



Asbestos & Lead Based Paint Assessment

City of Spartanburg
700 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
700 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
700 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**

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:	700 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	825 SF

EXTERIOR BUILDING MATERIALS

- Shingled roof.
- Two chimneys with tar – assumed.
- Transite siding with felt.
- Four windows with glaze.
- Metal doors.

INTERIOR BUILDING MATERIALS

- Plaster with finish walls and ceilings over unfinished drywall.
- Multiple types & layers of vinyl flooring with & without mastics.
- Wood 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 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-nine (29) 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-nine (39) 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). Thirteen (13) samples were analyzed using TEM.

Lead-Based Paint

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

RESULTS

Asbestos Results

The EPA defines an asbestos-containing material (ACM) as a material containing more than 1% asbestos. OSHA defines ACM as a material containing detectable amounts of asbestos. It should be noted that materials were identified to contain less than 1% asbestos and OSHA Construction Industry Asbestos Standards (29 CFR 1926.1101) will apply if those materials are disturbed during demolition activities.

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 transite siding.
- Approximately 240 SF brown floor tile located in the dining room and kitchen.
- 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 ($30 \mu\text{g}/\text{m}^3$) 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, EPA defines LBP as paint containing in excess of, or equal to, $1.0 \text{ mg}/\text{cm}^2$. *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 corner trim.
- White wood door casings.

Interior:

- White wood windows, window frames, fireplace mantle, base boards, door frames & doors.
- Brown wood base boards and window frames

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 700 Saxon Avenue NIP ACM-LBP

Sampled By: Ted Shultz

Project Location: 700 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	Roof (1 shingle, 1 felt)	PLM - NAD	Non-friable	Good	1,000 SF
2			TEM - NAD			
3						
4	Ext. siding	Transite with felt	PLM - 15% Chrysolite (Transite), PLM - <1% Chrysotile (Felt)	Non-friable	Good	2,400 SF
5			TEM - <0.1% Chrysotile (Felt)			
6						
7	Windows	Glazing	PLM - NAD	Friable	Good	4 EA
8			TEM - NAD			
9						
10	Bathroom	Tan square pattern roll vinyl, no mastic	PLM - NAD	Non-friable	Good	40 SF
11			TEM - NAD			
12						
13	Dining Room	2nd layer brown roll vinyl (mastic?)	PLM - NAD	Non-friable	Good	120 SF
14			TEM - NAD			
15						
16	Dining Room 3rd layer & Kitchen 2nd layer	Brown floor tile & mastic	PLM - 3% Chrysotile (brown floor tile), PLM - NAD (brown/tan mastic)	Non-friable	Good	240 SF
17			TEM - NAD (mastic)			
18						
19	Kitchen & Dining Room	Top layer tan square pattern self stick	PLM - NAD	Non-friable	Good	240 SF
20			TEM - NAD			
21						
22	Threshold between kitchen and dining room	Green felt flooring, no mastic	PLM - NAD	Non-friable	Good	10 SF
23			TEM - NAD			
24						

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

Project Name: COS 700 Saxon Avenue NIP ACM-LBP

Sampled By: Ted Shultz

Project Location: 700 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
25	Throughout	Plaster with finish over unfinished drywall	PLM - NAD	Friable	Good	2,400 SF
26						
27						
28						
29						
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 700 Saxon Avenue NIP ACM-LBP

Sampled By: Tom Oliver

Project Location: 700 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)
176	Exterior	Hand Rail	White	Wood	0.00
177	Exterior	Column	White	Wood	0.00
178	Exterior	Front Steps	Blue	Concrete	0.00
179	Exterior	Window Casing	White	Wood	0.79
180	Exterior	Corner Trim	White	Wood	1.90
181	Exterior	Siding	pink	Wood	0.00
182	Exterior	Window Casing	Tan	Wood	0.00
183	Exterior	Door	White	Wood	0.00
184	Exterior	Door Casing	White	Wood	2.63
185	Exterior	Siding	Blue	Transite	0.00
186	Exterior	Porch Header	White	Wood	0.00
187	Interior	Window	White	Wood	1.18
188	Interior	Window Frame	White	Wood	1.26
189	Interior	Fireplace Mantle	White	Wood	1.14
190	Interior	Base Board	White	Wood	1.63
191	Interior	Floor	Grey	Wood	0.00
192	Interior	Wall	White	Plaster	0.00
193	Interior	Door Frame	White	Wood	1.72
194	Interior	Door	White	Wood	1.10
195	Interior	Base Board	Brown	Wood	1.80
196	Interior	Window Frame	Brown	Wood	1.62
197	Interior	Kitchen Cabinet	White	Wood	0.48
198		Calibration			1.14
199		Calibration			1.13
200		Calibration			1.11

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: 412000772

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 700 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 <small>412000772-0001</small>	Roof - 1 Shingle, 1 Felt	Black Fibrous Homogeneous	10% Glass	8% Quartz 5% Ca Carbonate 77% Non-fibrous (Other)	None Detected
1-Felt <small>412000772-0001A</small>	Roof - 1 Shingle, 1 Felt	Black Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (Other)	None Detected
2-Shingle <small>412000772-0002</small>	Roof - 1 Shingle, 1 Felt	Black Non-Fibrous Homogeneous	5% Glass	5% Quartz 10% Ca Carbonate 80% Non-fibrous (Other)	None Detected
2-Felt <small>412000772-0002A</small>	Roof - 1 Shingle, 1 Felt	Black Fibrous Homogeneous	50% Cellulose	50% Non-fibrous (Other)	None Detected
4-Transite <small>412000772-0003</small>	Ext. Siding - Transite w/ Felt	Gray Fibrous Homogeneous		85% Non-fibrous (Other)	15% Chrysotile
4-Felt <small>412000772-0003A</small>	Ext. Siding - Transite w/ Felt	Black Fibrous Homogeneous	70% Cellulose	8% Ca Carbonate 22% Non-fibrous (Other)	None Detected
5-Transite <small>412000772-0004</small>	Ext. Siding - Transite w/ Felt				Positive Stop (Not Analyzed)
5-Felt <small>412000772-0004A</small> <i>Possible contamination</i>	Ext. Siding - Transite w/ Felt	Black Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (Other)	<1% Chrysotile
6-Transite <small>412000772-0005</small>	Ext. Siding - Transite w/ Felt				Positive Stop (Not Analyzed)
7 <small>412000772-0006</small>	Windows - Glazing	White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
8 <small>412000772-0007</small>	Windows - Glazing	White Non-Fibrous Homogeneous		35% Ca Carbonate 65% Non-fibrous (Other)	None Detected
10 <small>412000772-0008</small>	Bathroom - Tan Square Pat. Roll Floor Vinyl (No Mastic)	Gray/Tan Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
11 <small>412000772-0009</small>	Bathroom - Tan Square Pat. Roll Floor Vinyl (No Mastic)	Tan Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
13-Flooring <small>412000772-0010</small> <i>No mastic present</i>	Dining Room - 2nd Layer Brown Roll Vinyl (Mastic?)	Brown Fibrous Homogeneous	10% Cellulose 1% Glass	89% Non-fibrous (Other)	None Detected
14-Flooring <small>412000772-0011</small>	Dining Room - 2nd Layer Brown Roll Vinyl (Mastic?)	Brown Non-Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected

Initial report from: 01/29/2020 12:39:35



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: 412000772
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-Mastic 412000772-0011A	Dining Room - 2nd Layer Brown Roll Vinyl (Mastic?)	Brown/Tan Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
16-Mastic 412000772-0012	Dining Room & Kitchen - 3rd Layer Dining Room Brown Tile & Mastic, 2nd Layer Kitchen	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
16-Floor Tile 412000772-0012A	Dining Room & Kitchen - 3rd Layer Dining Room Brown Tile & Mastic, 2nd Layer Kitchen	Brown Non-Fibrous Homogeneous		30% Ca Carbonate 67% Non-fibrous (Other)	3% Chrysotile
17-Floor Tile 412000772-0013	Dining Room & Kitchen - 3rd Layer Dining Room Brown Tile & Mastic, 2nd Layer Kitchen				Positive Stop (Not Analyzed)
17-Mastic/Leveler 412000772-0013A	Dining Room & Kitchen - 3rd Layer Dining Room Brown Tile & Mastic, 2nd Layer Kitchen	Brown/White Non-Fibrous Homogeneous	2% Cellulose	5% Quartz 93% Non-fibrous (Other)	None Detected
19-Flooring 412000772-0014	Kitchen & Dining Room - Top Layer Tan Square Pattern Self Stick	Gray/Tan Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (Other)	None Detected
19-Mastic 412000772-0014A	Kitchen & Dining Room - Top Layer Tan Square Pattern Self Stick	White Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
20-Flooring 412000772-0015	Kitchen & Dining Room - Top Layer Tan Square Pattern Self Stick	Tan Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	None Detected
20-Mastic 412000772-0015A	Kitchen & Dining Room - Top Layer Tan Square Pattern Self Stick	White/Clear Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
22 412000772-0016	Threshold between Kitchen & Dining Room - Green Felt Flooring, No Mastic	Black/Green Fibrous Homogeneous	30% Cellulose 3% Synthetic	67% Non-fibrous (Other)	None Detected
23 412000772-0017	Threshold between Kitchen & Dining Room - Green Felt Flooring, No Mastic	Black/Green Fibrous Homogeneous	40% Cellulose 5% Synthetic	55% Non-fibrous (Other)	None Detected
25-Skim Coat 412000772-0018	Throughout - Plaster over Unfinished Drywall	White Non-Fibrous Homogeneous		8% Ca Carbonate 92% Non-fibrous (Other)	None Detected
25-Rough Coat 412000772-0018A	Throughout - Plaster over Unfinished Drywall	Gray Non-Fibrous Homogeneous		30% Quartz 10% Ca Carbonate 60% Non-fibrous (Other)	None Detected
25-Drywall 412000772-0018B	Throughout - Plaster over Unfinished Drywall	Gray Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
26-Skim Coat 412000772-0019	Throughout - Plaster over Unfinished Drywall	White Non-Fibrous Homogeneous		8% Ca Carbonate 92% Non-fibrous (Other)	None Detected

Initial report from: 01/29/2020 12:39:35



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

EMSL Order: 412000772
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
26-Rough Coat 412000772-0019A	Throughout - Plaster over Unfinished Drywall	Gray Fibrous Homogeneous	<1% Cellulose	30% Quartz 10% Ca Carbonate 60% Non-fibrous (Other)	None Detected
26-Drywall 412000772-0019B	Throughout - Plaster over Unfinished Drywall	Gray Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
27-Skim Coat 412000772-0020	Throughout - Plaster over Unfinished Drywall	White Non-Fibrous Homogeneous		8% Ca Carbonate 92% Non-fibrous (Other)	None Detected
27-Rough Coat 412000772-0020A	Throughout - Plaster over Unfinished Drywall	Gray Fibrous Homogeneous	<1% Cellulose	30% Quartz 8% Ca Carbonate 62% Non-fibrous (Other)	None Detected
27-Drywall 412000772-0020B	Throughout - Plaster over Unfinished Drywall	Gray Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
28-Skim Coat 412000772-0021	Throughout - Plaster over Unfinished Drywall	White Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	None Detected
28-Rough Coat 412000772-0021A	Throughout - Plaster over Unfinished Drywall	Tan Non-Fibrous Homogeneous		25% Quartz 10% Ca Carbonate 65% Non-fibrous (Other)	None Detected
28-Drywall 412000772-0021B	Throughout - Plaster over Unfinished Drywall	Gray Fibrous Homogeneous	8% Cellulose	92% Non-fibrous (Other)	None Detected
29-Skim Coat 412000772-0022	Throughout - Plaster over Unfinished Drywall	White Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
29-Rough Coat 412000772-0022A	Throughout - Plaster over Unfinished Drywall	Tan Fibrous Homogeneous		20% Quartz 5% Ca Carbonate 75% Non-fibrous (Other)	None Detected
29-Drywall 412000772-0022B	Throughout - Plaster over Unfinished Drywall	Gray Non-Fibrous Homogeneous	8% Cellulose	92% Non-fibrous (Other)	None Detected
29-Joint Compound 412000772-0022C	Throughout - Plaster over Unfinished Drywall	White Non-Fibrous Homogeneous		35% Ca Carbonate 65% Non-fibrous (Other)	None Detected

Analyst(s)

Anupriya Tyagi (22)
Sarah Breneman (17)

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 12:39:35



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: 412000772

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 700 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 412000772-0023	Roof - 1 Shingle, 1 Felt	Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
3-Felt 412000772-0024	Roof - 1 Shingle, 1 Felt	Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
6-Felt 412000772-0025	Ext. Siding - Transite w/ Felt	Black Non-Fibrous Heterogeneous	100.0 Other	None	<0.1% Chrysotile
9 412000772-0026	Windows - Glazing	White Non-Fibrous Heterogeneous	100.0 Other	<0.1 Fibrous_Other	No Asbestos Detected
12 412000772-0027	Bathroom - Tan Square Pat. Roll Floor Vinyl (No Mastic)	Gray Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
15-Flooring 412000772-0028	Dining Room - 2nd Layer Brown Roll Vinyl (Mastic?)	Brown Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
15-Mastic 412000772-0029	Dining Room - 2nd Layer Brown Roll Vinyl (Mastic?)	Tan Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
18-Mastic 412000772-0030	Dining Room & Kitchen - 3rd Layer Dining Room Brown Tile & Mastic, 2nd Layer Kitchen	Brown Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
18-Floor Tile 412000772-0031	Dining Room & Kitchen - 3rd Layer Dining Room Brown Tile & Mastic, 2nd Layer Kitchen	Gray Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
18-Mastic 412000772-0032	Dining Room & Kitchen - 3rd Layer Dining Room Brown Tile & Mastic, 2nd Layer Kitchen	Brown Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
21-Flooring 412000772-0033	Kitchen & Dining Room - Green Felt Flooring, No Mastic	Gray Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
21-Mastic 412000772-0034	Kitchen & Dining Room - Green Felt Flooring, No Mastic	Brown/Clear 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 11:40:55



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: 412000772

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 700 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
24 412000772-0035	Threshold between Kitchen & Dining Room - Green Felt Flooring, No Mastic	Brown/Green Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Aaron Hartley (13)

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 11:40:55



EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (Lab Use Only):

412000772

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 700 Saxon Ave		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email <input type="checkbox"/> Mail	
U.S. State Samples Taken: SC		CT Samples: <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	

Turnaround Time (TAT) Options* – Please Check

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

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

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

Check For Positive Stop – Clearly Identify Homogenous Group Date Sampled: 1/20/2020

Samplers Name: Ted Shultz Samplers Signature: _____

Sample #	HA #	Sample Location	Material Description
1		Roof	1 Shingle, 1 felt
2		↓	↓
3		↓	↓
4		Ext. Siding	transite w/ felt
5		↓	↓
6		↓	↓
7		Windows	glazing
8		↓	↓
9		↓	↓
10		Bathroom	tan square pat. roll floor vinyl (no mastic)

Client Sample # (s): 1-29	-	Total # of Samples: 29
Relinquished (Client): <i>S. Hamby</i>	Date: 1-22-2020	Time: 2:36pm
Received (Lab): <i>Kyle W</i>	Date: 1/23/20	Time: 11:40AM EK
Comments/Special Instructions: 7958 1758 7918		



EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (Lab Use Only):

412000772

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

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	HA #	Sample Location	Material Description
11		Bathroom	tan square pat. roll vinyl floor
12		└─┘	no mastic
13		Dining Rm	2nd layer brown roll vinyl
14		└─┘	(mastic?)
15		└─┘	
16		Dining Rm & Kitchen	3rd layer dining Room brown
17		└─┘	tile & mastic, 2nd layer kitchen
18		└─┘	
19		Kitchen & Dining Rm	Top layer tan square pattern
20		└─┘	self stick
21		└─┘	
22		Threshold between kitchen &	Green felt flooring no
23		dining room	mastic
24		throughout	
25		Throughout	Plaster over unfinished
26		└─┘	dry wall
27		└─┘	
28		└─┘	
29		└─┘	

*Comments/Special Instructions:

SECTION IV
Photographic Log



Photo 1 – 700 Saxon Avenue in Spartanburg, South Carolina.



Photo 2 – Transite exterior siding with felt.



Photo 3 – Exterior window glazing.



Photo 4 – Bathroom flooring.



Photo 5 – Multiple flooring layers kitchen and dining room.



Photo 6 – Plaster over unfinished dry wall.

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:

01/14/21
03/06/20

#