



Asbestos & Lead Based Paint Assessment

City of Spartanburg
627 Farley 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

August 12, 2020





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Hazard Communication

Apex Project Number 0120-17

August 12, 2020

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

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

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.

Tom Oliver
Vice President

Appendices

ASBESTOS AND LEAD BASED PAINT ASSESSMENT

**CITY OF SPARTANBURG
627 FARLEY 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:	8/12/2020	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:	627 Farley Avenue Spartanburg, SC 29301		
Assessor:	Tom Oliver	Date of Assessment:	7/23/2020
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:	CMU Block Crawlspace	Approximate Square Footage	950 SF

EXTERIOR BUILDING MATERIALS

- Pitched wooden roof with shingles & felt.
- Wooden siding over wooden OSB board with a felt layer.
- Wooden windows with caulk on the glass panes.
- Metal storm windows with no caulk.
- Wooden doors with no caulk.
- Evidence of fire damage to the roof was observed.
- A hole has been cut in the roof of the residence.

INTERIOR BUILDING MATERIALS

- Popcorn ceiling texture throughout.
- Drywall with joint compound & tape walls & ceilings throughout.
- Wooden floors.
- Multiple types & layers of vinyl flooring with & without mastics/adhesives.
- Fire damage exists throughout the residence.
- Large amount of household items, trash & debris exists. Due to fire damaged ACM, the household items, trash & debris are considered to be contaminated by ACM.

SCOPE OF THE SURVEY

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

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

METHODS

Asbestos Containing Materials

In order to determine if the suspect materials observed during the visual survey contained asbestos, representative bulk samples were collected and placed in sealed packages. Thirty-five (35) bulk samples were collected during the survey and submitted to EMSL in Pineville, North Carolina for analysis using the EPA recommended method of Polarized Light Microscopy (PLM) coupled with dispersion staining (Method No. EPA 600/M4-82-020, Dec. 1982). EMSL participates in the National Voluntary Laboratory Accreditation Program (NVLAP). Their NVLAP accreditation number is 200841-0. EPA regulations require that multiple samples of each homogeneous material be collected for laboratory analysis. Thirty-six (36) samples were analyzed due to layering by PLM 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). Sixteen (16) 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 950 SF of popcorn ceiling texture throughout.
- Approximately 2,400 SF of drywall wall & ceiling systems throughout.
- Household items, trash, debris, etc. contaminated by ceiling texture and drywall wall & ceiling systems throughout

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.

No surfaces in the building tested positive for lead in excess of the regulatory definition of LBP:

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 627 Farley Avenue NIP ACM-LBP

Sampled By: Tom Oliver

Project Location: 627 Farley Avenue, Spartanburg, South Carolina 29301

Project Manager: Tom Oliver

Project Number: 0120-17

Date: 7/23/2020

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
1	Roof	Roof shingles (1 layer) & felt (1 layer)	PLM - NAD	Non-Friable	Good	1,100 SF
2			TEM - NAD			
3			TEM - NAD			
4	Wooden windows	Caulk on glass panes	PLM - NAD	Non-Friable	Good	9 EA
5			TEM - NAD			
6			TEM - NAD			
7	Beneath wooden siding	OSB wooden boards with felt layer	PLM - NAD	Non-Friable	Good	1,400 SF
8			TEM - NAD			
9			TEM - NAD			
10	Exterior dog house in the corner of the back yard	Roof shingles (1 layer) with no felt	PLM - NAD	Non-Friable	Good	15 SF
11			TEM - NAD			
12			TEM - NAD			
13	Throughout	Popcorn ceiling texture	PLM - 4% chrysotile	Friable	Significantly Damaged	950 SF
14						
15						
16	Throughout	Drywall with joint compound & tape	PLM - 3% chrysotile	Friable	Significantly Damaged	2,400 SF
17						
18						
19						
20						
21	Living room & hallway	12" x 12" brown/tan square/rectangle pattern floor tile & mastic	PLM - NAD	Non-Friable	Damaged	250 SF
22			TEM - NAD			
23			TEM - NAD			

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

Project Name: COS 627 Farley Avenue NIP ACM-LBP

Sampled By: Tom Oliver

Project Location: 627 Farley Avenue, Spartanburg, South Carolina 29301

Project Manager: Tom Oliver

Project Number: 0120-17

Date: 7/23/2020

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
24	Kitchen (2 layers)	Tan square pattern vinyl floor & mastic over yellow vinyl floor & mastic	PLM - NAD	Non-Friable	Damaged	155 SF
25			TEM - NAD			
26						
27	Bathroom	Orange square pattern vinyl floor & adhesive over felt	PLM - NAD	Non-Friable	Damaged	60 SF
28			TEM - NAD			
29						
30	Back right bedroom	12" x 12" brown pattern self-stick floor tile	PLM - NAD	Non-Friable	Damaged	50 SF
31			TEM - NAD			
32						
33	Front 2 bedrooms	12" x 12" gray slate/stone pattern self-stick floor tile	PLM - NAD	Non-Friable	Damaged	220 SF
34			TEM - NAD			
35						

NAD = No Asbestos Detected

LF = Linear Feet

EA = Each

Bold = Positive For Asbestos

SF = Square Feet

Chry = Chrysotile

FIELD DATA SHEET XRF LBP ANALYSIS

Project Name: COS 627 Farley Avenue NIP ACM-LBP

Sampled By: Tom Oliver

Project Location: 627 Farley Avenue, Spartanburg, SC 29301

Project Manager: Tom Oliver

Project Number: 0120-17

Date: 8/12/2020

Sample No.	Sample Location	Component	Color	Substrate	Analytical Result (mg/m ³)
26	Exterior	Door	Green	Wood	0.00
27	Exterior	Door casing	White	Wood	0.00
28	Exterior	Front stoop ceiling	Green	Wood	0.08
29	Exterior	Front stoop post	Black	Metal	0.04
30	Exterior	Siding	Green	Wood	0.05
31	Exterior	Window	Green	Wood	0.02
32	Exterior	Window casing	White	Wood	0.03
33	Exterior	Window shutter	Black	Wood	0.05
34	Exterior	Roof overhang	Green	Wood	0.02
35	Exterior	Foundation	Green	CMU Block	0.00
36	Exterior	Back porch steps	Green	Concrete	0.00
37	Exterior	Back porch door	Light green	Wood	0.02
38	Exterior	Wall	Brown	Drywall	0.00
39	Interior	Ceiling	Brown	Drywall	0.00
40	Interior	Door	Brown	Wood	0.00
41	Interior	Door casing	Brown	Wood	0.00
42		Calibration			1.07
43		Calibration			1.10
44		Calibration			1.11

Bold = LBP

SECTION III

Laboratory Analytical Results & Chain of Custody



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: 412006255

Customer ID: AXEM25

Customer PO:

Project ID: City of Spartanburg

Attention: Tom Oliver
Apex Environmental Management
7 Winchester Court
Mauldin, SC 29662

Phone: (864) 640-5274

Fax:

Received Date: 07/27/2020 9:30 AM

Analysis Date: 07/31/2020

Collected Date: 07/23/2020

Project: 0120-17 COS 627 Farley 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>412006255-0001</small>	Roof Shingle (1 Layer) w/ Tar & Felt (1 Layer)	Black Non-Fibrous Homogeneous	10% Glass	10% Quartz 15% Ca Carbonate 65% Non-fibrous (Other)	None Detected
1-Felt <small>412006255-0001A</small>	Roof Shingle (1 Layer) w/ Tar & Felt (1 Layer)	Black Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
2-Shingle <small>412006255-0002</small>	Roof Shingle (1 Layer) w/ Tar & Felt (1 Layer)	Black Non-Fibrous Homogeneous	5% Glass	10% Quartz 10% Ca Carbonate 75% Non-fibrous (Other)	None Detected
2-Felt <small>412006255-0002A</small>	Roof Shingle (1 Layer) w/ Tar & Felt (1 Layer)	Black Non-Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
4 <small>412006255-0003</small>	Caulk on Glass Panes	White Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
5 <small>412006255-0004</small>	Caulk on Glass Panes	Gray/White Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
7 <small>412006255-0005</small>	OSB Wooden Board w/ Felt Layer (Felt Only)	Black/Silver Non-Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (Other)	None Detected
8 <small>412006255-0006</small>	OSB Wooden Board w/ Felt Layer (Felt Only)	Black Non-Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
10 <small>412006255-0007</small> <i>Only 1 layer in sample bag.</i>	Roof Shingles (3 Layers) & No Felt	Black/Orange Non-Fibrous Homogeneous	10% Glass	10% Quartz 15% Ca Carbonate 65% Non-fibrous (Other)	None Detected
11 <small>412006255-0008</small> <i>Only 1 layer in sample bag</i>	Roof Shingles (3 Layers) & No Felt	Black/Orange Non-Fibrous Homogeneous	5% Glass	10% Quartz 10% Ca Carbonate 75% Non-fibrous (Other)	None Detected
13 <small>412006255-0009</small>	Popcorn Ceiling Texture	Black/Beige Non-Fibrous Homogeneous		30% Ca Carbonate 66% Non-fibrous (Other)	4% Chrysotile
14 <small>412006255-0010</small>	Popcorn Ceiling Texture				Positive Stop (Not Analyzed)
15 <small>412006255-0011</small>	Popcorn Ceiling Texture				Positive Stop (Not Analyzed)
16-Drywall <small>412006255-0012</small>	Drywall w/ Joint Compound & Tape	Gray Non-Fibrous Homogeneous	4% Cellulose	96% Non-fibrous (Other)	None Detected
16-Joint Compound <small>412006255-0012A</small>	Drywall w/ Joint Compound & Tape	Tan Non-Fibrous Homogeneous		30% Ca Carbonate 67% Non-fibrous (Other)	3% Chrysotile

Initial report from: 07/31/2020 15:07:43



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: 412006255
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
16-Tape <small>412006255-0012B</small>	Drywall w/ Joint Compound & Tape	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
17-Drywall <small>412006255-0013</small>	Drywall w/ Joint Compound & Tape				Positive Stop (Not Analyzed)
17-Joint Compound <small>412006255-0013A</small>	Drywall w/ Joint Compound & Tape				Positive Stop (Not Analyzed)
17-Tape <small>412006255-0013B</small>	Drywall w/ Joint Compound & Tape				Positive Stop (Not Analyzed)
18-Drywall <small>412006255-0014</small>	Drywall w/ Joint Compound & Tape				Positive Stop (Not Analyzed)
18-Joint Compound <small>412006255-0014A</small>	Drywall w/ Joint Compound & Tape				Positive Stop (Not Analyzed)
18-Tape <small>412006255-0014B</small>	Drywall w/ Joint Compound & Tape				Positive Stop (Not Analyzed)
19-Drywall <small>412006255-0015</small>	Drywall w/ Joint Compound & Tape				Positive Stop (Not Analyzed)
19-Joint Compound <small>412006255-0015A</small>	Drywall w/ Joint Compound & Tape				Positive Stop (Not Analyzed)
19-Tape <small>412006255-0015B</small>	Drywall w/ Joint Compound & Tape				Positive Stop (Not Analyzed)
20-Drywall <small>412006255-0016</small>	Drywall w/ Joint Compound & Tape				Positive Stop (Not Analyzed)
20-Joint Compound <small>412006255-0016A</small>	Drywall w/ Joint Compound & Tape				Positive Stop (Not Analyzed)
20-Tape <small>412006255-0016B</small>	Drywall w/ Joint Compound & Tape				Positive Stop (Not Analyzed)
21-Floor Tile <small>412006255-0017</small>	12"x12" Brown/Tan w/ Square/Rectangle Pattern Floor Tile & Mastic	Tan Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
21-Mastic <small>412006255-0017A</small>	12"x12" Brown/Tan w/ Square/Rectangle Pattern Floor Tile & Mastic	Tan Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
22-Floor Tile <small>412006255-0018</small>	12"x12" Brown/Tan w/ Square/Rectangle Pattern Floor Tile & Mastic	Tan Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
22-Mastic <small>412006255-0018A</small>	12"x12" Brown/Tan w/ Square/Rectangle Pattern Floor Tile & Mastic	Tan Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
24-Top Flooring <small>412006255-0019</small>	Tan Square Pattern Vinyl Floor & Adhesive over Yellow Vinyl Floor & Mastic	Tan/Black Non-Fibrous Homogeneous		35% Ca Carbonate 65% Non-fibrous (Other)	None Detected

Initial report from: 07/31/2020 15:07:43



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: 412006255

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
24-Mastic 412006255-0019A	Tan Square Pattern Vinyl Floor & Adhesive over Yellow Vinyl Floor & Mastic	Tan Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
24-Bottom Flooring 412006255-0019B	Tan Square Pattern Vinyl Floor & Adhesive over Yellow Vinyl Floor & Mastic	Tan/Beige Non-Fibrous Homogeneous	12% Cellulose 5% Glass	8% Ca Carbonate 75% Non-fibrous (Other)	None Detected
24-Mastic 412006255-0019C	Tan Square Pattern Vinyl Floor & Adhesive over Yellow Vinyl Floor & Mastic	Brown/Tan Non-Fibrous Homogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected
25-Top Flooring 412006255-0020	Tan Square Pattern Vinyl Floor & Adhesive over Yellow Vinyl Floor & Mastic	Tan Non-Fibrous Homogeneous		35% Ca Carbonate 65% Non-fibrous (Other)	None Detected
25-Mastic 412006255-0020A	Tan Square Pattern Vinyl Floor & Adhesive over Yellow Vinyl Floor & Mastic	Tan Non-Fibrous Homogeneous	1% Synthetic	5% Ca Carbonate 94% Non-fibrous (Other)	None Detected
25-Bottom Flooring 412006255-0020B	Tan Square Pattern Vinyl Floor & Adhesive over Yellow Vinyl Floor & Mastic	Yellow Non-Fibrous Homogeneous	25% Cellulose	75% Non-fibrous (Other)	None Detected
25-Mastic 412006255-0020C	Tan Square Pattern Vinyl Floor & Adhesive over Yellow Vinyl Floor & Mastic	Tan Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
27-Flooring 412006255-0021	Orange Pattern Vinyl Floor & Adhesive over Felt	Beige Non-Fibrous Homogeneous	15% Cellulose	10% Ca Carbonate 75% Non-fibrous (Other)	None Detected
27-Mastic 412006255-0021A	Orange Pattern Vinyl Floor & Adhesive over Felt	Brown/Tan Non-Fibrous Homogeneous	5% Cellulose	5% Ca Carbonate 90% Non-fibrous (Other)	None Detected
27-Felt 412006255-0021B	Orange Pattern Vinyl Floor & Adhesive over Felt	Black Fibrous Homogeneous	50% Cellulose	50% Non-fibrous (Other)	None Detected
28-Flooring 412006255-0022	Orange Pattern Vinyl Floor & Adhesive over Felt	Tan/Orange Non-Fibrous Homogeneous	25% Cellulose	75% Non-fibrous (Other)	None Detected
28-Mastic 412006255-0022A	Orange Pattern Vinyl Floor & Adhesive over Felt	Brown Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
28-Felt 412006255-0022B	Orange Pattern Vinyl Floor & Adhesive over Felt	Black Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
30 412006255-0023	12"x12" Brown Wooden Pattern Self-Stick Floor Tile	Brown/Black Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
31 412006255-0024	12"x12" Brown Wooden Pattern Self-Stick Floor Tile	Brown Non-Fibrous Homogeneous		35% Ca Carbonate 65% Non-fibrous (Other)	None Detected
33 412006255-0025	12"x12" Gray Slate/Stone Pattern Self-Stick Floor Tile	Tan/Black Non-Fibrous Homogeneous		35% Ca Carbonate 65% Non-fibrous (Other)	None Detected
34 412006255-0026	12"x12" Gray Slate/Stone Pattern Self-Stick Floor Tile	Tan Non-Fibrous Homogeneous		35% Ca Carbonate 65% Non-fibrous (Other)	None Detected

Initial report from: 07/31/2020 15:07:43



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

EMSL Order: 412006255

Customer ID: AXEM25

Customer PO:

Project ID: City of Spartanburg

Analyst(s)

Gloriana Ramirez (20)

Lacy Searcy (16)

Lee Plumley, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. 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. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. 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 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. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. 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: 07/31/2020 15:07:43



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EMSL Order: 412006255

Customer ID: AXEM25

Customer PO:

Project ID: City of Spartanburg

Attention: Tom Oliver
Apex Environmental Management
7 Winchester Court
Mauldin, SC 29662

Phone: (864) 640-5274

Fax:

Received Date: 07/27/2020 9:30 AM

Analysis Date: 08/06/2020

Collected Date: 07/23/2020

Project: 0120-17 COS 627 Farley 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 412006255-0027	Roof Shingle (1 Layer) w/ Tar & Felt (1 Layer)	Black Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
3-Felt 412006255-0028	Roof Shingle (1 Layer) w/ Tar & Felt (1 Layer)	Black Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
6 412006255-0029	Caulk on Glass Panes	Tan Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
9 412006255-0030	OSB Wooden Board w/ Felt Layer (Felt Only)	Brown/Black Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
12 412006255-0031	Roof Shingles (3 Layers) & No Felt	Black Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
23-Floor Tile 412006255-0032	12"x12" Brown/Tan w/ Square/Rectangle Pattern Floor Tile & Mastic	Tan Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
23-Mastic 412006255-0033	12"x12" Brown/Tan w/ Square/Rectangle Pattern Floor Tile & Mastic	Tan Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
26-Top Flooring 412006255-0034	Tan Square Pattern Vinyl Floor & Adhesive over Yellow Vinyl Floor & Mastic	Tan/Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
26-Mastic 412006255-0035	Tan Square Pattern Vinyl Floor & Adhesive over Yellow Vinyl Floor & Mastic	Tan Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
26-Bottom Flooring 412006255-0036	Tan Square Pattern Vinyl Floor & Adhesive over Yellow Vinyl Floor & Mastic	Brown/Tan Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
26-Mastic 412006255-0037	Tan Square Pattern Vinyl Floor & Adhesive over Yellow Vinyl Floor & Mastic	Brown/Tan Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
29-Flooring 412006255-0038	Orange Pattern Vinyl Floor & Adhesive over Felt	White Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. 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. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. EMSL recommends that samples reported as none detected or <1% undergo additional analysis via PLM to avoid the possibility of false negatives.

Samples analyzed by EMSL Analytical, Inc. Pineville, NC

Initial report from: 08/07/2020 08:40:11



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: 412006255
Customer ID: AXEM25
Customer PO:
Project ID: City of Spartanburg

Attention: Tom Oliver Apex Environmental Management 7 Winchester Court Mauldin, SC 29662	Phone: (864) 640-5274 Fax: Received Date: 07/27/2020 9:30 AM Analysis Date: 08/06/2020 Collected Date: 07/23/2020
Project: 0120-17 COS 627 Farley 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
29-Mastic 412006255-0039	Orange Pattern Vinyl Floor & Adhesive over Felt	Brown Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
29-Felt 412006255-0040	Orange Pattern Vinyl Floor & Adhesive over Felt	Black Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
32 412006255-0041	12"x12" Brown Wooden Pattern Self-Stick Floor Tile	Brown/Gray Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
35 412006255-0042	12"x12" Gray Slate/Stone Pattern Self-Stick Floor Tile	Gray Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Derrick Young (16)

Lee Plumley, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. 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. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. EMSL recommends that samples reported as none detected or <1% undergo additional analysis via PLM to avoid the possibility of false negatives.

Samples analyzed by EMSL Analytical, Inc. Pineville, NC

Initial report from: 08/07/2020 08:40:11



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (lab use only):

41200 6255

Pineville, NC 28134
Phone (704) 525-2205
Fax (704) 525-2382

Company Name : Apex Environmental Management, Inc.		EMSL Customer ID:	
Street: 7 Winchester Court		City: Mauldin	State or Province: SC
Zip/Postal Code: 29662	Country: US	Telephone #: 8644043210	Fax #:
Report To (Name): Tom Oliver		Please Provide Results via: <input type="checkbox"/> Fax <input type="checkbox"/> Email	
email Address: tolover@apex-ehs.com		Purchase Order Number:	
Client Project ID: <u>0120-17 CoS 627 Farley Ave</u>		EMSL Project ID (internal use only):	
State or Province Collected: SC		CT only <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
EMSL-Bill to: <input type="checkbox"/> Same <input checked="" type="checkbox"/> Different - If bill to is different note instructions in comment. Third party billing requires written authorization from third party			
Turnaround Time (TAT) Options Please Check			
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input type="checkbox"/> 24 Hour	<input type="checkbox"/> 32 Hour* <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input checked="" type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week
* 32 Hour TAT available for select tests only; samples must be submitted by 11:30am. Please call ahead for large projects and/or turnaround times 6 hours or less.			
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 non-friable - NY	
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 - NY		<input type="checkbox"/> TEM Qualitative via Drop Mount Prep Technique	
<input type="checkbox"/> NY ELAP Method 198.6 NOB- non-friable - NY		Other tests (please specify)	
<input type="checkbox"/> NY ELAP Method 198.8- Vermiculite Surfacing Material		<input type="checkbox"/>	
<input type="checkbox"/> OSHA ID-191 Modified			
<input type="checkbox"/> EMSL Standard Addition Method			
<input checked="" type="checkbox"/> Positive Stop - Clearly Identify Homogenous Areas (HA)		Date Sampled: <u>7-23-2020</u>	
Sampler's Name: <u>Tom Oliver</u>		Sampler's Signature:	
Sample #	HA #	Sample Location	Material Description
1		Roof shingles (1 layer) w/ tar	PLM
2		+ felt (1 layer)	I
3			TEM
4		caulk on glass panes	PLM
5			I
6			TEM
Client Sample # (s): <u>1-35</u>		Total # of Samples: <u>35</u>	
Relinquished by (Client):		Date: <u>7-24-2020</u>	Time: <u>3:30 PM</u>
Received by (Lab):		Date: <u>7/27/20</u>	Time: <u>9:30AM Fk</u>
Comments/Special Instructions: Positive stop on all samples. If joint compound on drywall is positive, then positive stop on drywall and tape layers. Bill To: Apex Environmental Management, Inc., 7 Winchester Court, Mauldin, SC, 29662, US Attention: Rebecca Shultz Phone: 8644043210 Email: rshultz@apex-ehs.com Purchase Order			
		7958 9825 0618	



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number *(lab use only)*:

6255

EMSL Analytical, Inc.
10801 Southern Loop Blvd

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
7		OSB wooden board w/ felt	PLM
8		layer (Analyze felt only)	I
9			TEM
10		Roof shingles (3 layers) & no	PLM
11		felt	I
12			TEM
13		Popcorn ceiling texture	PLM
14			I
15			I
16		Drywall w/ joint compound	PLM
17		+ tape	I
18			I
19			I
20			I
21		12" x 12" brown/tan w/ square	PLM
22		rectangle pattern floor tile	I
23		& mastic	TEM
24		Tan square pattern vinyl floor	PLM
25		& adhesive over yellow vinyl floor	I
26		& mastic	TEM
<p>*Comments/Special Instructions: Positive stop on all samples. If joint compound on drywall is positive, then positive stop on drywall and tape layers. Bill To: Apex Environmental Management, Inc., 7 Winchester Court, Mauldin, SC, 29662, US Attention: Rebecca Shultz Phone: 8644043210 Email: rshultz@apex-ehs.com Purchase Order:</p>			

Page 2 of 3 pages

SECTION IV
Photographic Log



Photo 1 – 627 Farley Avenue Street in Spartanburg, South Carolina 29301



Photo 2 – Roof shingles & felt paper



Photo 3 – Wooden windows – caulk on glass panes



Photo 4 – OSB wooden boards with felt layer beneath wooden siding



Photo 5 – Roof shingles with no felt on the dog house in the back corner of the yard



Photo 6 – Popcorn ceiling texture throughout



Photo 7 – Drywall with joint compound & tape throughout



Photo 8 – 12" x 12" brown/tan square/rectangle pattern floor tile & mastic in the living room & hallway



Photo 9 – Tan square pattern vinyl floor & mastic over yellow vinyl floor & mastic in the kitchen



Photo 10 – Orange square pattern vinyl floor & adhesive over felt in the bathroom



Photo 11 – 12" x 12" brown pattern self-stick floor tile in the back right bedroom



Photo 12 – 12" x 12" gray slate/stone pattern self-stick floor tile in the front 2 bedrooms



Photo 13 – Typical view of household items & debris contaminated with disturbed ACM throughout



Photo 14 – Typical view of household items & debris contaminated with disturbed ACM throughout



Photo 15 – Typical view of fire damage to the walls & ceilings throughout



Photo 16 – Typical view of household items & debris contaminated with disturbed ACM throughout



Photo 17 – Typical view of fire damage to the walls & ceilings throughout

SECTION V

SC DHEC Asbestos Inspector License

SCDHEC ISSUED
Asbestos ID Card

Thomas H Oliver



AIRSAMPLER AS-00202
CONSULTBI BI-00680

Expiration Date:
06/18/21
01/15/21

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

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

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