



Asbestos & Lead Based Paint Assessment

City of Spartanburg
458 Colton Street
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: 0123-01

November 10, 2023





Apex Project Number 0123-01

November 10, 2023

Mr. Martin Livingston
City of Spartanburg
440 South Church Street, Suite B
Spartanburg, SC 29306

Reference: Asbestos and Lead-Based Paint Assessment Services
458 Colton Street
Spartanburg, South Carolina 29301

Dear Mr. Livingston:

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.

Ted Shultz
Project Manager

Rebecca Shultz CIH, CSP
President

Appendices

7 Winchester Court
Mauldin, SC 29662
864.404.3210 office
864.404.3213 fax

802 E. Martintown Rd.
Suite 208
N. Augusta, SC 29841
803.440.2790 office

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ASBESTOS AND LEAD BASED PAINT ASSESSMENT

**CITY OF SPARTANBURG
458 COLTON STREET
SPARTANBURG, SOUTH CAROLINA 29301**

APEX PROJECT NO. 0123-01

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SECTION I

Asbestos & Lead Evaluation Report

ASBESTOS EVALUATION REPORT APEX PROJECT NUMBER: 0123-01
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Date:	11/10/2023	Page Number:	1 of 4
Client:	City of Spartanburg	Client Contact:	Mr. Martin Livingston
Client Address:	440 South Church Street Suite B Spartanburg, SC 29306	Client Phone Number:	(864) 580-5323
Project:	Asbestos Evaluation and Lead Based Paint Assessment	Parcel ID No.:	
Property Address:	458 Colton Street Spartanburg, SC 29302		
Assessor:	Ted Shultz	Date of Assessment:	10/26/2023
Company:	Apex Environmental Management 7 Winchester Court Mauldin, SC 29662	Phone Number:	(864) 404-3210
Purpose of Assessment:	Demolition	Age of Structure:	Approximately 100 years
Building Type:	Residential	Number of Stories:	1
Foundation:	Crawlspace	Approximate Square Footage	1,200 SF

EXTERIOR BUILDING MATERIALS

- Pitched wooden roof with asphalt shingles.
- Vinyl siding over wooden siding.
- Wooden windows with no glazing.
- A portion of the windows are missing.
- 2 brick chimneys with tar.
- Fire damage exists throughout the exterior.

INTERIOR BUILDING MATERIALS

- Interior building materials were not assessed due to fire & structural damage throughout the residence.
- Due to safety concerns no asbestos samples were collected from within the residence.
- The residence and associated debris piles are presumed to be positive for ACM (1,200 SF).

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

Apex was requested to perform an asbestos assessment to identify asbestos-containing materials (ACM) which could be disturbed prior to or during scheduled demolition activities. The National Emission Standard for Hazardous Air Pollutants (NESHAP) requires the identification of friable ACM and non-friable ACM likely to become friable during demolition and/or renovation activities. NESHAP requires that the identified ACM be removed prior to initiating activities likely to disturb the ACM.

The survey consisted of observing the accessible areas throughout the structure located on the subject property. The survey involved detecting both friable materials (materials which can be crumbled, pulverized or reduced to a powder by hand pressure when dry) and non-friable materials (materials which pose a hazard when sawn, sanded, drilled or pulverized). Homogeneous materials were identified (based on material type, color, texture, etc.) in various functional spaces during the survey.

Three roof samples were collected. No interior samples were collected during the survey due to safety concerns and structural damage to the residence.

Lead-Based Paint

No painted surfaces were analyzed due to extensive fire damage to the structure.

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. A specific PLM and TEM Data Table is located in Appendix II of this report and identifies positive materials and designates approximate quantities. Provided below is a general discussion of the asbestos containing materials presumed to be positive in the residence.

At the time of the assessment, the residence was found to have fire structural damage throughout the interiors and exteriors. Roofing shingle layers were sampled. PLM & TEM analysis identified no asbestos in the roof system. Safety concerns while performing sampling were addressed and no interior samples were collected during the assessment. Subsequently, the building materials and finishes not sampled during the survey should be presumed to be ACM. Apex recommends that the residence except for the roof be demolished in place and materials be treated and disposed of as regulated asbestos containing materials (RACM). The roof system can be segregated and disposed of as CND waste.

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

- Residence & associated debris – 1,200 SF

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, HUD and the EPA define 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.

No surfaces in the residence were tested due to the extensive fire damage throughout and the need for the structure to be removed as hazardous waste.

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. 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. Demolish the roofing system separately from the residence and dispose of as demolition waste.
2. Demolish the remaining residence with presumed ACM in place and dispose of the waste stream as friable Regulated Asbestos Containing Materials (RACM) and delivered to an asbestos approved hazardous waste landfill for disposal.
3. Perimeter asbestos air monitoring should be performed during abatement by demolition activities and a visual clearance conducted at the conclusion of the project.
4. 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

Changes to state and federal regulations have changed the disposal options for LBP waste and LBP residue. LBP waste is defined as material such as wood, brick, metal, etc. that is coated with LBP. LBP residue is defined as residue that is generated from the removal (scraped, chipped, sandblasted, chemical means, etc.) of LBP from a structure. The regulations allow LBP waste from residential and commercial structures to be disposed of in Class 2 (construction and demolition debris) and Class 3 (municipal solid waste or industrial) landfills in South Carolina. The management of LBP residue is based on the source and lead concentration characterized by Toxic Characteristic Leaching Procedures (TCLP) to determine if the waste is classified as hazardous or non-hazardous. LBP residues that have TCLP sample results less than 5 milligrams per liter (mg/L) lead may be disposed of in a Class 3 landfill and is considered to be non-hazardous. LBP residues that have TCLP sample results equal to or greater than 5 mg/L lead should be disposed of in a Subtitle C landfill and is considered to be hazardous. However, the landfills should be contacted to determine their specific disposal requirements.

Occupational Safety and Health Administration Lead Regulations apply to actions initiated on lead containing materials. This regulation applies to lead concentrations greater than the analytical limit of detection. This regulation sets exposure levels on airborne lead and does not reference the percent lead in paint. Therefore, initial personal air monitoring should be conducted on workers performing work on surfaces which have a lead concentration of 0.1 mg/cm² 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.

APPENDIX I ASBESTOS RESULTS DATA TABLE

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

Project Name: COS 458 Colton Street ACM

Sampled By: Ted Shultz

Project Location: 458 Colton Street, Spartanburg, SC 29301

Project Manager: Ted Shultz

Project Number: 0123-01

Date: 10/26/2023

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
1	Roof	Multi-Layer of Shingles	PLM & TEM - NAD	Friable	Damaged	1,300 SF
2						
3						
Assumed	House/debris piles	House/debris piles	Assumed	Friable	Significantly Damaged	1,200 SF

NAD = No Asbestos Detected

LF = Linear Feet

EA = Each

Bold = Positive For Asbestos

SF = Square Feet

Chry = Chrysotile

APPENDIX II 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: 412312802

Customer ID: AXEM25

Customer PO:

Project ID: City of Spartanburg

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

Phone: (864) 404-3210

Fax:

Received Date: 10/27/2023 9:30 AM

Analysis Date: 10/31/2023

Collected Date: 10/26/2023

Project: COS 458 Colton St. (City of Spartanburg)

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
1-Red Shingle <small>412312802-0001 No felt present.</small>	Roof - Multi-Layer Shingle & Felt	Red/Black Fibrous Heterogeneous	30% Cellulose 20% Synthetic	3% Quartz 47% Non-fibrous (Other)	None Detected
1-White/Tan Shingle <small>412312802-0001A</small>	Roof - Multi-Layer Shingle & Felt	Tan/White/Black Fibrous Heterogeneous	40% Cellulose	8% Quartz 15% Ca Carbonate 37% Non-fibrous (Other)	None Detected
1-White Shingle <small>412312802-0001B</small>	Roof - Multi-Layer Shingle & Felt	White/Black Fibrous Heterogeneous	50% Cellulose	<1% Quartz 15% Ca Carbonate 35% Non-fibrous (Other)	None Detected
1-Gray/Tan Shingle <small>412312802-0001C</small>	Roof - Multi-Layer Shingle & Felt	Gray/Tan/Black Fibrous Heterogeneous	15% Glass	5% Quartz 15% Ca Carbonate 65% Non-fibrous (Other)	None Detected
1-Green Shingle <small>412312802-0001D</small>	Roof - Multi-Layer Shingle & Felt	Black/Green Fibrous Heterogeneous	35% Cellulose 10% Synthetic	<1% Quartz 55% Non-fibrous (Other)	None Detected
2-Red Shingle <small>412312802-0002 No felt present.</small>	Roof - Multi-Layer Shingle & Felt	Red/Black Fibrous Homogeneous	25% Cellulose	2% Quartz 73% Non-fibrous (Other)	None Detected
2-White/Tan Shingle <small>412312802-0002A</small>	Roof - Multi-Layer Shingle & Felt	Tan/White/Black Fibrous Homogeneous	25% Cellulose	2% Quartz 5% Ca Carbonate 68% Non-fibrous (Other)	None Detected
2-White Shingle <small>412312802-0002B</small>	Roof - Multi-Layer Shingle & Felt	White/Black Fibrous Homogeneous	25% Cellulose	2% Quartz 5% Ca Carbonate 68% Non-fibrous (Other)	None Detected
2-Gray/Tan Shingle <small>412312802-0002C</small>	Roof - Multi-Layer Shingle & Felt	Gray/Tan/Black Fibrous Homogeneous	15% Glass	5% Quartz 15% Ca Carbonate 65% Non-fibrous (Other)	None Detected
2-Green Shingle <small>412312802-0002D Result includes a small amount of inseparable attached tar.</small>	Roof - Multi-Layer Shingle & Felt	Black/Green Fibrous Heterogeneous	25% Cellulose	3% Quartz 72% Non-fibrous (Other)	None Detected



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: 412312802

Customer ID: AXEM25

Customer PO:

Project ID: City of Spartanburg

Analyst(s)

Jordan Simpson (5)

Kelsie Dwyer (5)

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: 11/01/2023 08:02:42



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: 412312802
Customer ID: AXEM25
Customer PO:
Project ID: City of Spartanburg

Attention: Rebecca Shultz Apex Environmental Management 7 Winchester Court Mauldin, SC 29662	Phone: (864) 404-3210 Fax: Received Date: 10/27/2023 9:30 AM Analysis Date: 11/06/2023 Collected Date: 10/26/2023
Project: COS 458 Colton St. (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-Red Shingle 412312802-0003	Roof - Multi-Layer Shingle & Felt	Red Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
3-White/Tan Shingle 412312802-0004	Roof - Multi-Layer Shingle & Felt	Tan/White Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
3-White Shingle 412312802-0005	Roof - Multi-Layer Shingle & Felt	White Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
3-Gray/Tan Shingle 412312802-0006	Roof - Multi-Layer Shingle & Felt	Gray/Tan Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
3-Green Shingle 412312802-0007	Roof - Multi-Layer Shingle & Felt	Green Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Sarah Breneman (5)

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: 11/06/2023 14:32:19



EMSL ANALYTICAL INC.
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Asbestos Bulk Building Materials - Chain of Custody

EMSL Order Number / Lab Use Only

412312802

EMSL Analytical, Inc.
10801 Southern Loop Blvd

Pineville, NC 28134
PHONE: (704) 525-2205
EMAIL: charlottelab@EMSL.com

Customer Information Customer ID: Company Name: Apex Environmental Management Contact Name: Rebecca Shultz Street Address: 7 Winchester Court City, State, Zip: Mauldin SC 29662 Country: US Phone: 864-404-3210 Email(s) for Report: rshultz@apex-ehs.com	Billing Information Billing ID: Company Name: Apex Environmental Management Billing Contact: Rebecca Shultz Street Address: 7 Winchester Court City, State, Zip: Mauldin SC Country: US Phone: 864-404-3210 Email(s) for Invoice:
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Project Information	
Project Name/No: COS 458 Colton St.	Purchase Order:
EMSL LIMS Project ID: <small>(If applicable, EMSL will provide)</small>	US State where samples collected: SC
State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)	
Sampled By Name: T. Shultz	Sampled By Signature:
Date Sampled: 10/26/23	No. of Samples in Shipment: 3

Turn-Around-Time (TAT)

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

Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only; samples must be submitted by 11:30am.

Test Selection

<p>PLM - Bulk (reporting limit)</p> <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) <input type="checkbox"/> POINT COUNT <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) <input type="checkbox"/> POINT COUNT w/ GRAVIMETRIC <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) <input type="checkbox"/> NIOSH 9002 (<1%) <input type="checkbox"/> NYS 198.1 (Friable - NY) <input type="checkbox"/> NYS 198.6 NOB (Non-Friable - NY) <input type="checkbox"/> NYS 198.8 (Vermiculite SM-V)	<p>TEM - Bulk</p> <input checked="" type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (Non-Friable - NY) <input type="checkbox"/> TEM EPA 600/R-93/116 w Milling Prep (0.1%) <p style="text-align: center;"><u>Other Tests (please specify)</u></p> <input checked="" type="checkbox"/> Positive Stop - Clearly Identified Homogeneous Areas (HA)
--	--

Sample Number	HA Number	Sample Location	Material Description
1		Roof	Multi-Layer Shingle & Felt
2			
3			

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Method of Shipment:	Sample Condition Upon Receipt:
Relinquished by: R. Shultz	Received by: <i>[Signature]</i>
Date/Time: 10/26/2023	Date/Time: 10/27/23
Relinquished by:	Received by: <i>E-FK 7967 3201 9925</i>
Date/Time:	Date/Time: 930AM

Controlled Document - Asbestos Bulk R7 9/14/2021

AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

PHOTO LOG



Photo 1 – 458 Colton Street located in Spartanburg, South Carolina 29301



Photo 2 – Multi-layers of roof shingles.



Photo 3 – Chimney with tar.



Photo 4 – Typical view of fire damage



Photo 5 – Typical view of fire damage.



Photo 6 – Typical view of fire damage.



Photo 7 – Typical view of fire damage.



Photo 8 – Typical view of fire damage.



Photo 9 – Typical view of fire damage.



Photo 10 – Typical view of fire damage.



Photo 11 – Kitchen fire damage.



Photo 12 – Front door fire damage.



Photo 13 – Rear view of structure.



Photo 14 – Rear view of structure.

SECTION IV

SC DHEC Asbestos Inspector License

SCDHEC ISSUED
Asbestos ID Card

Tedman K Shultz



**AIR SAMPLER
CONSULTBI**

**AS-00355
BI-00971**

**Expiration Date:
02/16/24
01/10/24**