



Asbestos & Lead Based Paint Assessment

City of Spartanburg
688 Saxon Avenue
Spartanburg, South Carolina 29301

Prepared for:

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

Prepared by:

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

Project Number: 0120-17

February 10, 2020





Apex Project Number 0120-17

February 10, 2020

7 Winchester Court
Mauldin, SC 29662
864.404.3210 office
864.404.3213 fax
www.apex-ehs.com

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

Reference: Asbestos and Lead-Based Paint Assessment Services
688 Saxon Avenue
Spartanburg, South Carolina 29301

SERVICES

- Indoor Air Quality
- Mold Remediation
- Asbestos & Lead
- Industrial Hygiene
- Worker Health & Safety
- Mold Consulting
- Moisture Management Plans
- Safety Assessment
- Environmental Site Assessments
- Hazard Communication

Dear Mr. Tillerson:

Apex Environmental Management, Inc. (Apex) is pleased to provide the results of our assessment services for the referenced property.

This report and the associated attachments summarize our evaluation of the conditions observed at the project site. The findings presented by Apex are based upon sampling performed in the subject building. There is a chance that undetected ACM may exist in the building between walls or in other areas that would only be exposed during demolition or structural renovations. Should material be discovered that could potentially contain asbestos during the demolition process, additional samples of the material should be collected by a licensed asbestos inspector and submitted to an accredited laboratory for analytical interpretation. Our recommendations are based on the guidelines presented in EPA and/or OSHA regulations.

Please note that this document is not a specification for asbestos removal. It does not contain means and methods for abatement. Quantities are estimates and contractors must verify amounts prior to bidding or removal. If you are planning an abatement project, please contact Apex to discuss the requirements. Use of this document without the express written consent of Apex is at the sole risk of the user and or/abatement contractor.

The conclusions and/or recommendations contained in this report are based on our understanding of the applicable standards at the time this report was prepared. No warranty, expressed or implied, is made. If you have any questions please feel free to contact us at (864) 404-3210.

Respectfully submitted,
APEX ENVIRONMENTAL MANAGEMENT, INC.

A handwritten signature in blue ink, appearing to read 'S. Hamby'.

Stephani Hamby
Field Scientist

A handwritten signature in blue ink, appearing to read 'Tom Oliver'.

Tom Oliver
Vice President

Appendices

ASBESTOS AND LEAD BASED PAINT ASSESSMENT

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

APEX PROJECT NO. 0120-17

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SECTION I

Asbestos & Lead Evaluation Report

ASBESTOS EVALUATION REPORT APEX PROJECT NUMBER: 0120-17
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Date:	2/10/2020	Page Number:	1 of 4
Client:	City of Spartanburg	Client Contact:	Mr. Jeff Tillerson
Client Address:	440 South Church Street Suite B Spartanburg, SC 29306	Client Phone Number:	(864) 596-2911
Project:	Asbestos Evaluation and Lead Based Paint Assessment		
Property Address:	688 Saxon Avenue Spartanburg, SC 29301		
Assessor:	Ted Shultz	Date of Assessment:	1/20/2020
Company:	Apex Environmental Management 7 Winchester Court Mauldin, SC 29662	Phone Number:	(864) 404-3210
Purpose of Assessment:	Demolition	Age of Structure:	Approximately 50+ years
Building Type:	Residential	Number of Stories:	1
Foundation:	Brick crawlspace	Approximate Square Footage	850 SF

EXTERIOR BUILDING MATERIALS

- Shingled roof.
- Two chimneys with tar – assumed.
- Transite siding with no felt.
- Wood windows.
- Window glaze.
- Window caulk.
- Metal windows.
- Wood doors.
- Metal doors.

INTERIOR BUILDING MATERIALS

- Wood floors.
- Tile flooring under wood in the kitchen and bathroom.
- Plaster over unfinished drywall.
- Plaster over expanded metal.

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 Pineville, North Carolina for analysis using the EPA recommended method of Polarized Light Microscopy (PLM) coupled with dispersion staining (Method No. EPA 600/M4-82-020, Dec. 1982). EMSL participates in the National Voluntary Laboratory Accreditation Program (NVLAP). Their NVLAP accreditation number is 200841-0. EPA regulations require that multiple samples of each homogeneous material be collected for laboratory analysis. Thirty-seven (37) samples were analyzed due to layering by PLM method and positive stop methods. In accordance with South Carolina Regulation 61-86.1, non-friable organically bound materials that are reported to be non-asbestos containing by PLM analysis must also be analyzed by Transmission Electron Microscopy (TEM). 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 (ACM) as a material containing more than 1% asbestos. OSHA defines ACM as a material containing detectable amounts of asbestos. Provided below is a general discussion of the asbestos containing materials identified in the residence. A specific *PLM and TEM Data Table* is located in Appendix II of this report and identifies positive materials and designates approximate quantities.

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

- Approximately 2,400 SF of pink transite siding.
- Approximately 12 windows with window glazing.
- Approximately 12 LF of chimney tar on 2 chimney's (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 µg/m³) during an eight-hour workday and a permissible exposure level of fifty micrograms per cubic meter (50 µg/m³) for employees.

Currently, EPA defines LBP as paint containing in excess of, or equal to, 1.0 mg/cm². *XRF LBP Data Sheets* providing XRF results for testing combinations can be found in the Appendices at the conclusion of this report. Paint-chip sampling was not required for XRF inconclusive values.

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

Exterior:

- White wood exterior corner trim.
- White wood porch header.

Interior:

- No lead based paint found in tested areas.

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 Environmental Protection Agency (EPA) define LBP as paint containing greater than 1.0 milligrams per square centimeter (mg/cm^2) lead or in excess of, or equal to, 0.5 percent lead. Building materials identified as being painted with LBP should be segregated from the other building materials and recycled or disposed of in a municipal lined landfill. The removed wastes would need to be containerized and further tested by Toxic Characteristic Leaching procedures (TCLP) to determine if the waste is classified as hazardous. The remaining building materials that are not painted with LBP may be disposed of in a construction and demolition landfill. However, the landfills should be contacted to determine their specific disposal requirements.

Occupational Safety and Health Administration Lead Regulations apply to actions initiated on lead containing materials. This regulation applies to lead concentrations greater than the analytical limit of detection. This regulation sets exposure levels on airborne lead and does not reference the percent lead in paint. Therefore, initial personal air monitoring should be conducted on workers performing work on surfaces which have a lead concentration of $0.1 \text{ mg}/\text{cm}^2$ or above to satisfy the OSHA requirements. If a baseline exposure lower than the OSHA Action Level of 30 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) is established, personal air monitoring may be terminated. The full OSHA lead standard should be referenced for compliance.

A copy of this report must be submitted to SCDHEC at least ten (10) working days prior to demolition when applying for a demolition permit.

SECTION II

Asbestos & LBP Data Tables

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

Project Name: COS 688 Saxon Avenue NIP ACM-LBP

Sampled By: Ted Shultz

Project Location: 688 Saxon Avenue, Spartanburg, SC 29301

Project Manager: Ted Shultz

Project Number: 0120-17

Date: 1/20/2020

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
1	Roof	Roofing (1 shingle, 1 felt)	PLM - NAD	Non-friable	Good	1,000 SF
2						
3			TEM - NAD			
4	Ext. siding	Transite with no felt	PLM - 15% Chrysotile	Friable	Good	2,400 SF
5						
6						
7	Windows	Glazing	PLM - 2% Chrysotile	Non-friable	Good	12 EA
8						
9		White caulk	PLM - NAD	Non-friable	Good	
10						
11			TEM - NAD			
12	Bathroom under wood	Black tile & mastic	PLM - NAD	Non-friable	Good	40 SF
13						
14			TEM - NAD			
15	Kitchen under wood	3 layers of flooring, mastic	PLM - NAD	Non-friable	Good	120 SF
16						
17			TEM - NAD			
18	Walls & Ceiling	Plaster over unfinished drywall	PLM - NAD	Friable	Good	2,400 SF
19						
20						
21						
22						
23						
Assumed	2 Chimney's	Chimney tar	Assumed	Non-friable	Good	12 LF

NAD = No Asbestos Detected

LF = Linear Feet

EA = Each

Bold = Positive For Asbestos

SF = Square Feet

Chry = Chrysotile

**FIELD DATA SHEET
LBP ANALYSIS**

Project Name: COS 688 Saxon Avenue NIP ACM-LBP

Sampled By: Tom Oliver

Project Location: 688 Saxon Avenue, Spartanburg, SC 29301

Project Manager: Tom Oliver

Project Number: 0120-17

Date: 1/30/2020

Sample No.	Sample Location	Component	Color	Substrate	Analytical Result (mg/m ³)
139	Exterior	Hand Rail	White	Wood	0.00
140	Exterior	Front Steps	Blue	Concrete	0.04
141	Exterior	Siding	Pink	Transite	0.00
142	Exterior	Window Frame	White	Wood	0.00
143	Exterior	Exterior Corner Trim	White	Wood	2.36
144	Exterior	Door	White	Metal	0.00
145	Exterior	Door Frame	White	Wood	0.03
146	Exterior	Porch Header	White	Wood	1.24
147	Interior	Window	Brown	Wood	0.00
148	Interior	Window Frame	Brown	Wood	0.22
149	Interior	Base Board	Brown	Wood	0.17
150	Interior	Floor	Grey	Wood	0.01
151	Interior	Fireplace Mantle	White	Wood	0.01
152	Interior	Wall	White	Plaster	0.00
153	Interior	Door	White	Wood	0.00
154	Interior	Door Frame	Brown	Wood	0.12
155	Interior	Kitchen Cabinet	Pink	Wood	0.07
156	Interior	Wall	Red	Plaster	0.08

Bold = LBP

SECTION III

Laboratory Analytical Results



EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

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

<http://www.EMSL.com> / charlottelab@emsl.com

EMSL Order: 412000773

Customer ID: AXEM25

Customer PO:

Project ID: City of Spartanburg

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

Phone: (864) 640-5274

Fax:

Received Date: 01/23/2020 11:40 AM

Analysis Date: 01/29/2020

Collected Date: 01/20/2020

Project: COS 688 Saxon Ave. (City of Spartanburg)

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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
1-Shingle 412000773-0001	Roof - One Shingle, 1 Felt	Gray/Black Fibrous Heterogeneous	5% Glass	15% Quartz 15% Ca Carbonate 5% Mica 60% Non-fibrous (Other)	None Detected
1-Felt 412000773-0001A	Roof - One Shingle, 1 Felt	Black Non-Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
2-Shingle 412000773-0002	Roof - One Shingle, 1 Felt	Gray Fibrous Homogeneous	5% Glass	5% Quartz 5% Ca Carbonate 85% Non-fibrous (Other)	None Detected
2-Felt 412000773-0002A	Roof - One Shingle, 1 Felt	Black Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (Other)	None Detected
4 412000773-0003	Exterior Siding - Transite, No Felt	Gray/White/Pink Fibrous Heterogeneous		85% Non-fibrous (Other)	15% Chrysotile
5 412000773-0004	Exterior Siding - Transite, No Felt				Positive Stop (Not Analyzed)
6 412000773-0005	Exterior Siding - Transite, No Felt				Positive Stop (Not Analyzed)
7 412000773-0006	Windows - Glazing	Gray/Tan Non-Fibrous Homogeneous		30% Ca Carbonate 68% Non-fibrous (Other)	2% Chrysotile
8 412000773-0007	Windows - Glazing				Positive Stop (Not Analyzed)
10 412000773-0008	Windows - White Caulk	White Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
11 412000773-0009	Windows - White Caulk	White Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	None Detected
13-Floor Tile 412000773-0010	Bathroom under Wood - Black Tile & Mastic	Black Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
13-Mastic 412000773-0010A	Bathroom under Wood - Black Tile & Mastic	Brown Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
13-Tan Layer 412000773-0010B	Bathroom under Wood - Black Tile & Mastic	Tan Non-Fibrous Homogeneous	10% Cellulose	5% Ca Carbonate 85% Non-fibrous (Other)	None Detected
14-Floor Tile 412000773-0011	Bathroom under Wood - Black Tile & Mastic	Black Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
14-Mastic 412000773-0011A	Bathroom under Wood - Black Tile & Mastic	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 01/29/2020 12:53:16



EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

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

<http://www.EMSL.com> / charlottelab@emsl.com

EMSL Order: 412000773
Customer ID: AXEM25
Customer PO:
Project ID: City of Spartanburg

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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
14-Tan Layer 412000773-0011B	Bathroom under Wood - Black Tile & Mastic	Tan Non-Fibrous Homogeneous	5% Cellulose	5% Ca Carbonate 90% Non-fibrous (Other)	None Detected
16-Flooring 1 412000773-0012 <i>Only two layers of flooring present</i>	Kitchen under Wood - 3 Layers Flooring (Mastic?)	Gray/Tan Fibrous Heterogeneous	10% Cellulose 1% Glass	89% Non-fibrous (Other)	None Detected
16-Felt 412000773-0012A	Kitchen under Wood - 3 Layers Flooring (Mastic?)	Black Non-Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
16-Flooring 2 412000773-0012B	Kitchen under Wood - 3 Layers Flooring (Mastic?)	Gray/Tan Fibrous Heterogeneous	15% Cellulose 1% Glass	5% Ca Carbonate 79% Non-fibrous (Other)	None Detected
16-Mastic 412000773-0012C	Kitchen under Wood - 3 Layers Flooring (Mastic?)	Tan Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
17-Flooring 1 412000773-0013 <i>Only two layers of flooring present</i>	Kitchen under Wood - 3 Layers Flooring (Mastic?)	Brown/Tan Fibrous Homogeneous	5% Glass	95% Non-fibrous (Other)	None Detected
17-Felt 412000773-0013A	Kitchen under Wood - 3 Layers Flooring (Mastic?)	Black Fibrous Homogeneous	60% Cellulose 5% Synthetic	35% Non-fibrous (Other)	None Detected
17-Flooring 2 412000773-0013B	Kitchen under Wood - 3 Layers Flooring (Mastic?)	Tan Fibrous Homogeneous	8% Cellulose 3% Glass	89% Non-fibrous (Other)	None Detected
17-Mastic 412000773-0013C	Kitchen under Wood - 3 Layers Flooring (Mastic?)	Black Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
19-Skim Coat 412000773-0014	Walls & Ceiling - Plaster & Drywall	White Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
19-Rough Coat 412000773-0014A	Walls & Ceiling - Plaster & Drywall	Gray Non-Fibrous Homogeneous		30% Quartz 8% Ca Carbonate 62% Non-fibrous (Other)	None Detected
19-Drywall 412000773-0014B	Walls & Ceiling - Plaster & Drywall	Gray Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
20-Skim Coat 412000773-0015	Walls & Ceiling - Plaster & Drywall	Gray Non-Fibrous Homogeneous	<1% Cellulose	10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
20-Rough Coat 412000773-0015A	Walls & Ceiling - Plaster & Drywall	Gray Non-Fibrous Homogeneous	1% Cellulose	30% Quartz 8% Ca Carbonate 61% Non-fibrous (Other)	None Detected
20-Drywall 412000773-0015B	Walls & Ceiling - Plaster & Drywall	Gray Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
21-Skim Coat 412000773-0016	Walls & Ceiling - Plaster & Drywall	White Non-Fibrous Homogeneous		8% Ca Carbonate 92% Non-fibrous (Other)	None Detected
21-Rough Coat 412000773-0016A	Walls & Ceiling - Plaster & Drywall	Gray Fibrous Homogeneous		20% Quartz 8% Ca Carbonate 72% Non-fibrous (Other)	None Detected
21-Drywall 412000773-0016B	Walls & Ceiling - Plaster & Drywall	Gray Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected

Initial report from: 01/29/2020 12:53:16



EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

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

<http://www.EMSL.com> / charlottelab@emsl.com

EMSL Order: 412000773
Customer ID: AXEM25
Customer PO:
Project ID: City of Spartanburg

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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
22-Skim Coat <i>412000773-0017</i>	Walls & Ceiling - Plaster & Drywall	White Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
22-Rough Coat <i>412000773-0017A</i>	Walls & Ceiling - Plaster & Drywall	Beige Non-Fibrous Homogeneous		30% Quartz 70% Non-fibrous (Other)	None Detected
22-Drywall <i>412000773-0017B</i>	Walls & Ceiling - Plaster & Drywall	Brown/Gray Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
23-Skim Coat <i>412000773-0018</i>	Walls & Ceiling - Plaster & Drywall	White Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
23-Rough Coat <i>412000773-0018A</i>	Walls & Ceiling - Plaster & Drywall	Beige Non-Fibrous Homogeneous		30% Quartz 70% Non-fibrous (Other)	None Detected
23-Drywall <i>412000773-0018B</i>	Walls & Ceiling - Plaster & Drywall	Brown/Gray Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected

Analyst(s) _____

Aaron Hartley (16)

Eric Loomis (21)

Lee Plumley, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method"), but augmented with procedures outlined in the 1993 ("final") version of the method. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. All samples received in acceptable condition unless otherwise noted. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. EMSL recommends gravimetric reduction for all non-friable organically bound materials prior to analysis. Estimation of uncertainty is available on request.

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

Initial report from: 01/29/2020 12:53:16



EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

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

<http://www.EMSL.com> / charlottelab@emsl.com

EMSL Order: 412000773

Customer ID: AXEM25

Customer PO:

Project ID: City of Spartanburg

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

Phone: (864) 640-5274

Fax:

Received Date: 01/23/2020 11:40 AM

Analysis Date: 02/01/2020

Collected Date: 01/20/2020

Project: COS 688 Saxon Ave. (City of Spartanburg)

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
3-Shingle 412000773-0019	Roof - One Shingle, 1 Felt	Gray/Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
3-Felt 412000773-0020	Roof - One Shingle, 1 Felt	Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
12 412000773-0021	Windows - White Caulk	White Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
15-Floor Tile 412000773-0022	Bathroom under Wood - Black Tile & Mastic	Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
15-Mastic 412000773-0023	Bathroom under Wood - Black Tile & Mastic	Brown Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
15-Tan Layer 412000773-0024	Bathroom under Wood - Black Tile & Mastic	Tan Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
18-Flooring 1 412000773-0025	Kitchen under Wood - 3 Layers Flooring (Mastic?)	Tan Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
18-Felt 412000773-0026	Kitchen under Wood - 3 Layers Flooring (Mastic?)	Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
18-Flooring 2 412000773-0027	Kitchen under Wood - 3 Layers Flooring (Mastic?)	Brown/Tan Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
18-Mastic 412000773-0028	Kitchen under Wood - 3 Layers Flooring (Mastic?)	Brown Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected

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

Samples analyzed by EMSL Analytical, Inc. Pineville, NC

Initial report from: 02/03/2020 11:41:35



EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

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

<http://www.EMSL.com> / charlottelab@emsl.com

EMSL Order: 412000773
Customer ID: AXEM25
Customer PO:
Project ID: City of Spartanburg

Attention: Stephanie Hamby
Apex Environmental Management
7 Winchester Court
Mauldin, SC 29662
Phone: (864) 640-5274
Fax:
Received Date: 01/23/2020 11:40 AM
Analysis Date: 02/01/2020
Collected Date: 01/20/2020
Project: COS 688 Saxon Ave. (City of Spartanburg)

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
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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. Pineville, NC

Initial report from: 02/03/2020 11:41:35



EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (Lab Use Only):

412000773

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

Company : Apex Environmental Management		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different <small>If Bill to is Different note instructions in Comments**</small>	
Street: 7 Winchester Court		<i>Third Party Billing requires written authorization from third party</i>	
City: Mauldin	State/Province: SC	Zip/Postal Code: 29662	Country: US
Report To (Name): Stephanie Hamby		Telephone #: 864-640-5274	
Email Address: shamby@apex-ehs.com		Fax #:	Purchase Order:
Project Name/Number: COS 688 Saxon Ave		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email <input type="checkbox"/> Mail	
U.S. State Samples Taken: SC		CT Samples: <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	

Turnaround Time (TAT) Options* – Please Check

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

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

<p style="text-align: center;">PLM - Bulk (reporting limit)</p> <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NIOSH 9002 (<1%) <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	<p style="text-align: center;">TEM – Bulk</p> <input checked="" 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"/> Chatfield Protocol (semi-quantitative) <input type="checkbox"/> TEM % by Mass – EPA 600/R-93/116 Section 2.5.5.2 <input type="checkbox"/> TEM Qualitative via Filtration Prep Technique <input type="checkbox"/> TEM Qualitative via Drop Mount Prep Technique <p style="text-align: center;">Other</p> <input type="checkbox"/>
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Check For Positive Stop – Clearly Identify Homogenous Group Date Sampled: 1/20/2020

Samplers Name: Ted Shultz Samplers Signature: _____

Sample #	HA #	Sample Location	Material Description
1		Roof	One shingle, 1 felt
2			
3			
4		Exterior Siding	Transite, no felt
5			
6			
7		Windows	glazing
8			
9			
10			wht caulk

Client Sample # (s): - Total # of Samples: 23

Relinquished (Client): *D. Hamby* Date: 1/22/2020 Time: 2:36pm

Received (Lab): *Kep alk* Date: 1/23/20 Time: 11:40AM Fk

Comments/Special Instructions: 7958 1758 7918

SECTION IV
Photographic Log



Photo 1 – 688 Saxon Avenue in Spartanburg, South Carolina.



Photo 2 – Transite exterior siding without felt.



Photo 3 – 2 Chimneys with assumed asbestos chimney tar.



Photo 4 – Exterior window glaze and caulk.

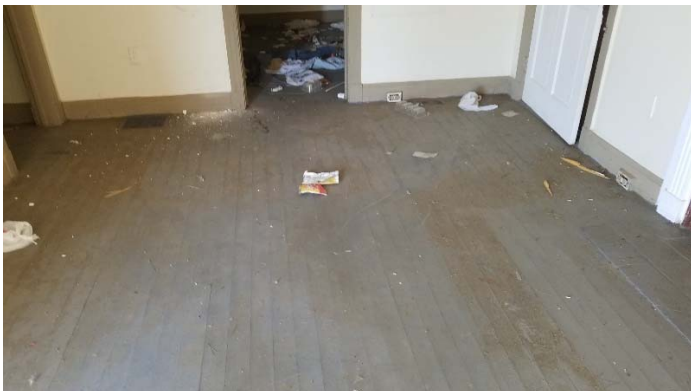


Photo 5 – Wood flooring.



Photo 6 – Plaster over unfinished dry wall.



Photo 7 – Plaster over expanded metal without dry wall.



Photo 8 – Bathroom tile under wood sub-floor.



Photo 9 – Kitchen flooring under wood sub-floor.

SECTION V

SC DHEC Asbestos Inspector License

SCDHEC ISSUED

Asbestos ID Card

Tedman K Shultz



CONSULTBI	BI-00971	01/14/21
AIRSAMPLER	AS-00355	03/06/20

Expiration Date:

#