10% Cellulose             | 90% Non-fibrous (other)  | None Detected |

Analyst(s)

Erin Guzowski (15)  
Kyle Collins (19)

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 09/08/2015 13:18:59



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376 Crompton Street, Charlotte, NC 28273

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| CustomerPO: |                   |
| ProjectID:  | COS - Spartanburg |

|  |  |
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| Project: <b>COS 0815-163/ 201 Sunny St., Spartanburg, SC</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                       |
| 4-Joint Compound<br>411506251-0003A | Throughout - Drywall & Joint Compound | Tan<br>Non-Fibrous<br>Homogeneous    |               | 30% Ca Carbonate<br>68% Non-fibrous (other) | 2% Chrysotile                |
| 5-Drywall<br>411506251-0004         | Throughout - Drywall & Joint Compound | Brown/Gray<br>Fibrous<br>Homogeneous | 10% Cellulose | 90% Non-fibrous (other)                     | None Detected                |
| 5-Joint Compound<br>411506251-0004A | Throughout - Drywall & Joint Compound |                                      |               |   | Stop Positive (Not Analyzed) |
| 6-Drywall<br>411506251-0005         | Throughout - Drywall & Joint Compound | Brown/Gray<br>Fibrous<br>Homogeneous | 10% Cellulose | 90% Non-fibrous (other)                     | None Detected                |
| 6-Joint Compound<br>411506251-0005A | Throughout - Drywall & Joint Compound |                                      |               |   | Stop Positive (Not Analyzed) |
| 6-Tape<br>411506251-0005B           | Throughout - Drywall & Joint Compound | Beige<br>Fibrous<br>Homogeneous      | 98% Cellulose | 2% Non-fibrous (other)                      | None Detected                |
| 7-Drywall<br>411506251-0006         | Throughout - Drywall & Joint Compound | Gray<br>Fibrous<br>Homogeneous       | 10% Cellulose | 90% Non-fibrous (other)                     | None Detected                |
| 7-Joint Compound<br>411506251-0006A | Throughout - Drywall & Joint Compound |                                      |               |   | Stop Positive (Not Analyzed) |
| 8-Drywall<br>411506251-0007         | Throughout - Drywall & Joint Compound | Gray<br>Fibrous<br>Homogeneous       | 8% Cellulose  | 92% Non-fibrous (other)                     | None Detected                |

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 Kyle Collins (19)

  
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 Received: 09/03/15 8:45 AM  
 Analysis Date: 9/5/2015  
 Collected: 8/31/2015

Project: **COS 0815-163/ 201 Sunny St., Spartanburg, SC**

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

| Sample                               | Description   | Appearance                         | Non-Asbestos              |   | Asbestos                     |
|--------------------------------------|---|------------------------------------|---------------------------|---|------------------------------|
|                                      |   |                                    | % Fibrous                 | % Non-Fibrous                               | % Type                       |
| 8-Joint Compound<br>411506251-0007A  | Throughout -<br>Drywall & Joint<br>Compound                                       |                                    |                           |   | Stop Positive (Not Analyzed) |
| 9-Top Flooring<br>411506251-0008     | Bathroom - 2 Layer<br>Tan Square<br>Pattern Roll Vinyl<br>Floor w/ Both<br>Mastic | Gray/Tan<br>Fibrous<br>Homogeneous | 15% Cellulose             | 85% Non-fibrous (other)                     | None Detected                |
| 9-Mastic<br>411506251-0008A          | Bathroom - 2 Layer<br>Tan Square<br>Pattern Roll Vinyl<br>Floor w/ Both<br>Mastic | Tan<br>Non-Fibrous<br>Homogeneous  | 1% Cellulose              | 10% Ca Carbonate<br>89% Non-fibrous (other) | None Detected                |
| 9-Bottom Flooring<br>411506251-0008B | Bathroom - 2 Layer<br>Tan Square<br>Pattern Roll Vinyl<br>Floor w/ Both<br>Mastic | Tan<br>Fibrous<br>Homogeneous      | 10% Cellulose<br>1% Glass | 89% Non-fibrous (other)                     | None Detected                |
| 9-Mastic<br>411506251-0008C          | Bathroom - 2 Layer<br>Tan Square<br>Pattern Roll Vinyl<br>Floor w/ Both<br>Mastic | Tan<br>Non-Fibrous<br>Homogeneous  | 1% Cellulose              | 10% Ca Carbonate<br>89% Non-fibrous (other) | None Detected                |
| 9-Red Layer<br>411506251-0008D       | Bathroom - 2 Layer<br>Tan Square<br>Pattern Roll Vinyl<br>Floor w/ Both<br>Mastic | Red<br>Non-Fibrous<br>Homogeneous  | 2% Cellulose              | 98% Non-fibrous (other)                     | None Detected                |

Analyst(s)

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Kyle Collins (19)

Lee Plumley, Laboratory Manager  
or other approved signatory

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| Project: <b>COS 0815-163/ 201 Sunny St., Spartanburg, SC</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        |
| 10-Top Flooring<br>411506251-0009     | Bathroom - 2 Layer<br>Tan Square<br>Pattern Roll Vinyl<br>Floor w/ Both<br>Mastic | Gray/Tan/White<br>Fibrous<br>Homogeneous | 10% Cellulose            | 90% Non-fibrous (other)                     | None Detected |
| 10-Mastic<br>411506251-0009A          | Bathroom - 2 Layer<br>Tan Square<br>Pattern Roll Vinyl<br>Floor w/ Both<br>Mastic | Tan<br>Non-Fibrous<br>Homogeneous        |                          | 8% Ca Carbonate<br>92% Non-fibrous (other)  | None Detected |
| 10-Bottom Flooring<br>411506251-0009B | Bathroom - 2 Layer<br>Tan Square<br>Pattern Roll Vinyl<br>Floor w/ Both<br>Mastic | Gray/Tan<br>Fibrous<br>Homogeneous       | 8% Cellulose<br>1% Glass | 91% Non-fibrous (other)                     | None Detected |
| 10-Mastic<br>411506251-0009C          | Bathroom - 2 Layer<br>Tan Square<br>Pattern Roll Vinyl<br>Floor w/ Both<br>Mastic | Tan<br>Non-Fibrous<br>Homogeneous        | <1% Cellulose            | 5% Ca Carbonate<br>95% Non-fibrous (other)  | None Detected |
| 10-Red Layer<br>411506251-0009D       | Bathroom - 2 Layer<br>Tan Square<br>Pattern Roll Vinyl<br>Floor w/ Both<br>Mastic | Red<br>Non-Fibrous<br>Homogeneous        | 2% Cellulose             | 98% Non-fibrous (other)                     | None Detected |
| 12<br>411506251-0010                  | Kitchen &<br>Bathroom -<br>Leveling<br>Compound                                   | White<br>Non-Fibrous<br>Homogeneous      | 1% Cellulose             | 10% Ca Carbonate<br>89% Non-fibrous (other) | None Detected |

Analyst(s)  
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 Kyle Collins (19)

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

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# EMSL Analytical, Inc.

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| Project: <b>COS 0815-163/ 201 Sunny St., Spartanburg, SC</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        |
| 13<br>411506251-0011                | Kitchen & Bathroom - Leveling Compound | White<br>Non-Fibrous<br>Homogeneous     | 1% Cellulose  | 10% Ca Carbonate<br>89% Non-fibrous (other)              | None Detected |
| 14<br>411506251-0012                | Kitchen & Bathroom - Leveling Compound | White<br>Non-Fibrous<br>Homogeneous     | 1% Cellulose  | 5% Ca Carbonate<br>94% Non-fibrous (other)               | None Detected |
| 15<br>411506251-0013                | Windows - Window Caulk                 | Tan/White<br>Non-Fibrous<br>Homogeneous |               | 15% Ca Carbonate<br>85% Non-fibrous (other)              | None Detected |
| 16<br>411506251-0014                | Windows - Window Caulk                 | Tan/White<br>Non-Fibrous<br>Homogeneous |               | 15% Ca Carbonate<br>85% Non-fibrous (other)              | None Detected |
| 18-Gray Shingle<br>411506251-0015   | Roof - 2 Layers Shingles w/ Felt       | Gray/Black<br>Fibrous<br>Homogeneous    | 5% Glass      | 5% Quartz<br>10% Ca Carbonate<br>80% Non-fibrous (other) | None Detected |
| 18-White Shingle<br>411506251-0015A | Roof - 2 Layers Shingles w/ Felt       | White/Black<br>Fibrous<br>Homogeneous   | 5% Glass      | 5% Quartz<br>10% Ca Carbonate<br>80% Non-fibrous (other) | None Detected |
| 18-Felt<br>411506251-0015B          | Roof - 2 Layers Shingles w/ Felt       | Black<br>Non-Fibrous<br>Homogeneous     | 60% Cellulose | 40% Non-fibrous (other)                                  | None Detected |

Analyst(s)  
 Erin Guzowski (15)  
 Kyle Collins (19)

  
 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 09/08/2015 13:18:59

**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: | 411506251         |
| CustomerID: | AXEM25            |
| CustomerPO: |                   |
| ProjectID:  | COS - Spartanburg |

|  |  |
|--|--|
| Attn: <b>Rebecca Shultz</b><br><b>Apex Environmental Management</b><br><b>7 Winchester Court</b><br><b>Mauldin, SC 29662</b> | Phone: (864) 640-5274<br>Fax:<br>Received: 09/03/15 8:45 AM<br>Analysis Date: 9/5/2015<br>Collected: 8/31/2015 |
| Project: <b>COS 0815-163/ 201 Sunny St., Spartanburg, SC</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        |
| 19-Gray Shingle<br>411506251-0016   | Roof - 2 Layers Shingles w/ Felt | Gray/Black Fibrous Homogeneous  | 5% Glass      | 5% Quartz<br>10% Ca Carbonate<br>80% Non-fibrous (other) | None Detected |
| 19-White Shingle<br>411506251-0016A | Roof - 2 Layers Shingles w/ Felt | White/Black Fibrous Homogeneous | 8% Glass      | 5% Quartz<br>10% Ca Carbonate<br>77% Non-fibrous (other) | None Detected |
| 19-Felt<br>411506251-0016B          | Roof - 2 Layers Shingles w/ Felt | Black Fibrous Homogeneous       | 65% Cellulose | 35% Non-fibrous (other)                                  | None Detected |

Analyst(s)  
 Erin Guzowski (15)  
 Kyle Collins (19)

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 09/08/2015 13:18:59

**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: 411506251  
 CustomerID: AXEM25  
 CustomerPO:  
 ProjectID: COS - Spartanburg

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

Phone: (864) 640-5274  
 Fax:  
 Received: 09/08/15 2:50 PM  
 Analysis Date: 9/11/2015  
 Collected: 8/31/2015

Project: **COS 0815-163/ 201 Sunny St., Spartanburg, SC**

**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-Flooring<br>411506251-0017         | Kitchen - Yellow Square Pattern Roll Vinyl Floor w/ Mastic            | Tan<br>Fibrous<br>Homogeneous           | 99.6              | 0.36 Fibrous (other)  | No Asbestos Detected |
| 3-Mastic<br>411506251-0018           | Kitchen - Yellow Square Pattern Roll Vinyl Floor w/ Mastic            | Tan<br>Non-Fibrous<br>Homogeneous       | 100               | <0.51 Fibrous (other) | No Asbestos Detected |
| 3-Red Layer<br>411506251-0019        | Kitchen - Yellow Square Pattern Roll Vinyl Floor w/ Mastic            | Red<br>Non-Fibrous<br>Homogeneous       | 99.3              | 0.71 Fibrous (other)  | No Asbestos Detected |
| 11-Top Flooring<br>411506251-0020    | Bathroom - 2 Layer Tan Square Pattern Roll Vinyl Floor w/ Both Mastic | Tan/Beige<br>Non-Fibrous<br>Homogeneous | 100               | <0.14 Fibrous (other) | No Asbestos Detected |
| 11-Mastic<br>411506251-0021          | Bathroom - 2 Layer Tan Square Pattern Roll Vinyl Floor w/ Both Mastic | Yellow<br>Non-Fibrous<br>Homogeneous    | 98.0              | 2.0 Fibrous (other)   | No Asbestos Detected |
| 11-Bottom Flooring<br>411506251-0022 | Bathroom - 2 Layer Tan Square Pattern Roll Vinyl Floor w/ Both Mastic | Tan/Beige<br>Fibrous<br>Homogeneous     | 99.9              | 0.13 Fibrous (other)  | No Asbestos Detected |
| 11-Mastic<br>411506251-0023          | Bathroom - 2 Layer Tan Square Pattern Roll Vinyl Floor w/ Both Mastic | Tan<br>Non-Fibrous<br>Homogeneous       | 99.6              | 0.44 Fibrous (other)  | No Asbestos Detected |
| 11-Red Layer<br>411506251-0024       | Bathroom - 2 Layer Tan Square Pattern Roll Vinyl Floor w/ Both Mastic | Red<br>Non-Fibrous<br>Homogeneous       | 99.7              | 0.35 Fibrous (other)  | No Asbestos Detected |
| 17<br>411506251-0025                 | Windows - Window Caulk  | Tan/White<br>Non-Fibrous<br>Homogeneous | 99.3              | 0.73 Fibrous (other)  | No Asbestos Detected |

Analyst(s)  
 Aaron Hartley (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 09/11/2015 12:44:12



**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: 411506251  
CustomerID: AXEM25  
CustomerPO:  
ProjectID: COS - Spartanburg

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

Phone: (864) 640-5274  
Fax:  
Received: 09/08/15 2:50 PM  
Analysis Date: 9/11/2015  
Collected: 8/31/2015

Project: **COS 0815-163/ 201 Sunny St., Spartanburg, SC**

**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       |
|------------------------------------|----------------------------------|---------------------------------------|-------------------|-----------------------|----------------------|
| 20-Gray Shingle<br>411506251-0026  | Roof - 2 Layers Shingles w/ Felt | Gray/Black<br>Fibrous<br>Homogeneous  | 100               | <0.41 Fibrous (other) | No Asbestos Detected |
| 20-White Shingle<br>411506251-0027 | Roof - 2 Layers Shingles w/ Felt | White/Black<br>Fibrous<br>Homogeneous | 100               | None                  | No Asbestos Detected |
| 20-Felt<br>411506251-0028          | Roof - 2 Layers Shingles w/ Felt | Black<br>Fibrous<br>Homogeneous       | 100               | None                  | No Asbestos Detected |

Analyst(s)  
Aaron Hartley (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 09/11/2015 12:44:12



# Asbestos Bulk Building Material Chain of Custody

Charlotte, NC 28273

PHONE: (704) 525-2205

FAX: (704) 525 2382

**EMSL ANALYTICAL, INC.**  
LABORATORY • PRODUCTS • TRAINING

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

411506251

| Company : Apex Environmental Management   |                                 | EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different<br><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: United States  |
| Report To (Name): Rebecca Shultz  |                                 | Telephone #: 864-404-3210   |   |
| Email Address: rshultz@apex-ehs.com   |                                 | Fax #:  | Purchase Order:   |
| Project Name/Number: COS 0815-103   |                                 | 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   |   |
| <b>Turnaround Time (TAT) Options* – Please Check</b>  |                                 |   |   |
| <input type="checkbox"/> 3 Hour   | <input type="checkbox"/> 6 Hour | <input type="checkbox"/> 24 Hour  | <input type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week |
| <small>*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.</small> |                                 |   |   |
| <b>PLM - Bulk (reporting limit)</b>   |                                 | <b>TEM - Bulk</b>   |   |
| <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%)  |                                 | <input 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"/> COS 201 Sunny St. Spartanburg  |   |
| <input type="checkbox"/> Standard Addition Method   |                                 |   |   |
| <input checked="" type="checkbox"/> Check For Positive Stop – Clearly Identify Homogenous Group   |                                 | Date Sampled: 8-31-15   |   |
| Samplers Name: Tom Oliver   |                                 | Samplers Signature:   |   |
| Sample #  | HA #                            | Sample Location   | Material Description  |
| 1   |                                 | Kitchen   | Yellow square patten roll   |
| 2   |                                 | ┆   | Vinyl floor w/ mastic   |
| 3   |                                 |   |   |
| 4   |                                 |   | Through out   |
| 5   |                                 | ┆   |   |
| 6   |                                 |   |   |
| 7   |                                 |   |   |
| 8   |                                 |   |   |
| 9   |                                 | Bath RM   | 2 layer tan square pattern  |
| 10  |                                 | ┆   | roll vinyl flr w/ mastic <sup>both</sup>  |
| Client Sample # (s): 1 - 20   |                                 | Total # of Samples: 20  |   |
| Relinquished (Client):  |                                 | Date: 9-2-15  | Time: 10:00am   |
| Received (Lab):   |                                 | Date: 9/3/15  | Time: 8:45am EMSL/FK  |
| Comments/Special Instructions:  |                                 | 7950 2272 6849  |   |



**SECTION IV**

**Photographs**



Photo 1 -- Front Elevation



Photo 2 – Kitchen Vinyl Flooring



Photo 3 – Kitchen Leveling Compound Under Vinyl Flooring



Photo 4 – Two Layers Vinyl Flooring in Bathroom



Photo 5 – Window Caulk



Photo 6 – Drywall

**SECTION V**

**SC Asbestos Inspector License**

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

Thomas H Oliver



CONSULTBI  
AIRSAMPLER

Expires  
BI-00680 01/21/16  
AS-00202 01/16/16

This card is nontransferable and 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 or corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289



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

City of Spartanburg  
209 Sunny 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

September 16, 2015





7 Winchester Court  
Mauldin, SC 29662  
864.404.3210 office  
864.404.3213 fax  
[www.apex-ehs.com](http://www.apex-ehs.com)

**SERVICES**

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- Asbestos & Lead
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- Worker Health & Safety
- Mold Consulting
- Moisture Management Plans
- Safety Assessment
- Environmental Site Assessments
- Hazard Communication

**Apex Project Number 0815-163**

September 16, 2015

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

Reference: Asbestos and Lead-Based Paint Assessment Services  
209 Sunny 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.**

Rebecca W. Shultz, CIH, CSP  
President

Appendices

**ASBESTOS AND LEAD BASED PAINT ASSESSMENT**

**CITY OF SPARTANBURG  
209 SUNNY STREET  
SPARTANBURG, SOUTH CAROLINA**

**APEX PROJECT NO. 0815-163**

**TABLE OF CONTENTS**

**SECTION**

- I Asbestos & Lead Evaluation Report
- II Tables
- III Laboratory Analytical Results
- IV Photographs
- V SC Asbestos Inspector License

**SECTION I**

**Asbestos & Lead Evaluation Report**

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

Date: 9/16/2015 Page Number: 1 of 3

Client: City of Spartanburg Client Contact: Mr. Demian Carpenter  
Client Address: 201 Caulder Avenue Client Phone  
Spartanburg, SC 29304 Number:

Project: Asbestos and Lead Evaluation

Property Address: 209 Sunny Street  
Spartanburg, SC

Assessor: Thomas H. Oliver Date of Assessment: 9/1/2015  
Company: Apex Environmental Management Phone Number  
7 Winchester Court

Mauldin, SC 29662

Purpose of Assessment: Demolition Age of Structure: Approx. 50 years

Building Type: Residential Number of Stories: 1

Foundation: Brick crawlspace Approximate Square Footage: 900 SF

EXTERIOR BUILDING MATERIALS

Brick  
Roof Shingles  
No Chimney

INTERIOR BUILDING MATERIALS

Drywall wall and ceilings  
Multiple vinyl flooring

## 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 200841-0.
- Transmission electron microscopy (TEM) analysis of non-friable organically bound materials suspected to contain asbestos and testing negatively by PLM analysis.
- Lead inspection by a lead inspector certified by the Environmental Protection Agency and licensed to conduct LBP surveys in South Carolina.
- In situ analysis of suspected lead based paints by X-ray fluorescence (XRF).
- Presenting the results in a report identifying confirmed ACMs and LBPs.

## METHODS

### Asbestos Containing Materials

In order to determine if the suspect materials observed during the visual survey contained asbestos, representative bulk samples were collected and placed in sealed packages. Twenty (20) 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). Nine (9) samples were analyzed using TEM.

### Lead-Based Paint

Lead painted surfaces were analyzed in place using X-ray fluorescence. Painted surfaces were selected based on color of topcoat, underlying layers and substrate on which it was painted.

## RESULTS

### Asbestos Results

The EPA defines an asbestos-containing material 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:

- Joint Compound

Lead Based Paint

No lead-based paint surfaces were found within the site location therefore no recommendations are indicated at this time.

**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

No lead-based paint surfaces were found within the site location therefore no recommendations are indicated at this time.

**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: 209 Sunny Street COS

Sampled By: Thomas Oliver

Project Location: 209 Sunny Street

Project Manager: Thomas Oliver

Spartanburg, SC

Project Number: 0815-163

Date: 8/31/2015

| Sample No. | Location   | Sample Description  | Analytical Results             | Friable/Non Friable | Condition | Quantity |
|------------|------------|---|--------------------------------|---------------------|-----------|----------|
| 1          | Roof       | Shingles and Felt   | NAD                            | Non-Friable         | Good      | 1300 SF  |
| 2          |            |   |                                |                     |           |          |
| 3          |            |   |                                |                     |           |          |
| 4          | Kitchen    | Tan Roll Vinyl Floor w/ Mastic  | NAD                            | Non-Friable         | Good      | 175 SF   |
| 5          |            |   |                                |                     |           |          |
| 6          |            |   |                                |                     |           |          |
| 7          | Bathroom   | 2 Layers Roll Vinyl w/ Wood Pattern and Yellow Square Pattern no Mastic | NAD                            | Non-Friable         | Good      | 40 SF    |
| 8          |            |   |                                |                     |           |          |
| 9          |            |   |                                |                     |           |          |
| 10         | Throughout | Drywall and Joint Compound  | 2% Chrysotile (Joint Compound) | Friable             | Good      | 2200 SF  |
| 11         |            |   |                                |                     |           |          |
| 12         |            |   |                                |                     |           |          |
| 13         |            |   |                                |                     |           |          |
| 14         |            |   |                                |                     |           |          |
| 15         | Windows    | Window Glaze  | NAD                            | Non-Friable         | Good      | 5 ea     |
| 16         |            |   |                                |                     |           |          |
| 17         |            |   |                                |                     |           |          |
| 18         | Windows    | Window Caulk  | NAD                            | Non-Friable         | Good      | 5 ea     |
| 19         |            |   |                                |                     |           |          |
| 20         |            |   |                                |                     |           |          |

NAD = No Asbestos Detected

LF = Linear Feet

EA = Each

**Bold = Positive For Asbestos**

SF = Square Feet

**FIELD DATA SHEET  
LBP ANALYSIS**

Project Name: 209 Sunny Street COS

Sampled By: Thomas Oliver

Project Location: Spartanburg SC

Project Manager: Thomas Oliver

Project Number: 0815-163

Date: 9/1/2015

| Sample No. | Sample Location | Component     | Color | Substrate | Analytical Result (mg/cm3) |
|------------|-----------------|---------------|-------|-----------|----------------------------|
| 59         | Exterior        | Wall          | Red   | Brick     | 0.00                       |
| 60         | Exterior        | Door Frame    | White | Wood      | 0.06                       |
| 61         | Exterior        | Door          | Green | Wood      | 0.13                       |
| 62         | Exterior        | Roof Overhang | White | Wood      | 0.45                       |
| 63         | Exterior        | Trim          | White | Wood      | 0.08                       |
| 64         | Interior        | Wall          | Green | Drywall   | 0.01                       |
| 65         | Interior        | Cabinet       | Green | Wood      | 0.01                       |
| 66         | Interior        | Baseboard     | Green | Wood      | 0.09                       |
| 67         | Interior        | Window Frame  | White | Wood      | 0.05                       |
| 68         | Interior        | Window        | White | Wood      | 0.02                       |
| 69         | Interior        | Door Frame    | Green | Wood      | 0.11                       |
| 70         | Interior        | Door          | Green | Wood      | 0.02                       |
| 71         | Interior        | Window Frame  | Green | Wood      | 0.04                       |
| 72         | Interior        | Door Frame    | White | Wood      | 0.00                       |
| 73         | Interior        | Door Frame    | White | Wood      | 0.00                       |
| 74         | Interior        | Baseboard     | White | Wood      | 0.05                       |
| 75         | Interior        | Wall          | White | Drywall   | 0.03                       |

**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: | 411506250         |
| CustomerID: | AXEM25            |
| CustomerPO: |                   |
| ProjectID:  | COS - Spartanburg |

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

Phone: (864) 640-5274  
 Fax:  
 Received: 09/03/15 8:45 AM  
 Analysis Date: 9/7/2015  
 Collected: 8/31/2015

Project: **COS 0815-163/ 209 Sunny St., Spartanburg, SC**

## 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-Gray Shingle<br>411506250-0001   | Roof - 2 Shingles & Felt                 | Gray/Black<br>Fibrous<br>Homogeneous  | 5% Glass      | 5% Quartz<br>8% Ca Carbonate<br>82% Non-fibrous (other)  | None Detected |
| 1-White Shingle<br>411506250-0001A | Roof - 2 Shingles & Felt                 | White/Black<br>Fibrous<br>Homogeneous | 5% Glass      | 5% Quartz<br>10% Ca Carbonate<br>80% Non-fibrous (other) | None Detected |
| 1-Felt<br>411506250-0001B          | Roof - 2 Shingles & Felt                 | Black<br>Fibrous<br>Homogeneous       | 55% Cellulose | 45% Non-fibrous (other)                                  | None Detected |
| 2-Gray Shingle<br>411506250-0002   | Roof - 2 Shingles & Felt                 | Gray/Black<br>Fibrous<br>Homogeneous  | 5% Glass      | 5% Quartz<br>10% Ca Carbonate<br>80% Non-fibrous (other) | None Detected |
| 2-White Shingle<br>411506250-0002A | Roof - 2 Shingles & Felt                 | Black<br>Fibrous<br>Homogeneous       | 5% Glass      | 5% Quartz<br>10% Ca Carbonate<br>80% Non-fibrous (other) | None Detected |
| 2-Felt<br>411506250-0002B          | Roof - 2 Shingles & Felt                 | Black<br>Fibrous<br>Homogeneous       | 60% Cellulose | 40% Non-fibrous (other)                                  | None Detected |
| 4-Flooring<br>411506250-0003       | Kitchen - Tan Roll Vinyl Floor w/ Mastic | Gray/Tan<br>Fibrous<br>Homogeneous    | 10% Cellulose | 90% Non-fibrous (other)                                  | None Detected |

Analyst(s)  
 Erin Guzowski (13)  
 Kyle Collins (13)

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 09/08/2015 13:18:26



# 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: | 411506250         |
| CustomerID: | AXEM25            |
| CustomerPO: |                   |
| ProjectID:  | COS - Spartanburg |

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

Phone: (864) 640-5274  
 Fax:  
 Received: 09/03/15 8:45 AM  
 Analysis Date: 9/7/2015  
 Collected: 8/31/2015

Project: **COS 0815-163/ 209 Sunny St., Spartanburg, SC**

## 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        |
| 4-Mastic<br>411506250-0003A        | Kitchen - Tan Roll Vinyl Floor w/ Mastic  | Tan<br>Non-Fibrous<br>Homogeneous    | <1% Cellulose | 100% Non-fibrous (other) | None Detected |
| 5-Flooring<br>411506250-0004       | Kitchen - Tan Roll Vinyl Floor w/ Mastic  | Gray/Tan<br>Fibrous<br>Homogeneous   | 10% Cellulose | 90% Non-fibrous (other)  | None Detected |
| 5-Mastic<br>411506250-0004A        | Kitchen - Tan Roll Vinyl Floor w/ Mastic  | Tan<br>Non-Fibrous<br>Homogeneous    | 2% Cellulose  | 98% Non-fibrous (other)  | None Detected |
| 7-Brown Flooring<br>411506250-0005 | Bathroom - 2 Layers Roll Vinyl Floor - No Mastic (Wood Pattern & Yellow Square Pattern) | Brown/Gray<br>Fibrous<br>Homogeneous | 8% Cellulose  | 92% Non-fibrous (other)  | None Detected |
| 7-Tan Flooring<br>411506250-0005A  | Bathroom - 2 Layers Roll Vinyl Floor - No Mastic (Wood Pattern & Yellow Square Pattern) | Gray/Tan<br>Fibrous<br>Homogeneous   | 10% Cellulose | 90% Non-fibrous (other)  | None Detected |
| 8-Brown Flooring<br>411506250-0006 | Bathroom - 2 Layers Roll Vinyl Floor - No Mastic (Wood Pattern & Yellow Square Pattern) | Gray/Black<br>Fibrous<br>Homogeneous | 15% Cellulose | 85% Non-fibrous (other)  | None Detected |

Analyst(s)  
 Erin Guzowski (13)  
 Kyle Collins (13)

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 09/08/2015 13:18:26



# 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: | 411506250         |
| CustomerID: | AXEM25            |
| CustomerPO: |                   |
| ProjectID:  | COS - Spartanburg |

|  |  |
|--|--|
| Attn: <b>Rebecca Shultz</b><br><b>Apex Environmental Management</b><br><b>7 Winchester Court</b><br><b>Mauldin, SC 29662</b> | Phone: (864) 640-5274<br>Fax:<br>Received: 09/03/15 8:45 AM<br>Analysis Date: 9/7/2015<br>Collected: 8/31/2015 |
| Project: <b>COS 0815-163/ 209 Sunny St., Spartanburg, SC</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                       |
| 8-Tan Flooring<br>411506250-0006A    | Bathroom - 2 Layers Roll Vinyl Floor - No Mastic (Wood Pattern & Yellow Square Pattern) | Gray/Tan<br>Fibrous<br>Homogeneous   | 10% Cellulose<br>1% Glass | 89% Non-fibrous (other)                     | None Detected                |
| 10-Drywall<br>411506250-0007         | Throughout - Drywall & Joint Compound   | Gray<br>Fibrous<br>Homogeneous       | 10% Cellulose             | 90% Non-fibrous (other)                     | None Detected                |
| 10-Joint Compound<br>411506250-0007A | Throughout - Drywall & Joint Compound   | Tan<br>Non-Fibrous<br>Homogeneous    |                           | 25% Ca Carbonate<br>73% Non-fibrous (other) | 2% Chrysotile                |
| 11-Drywall<br>411506250-0008         | Throughout - Drywall & Joint Compound   | Gray<br>Fibrous<br>Homogeneous       | 8% Cellulose              | 92% Non-fibrous (other)                     | None Detected                |
| 11-Joint Compound<br>411506250-0008A | Throughout - Drywall & Joint Compound   |                                      |                           |   | Stop Positive (Not Analyzed) |
| 12-Drywall<br>411506250-0009         | Throughout - Drywall & Joint Compound   | Gray<br>Fibrous<br>Homogeneous       | 8% Cellulose              | 92% Non-fibrous (other)                     | None Detected                |
| 12-Joint Compound<br>411506250-0009A | Throughout - Drywall & Joint Compound   |                                      |                           |   | Stop Positive (Not Analyzed) |
| 13-Drywall<br>411506250-0010         | Throughout - Drywall & Joint Compound   | Brown/Gray<br>Fibrous<br>Homogeneous | 10% Cellulose             | 90% Non-fibrous (other)                     | None Detected                |

Analyst(s)  
Erin Guzowski (13)  
Kyle Collins (13)

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 09/08/2015 13:18:26

**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: | 411506250         |
| CustomerID: | AXEM25            |
| CustomerPO: |                   |
| ProjectID:  | COS - Spartanburg |

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

Phone: (864) 640-5274  
 Fax:  
 Received: 09/03/15 8:45 AM  
 Analysis Date: 9/7/2015  
 Collected: 8/31/2015

Project: **COS 0815-163/ 209 Sunny St., Spartanburg, SC**

## 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-Joint Compound<br>411506250-0010A | Throughout - Drywall & Joint Compound |                                   |                     |   | <b>Stop Positive (Not Analyzed)</b> |
| 13-Tape<br>411506250-0010B           | Throughout - Drywall & Joint Compound | Beige Fibrous Homogeneous         | 98% Cellulose       | 2% Non-fibrous (other)                      | <b>None Detected</b>                |
| 14-Drywall<br>411506250-0011         | Throughout - Drywall & Joint Compound | Brown/Gray Fibrous Homogeneous    | 10% Cellulose       | 90% Non-fibrous (other)                     | <b>None Detected</b>                |
| 14-Joint Compound<br>411506250-0011A | Throughout - Drywall & Joint Compound |                                   |                     |   | <b>Stop Positive (Not Analyzed)</b> |
| 14-Tape<br>411506250-0011B           | Throughout - Drywall & Joint Compound | Beige Fibrous Homogeneous         | 98% Cellulose       | 2% Non-fibrous (other)                      | <b>None Detected</b>                |
| 15<br>411506250-0012                 | Windows - Window Glaze                | Tan Non-Fibrous Homogeneous       |                     | 10% Ca Carbonate<br>90% Non-fibrous (other) | <b>None Detected</b>                |
| 16<br>411506250-0013                 | Windows - Window Glaze                | Tan Non-Fibrous Homogeneous       | <1% Fibrous (other) | 15% Ca Carbonate<br>85% Non-fibrous (other) | <b>None Detected</b>                |
| 18<br>411506250-0014                 | Windows - Window Caulk                | White Non-Fibrous Homogeneous     |                     | 15% Ca Carbonate<br>85% Non-fibrous (other) | <b>None Detected</b>                |
| 19<br>411506250-0015                 | Windows - Window Caulk                | Tan/White Non-Fibrous Homogeneous |                     | 20% Ca Carbonate<br>80% Non-fibrous (other) | <b>None Detected</b>                |

Analyst(s)

Erin Guzowski (13)  
 Kyle Collins (13)



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 09/08/2015 13:18:26

**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: 411506250  
 CustomerID: AXEM25  
 CustomerPO:  
 ProjectID: COS - Spartanburg

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

Phone: (864) 640-5274  
 Fax:  
 Received: 09/08/15 2:50 PM  
 Analysis Date: 9/10/2015  
 Collected: 8/31/2015

Project: **COS 0815-163/ 209 Sunny St., Spartanburg, SC**

**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-Gray Shingle<br>411506250-0016   | Roof - 2 Shingles & Felt  | Gray/Black<br>Fibrous<br>Homogeneous  | 100               | None                  | No Asbestos Detected |
| 3-White Shingle<br>411506250-0017  | Roof - 2 Shingles & Felt  | White/Black<br>Fibrous<br>Homogeneous | 99.0              | 1.0 Fibrous (other)   | No Asbestos Detected |
| 3-Felt<br>411506250-0018           | Roof - 2 Shingles & Felt  | Black<br>Fibrous<br>Homogeneous       | 100               | None                  | No Asbestos Detected |
| 6-Flooring<br>411506250-0019       | Kitchen - Tan Roll Vinyl Floor w/ Mastic  | Tan/Beige<br>Fibrous<br>Homogeneous   | 100               | <0.27 Fibrous (other) | No Asbestos Detected |
| 6-Mastic<br>411506250-0020         | Kitchen - Tan Roll Vinyl Floor w/ Mastic  | Tan<br>Non-Fibrous<br>Homogeneous     | 99.6              | 0.44 Fibrous (other)  | No Asbestos Detected |
| 9-Brown Flooring<br>411506250-0021 | Bathroom - 2 Layers Roll Vinyl Floor - No Mastic (Wood Pattern & Yellow Square Pattern) | Brown<br>Fibrous<br>Homogeneous       | 100               | None                  | No Asbestos Detected |
| 9-Tan Flooring<br>411506250-0022   | Bathroom - 2 Layers Roll Vinyl Floor - No Mastic (Wood Pattern & Yellow Square Pattern) | Tan<br>Fibrous<br>Homogeneous         | 99.8              | 0.19 Fibrous (other)  | No Asbestos Detected |
| 17<br>411506250-0023               | Windows - Window Glaze  | Tan<br>Non-Fibrous<br>Homogeneous     | 100               | <0.61 Fibrous (other) | No Asbestos Detected |
| 20<br>411506250-0024               | Windows - Window Caulk  | White<br>Non-Fibrous<br>Homogeneous   | 100               | None                  | No Asbestos Detected |

Analyst(s)  
 Aaron Hartley (9)

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 09/11/2015 08:09:59



EMSL ANALYTICAL, INC.  
LABORATORY • PRODUCTS • TRAINING

# Asbestos Bulk Building Material Chain of Custody

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

411506250

376 Crompton Street

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<br><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: United States |
| Report To (Name): Rebecca Shultz       |                    | Telephone #: 864-404-3210   |                        |
| Email Address: rshultz@apex-ehs.com    |                    | Fax #:  | Purchase Order:        |
| Project Name/Number: COS 0815-103      |                    | 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 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 checked="" type="checkbox"/> COS 209 Sunny St. Spartanburg SC      |
| <input type="checkbox"/> Standard Addition Method   |   |

Check For Positive Stop – Clearly Identify Homogenous Group      Date Sampled: 8-31-15

Samplers Name: Tom Oliver      Samplers Signature:

| Sample # | HA # | Sample Location | Material Description                           |
|----------|------|-----------------|--|
| 1        |      | Roof            | 2 shingles + felt                              |
| 2        |      |                 |  |
| 3        |      |                 |  |
| 4        |      | Kitchen         | tan roll vinyl flr                             |
| 5        |      |                 | w/ mastic                                      |
| 6        |      |                 |  |
| 7        |      | Bath room       | 2 layers roll vinyl flr                        |
| 8        |      |                 | no mastic (wood pattern yellow square pattern) |
| 9        |      | +               |  |

Client Sample # (s): 1 - 20      Total # of Samples: 20

Relinquished (Client): Date: 9-2-15      Time: 10:05 am

Received (Lab): Date: 9/3/15      Time: 8:45 AM EMSL Fk

Comments/Special Instructions: 7950 2272 6849



**SECTION IV**  
**Photographs**



Photo 1 -- Front Elevation



Photo 2 – Window Glaze



Photo 3 – Kitchen Vinyl Flooring



Photo 4 – Two Layers Bathroom Vinyl Flooring



Photo 5 – Hall Wood Flooring



Photo 6 – Drywall

**SECTION V**

**SC Asbestos Inspector License**

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

Thomas H Oliver



CONSULTBI  
AIRSAMPLER

Expires  
BI-00680 01/21/16  
AS-00202 01/16/16

This card is nontransferable and 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 or corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289