Asbestos & Lead Based Paint Assessment

City of Spartanburg
583 Carpenter 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: 0119-09

May 8, 2019

PEX
Environmental
Management

Environmental Management

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Apex Project Number 0119-09

May 8, 2019

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

Reference: Asbestos and Lead-Based Paint Assessment Services
583 Carpenter Street
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
Director of Operations

Appendices

ASBESTOS AND LEAD BASED PAINT ASSESSMENT

CITY OF SPARTANBURG
583 CARPENTER STREET
SPARTANBURG, SOUTH CAROLINA 29301

APEX PROJECT NO. 0119-09

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SECTION

SECTION I

Asbestos & Lead Evaluation Report

ASBESTOS EVALUATION REPORT
APEX PROJECT NUMBER: 0119-09

Date:	5/8/2019	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:	583 Carpenter Street Spartanburg, SC 29301		
Assessor:	Tom Oliver	Date of Assessment:	4/24/2019
Company:	Apex Environmental Management 7 Winchester Court Mauldin, SC 29662	Phone Number:	(864) 404-3210
Purpose of Assessment:	Demolition	Age of Structure:	Approximately 80 years
Building Type:	Residential	Number of Stories:	1
Foundation:	Brick & CMU Block Crawlspace	Approximate Square Footage	700 SF

EXTERIOR BUILDING MATERIALS

- Pitched wooden with roof shingles & no felt.
- Wooden siding.
- Wooden windows with glazing & caulk.
- Wooden doors with no caulk.
- 1 chimney with tar – assumed positive.
- Tar on roof line at the side porch – assumed positive
- 1 vent pipe on the roof with tar – assumed positive.
- Exterior garbage & household debris pile is throughout the property.

INTERIOR BUILDING MATERIALS

- Plaster with finish over unfinished drywall walls in the living room and front left bedroom.
- Drywall with joint compound & tape walls & ceiling in the back right bedroom.
- Bead board walls & ceilings.
- Carpet over wooden floors.
- Brown wooden plank pattern vinyl floor with no mastic in the bathroom.
- Tan small square pattern vinyl floor with no mastic in the kitchen.
- The floor in the kitchen is unstable and collapsed.

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-one (21) 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. 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). Six (6) 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 500 SF drywall walls and ceiling in the back right bedroom.
- Approximately 6 LF of tar on 1 chimney and 6 LF of tar along the roof line at the side porch – assumed positive.
- Approximately 1 SF of tar on 1 vent pipe on the roof – assumed positive.

Lead Based Paint

OSHA does not recognize a threshold level of lead for definition purposes, only the presence or absence of lead. The current OSHA regulations recognize an airborne action level of thirty micrograms per cubic meter (30 µg/m^3) during an eight-hour workday and a permissible exposure level of fifty micrograms per cubic meter (50 µg/m^3) for employees.

Currently, SCDHEC defines LBP as paint containing in excess of, or equal to, 1.0 mg/cm^2. The laboratory analytical results are included in the LBP Analysis Report in Appendix II of this report. The approximate locations of the paint samples collected and analytical results are presented in the *LBP Data Table* included in Appendix II of this report.

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

Exterior:
- White wooden siding.
- White wooden window casings.
- White wooden door casings.
- White wooden front porch ceiling & header boards.
- Gray wooden side porch floor skirt.

Interior:
- Beige plaster walls.
- Beige bead board walls & ceilings.
- Beige drywall walls & ceilings.

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

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.

OSHA Lead Regulations apply to actions initiated on lead containing materials. OSHA does not recognize a threshold level of lead for definition purposes, only the presence or absence of lead. This regulation sets exposure levels on airborne lead and does not reference the concentration of lead in paint. Therefore, initial personal air monitoring should be conducted on workers performing work on surfaces which have a detectable lead concentration to satisfy the OSHA requirements. The current OSHA regulations recognize an airborne Action Level of 30 micrograms per cubic meter ($\mu g/m^3$) and a Permissible Exposure Level (PEL) of 50 $\mu g/m^3$ per 8-hour work day for employees. If a baseline exposure lower than the OSHA Action Level of 30 $\mu g/m^3$ 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 583 Carpenter Street ACM/LBP

Sampled By: Tom Oliver

Project Location: 583 Carpenter Street, Spartanburg, South Carolina 29301

Project Manager: Tom Oliver

Project Number: 0119-09

Date: 4/24/2019

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
1	Roof	Roof shingles (1 layer) with tar & no felt	PLM - NAD	Non-Friable	Good	950 SF
2						
3			TEM - NAD			
4	Wooden windows	Window glazing	PLM - NAD	Non-Friable	Good	8 EA
5						
6			TEM - NAD			
7	Wooden windows	Window caulk	PLM - NAD	Non-Friable	Good	8 EA
8						
9			TEM - NAD			
10	Living room & front left bedroom walls	Plaster with finish over unfinished drywall	PLM - NAD	Friable	Good	900 SF
11						
12						
13	**Back right bedroom walls & ceiling**	**Drywall with joint compound & tape**	**PLM - 2% chrysotile**	**Friable**	**Good**	**500 SF**
14						
15						
16	Bathroom	Brown wooden plank pattern vinyl floor with no mastic	PLM - NAD	Non-Friable	Good	31 SF
17						
18			TEM - NAD			
19	Kitchen	Tan small square pattern vinyl floor with no mastic	PLM - NAD	Non-Friable	Good	155 SF
20						
21			TEM - NAD			
Assumed	**Chimney/Roof**	**Tar on 1 chimney & side porch roof**	**Assumed**	**Non-Friable**	**Good**	**12 LF**
Assumed	**Roof vent pipe**	**Tar on 1 vent pipe**	**Assumed**	**Non-Friable**	**Good**	**1 SF**

NAD = No Asbestos Detected
LF = Linear Feet
EA = Each
Amos = Amosite

Bold = Positive For Asbestos
SF = Square Feet
Chry = Chrysotile
FT3 = Cubic Feet

FIELD DATA SHEET
XRF LBP ANALYSIS

Project Name: COS 583 Carpenter Street ACM/LBP

Sampled By: Tom Oliver

Project Location: 583 Carpenter Street, Spartanburg, SC 29301

Project Manager: Tom Oliver

Project Number: 0119-09

Date: 4/24/2019

Sample No.	Sample Location	Component	Color	Substrate	Analytical Result (mg/m^3)
1	Standardization				184.00
2	Calibration				1.18
3	Calibration				1.12
4	Calibration				1.22
5	**Exterior**	**Siding**	**White**	**Wood**	**2.76**
6	Exterior	Window	White	Wood	0.12
7	**Exterior**	**Window casing**	**White**	**Wood**	**2.37**
8	Exterior	Door	Black	Wood	0.09
9	**Exterior**	**Door casing**	**White**	**Wood**	**2.36**
10	**Exterior**	**Front porch ceiling**	**White**	**Wood**	**2.01**
11	Exterior	Front porch column	White	Wood	0.04
12	Exterior	Front porch column	White	Brick	0.01
13	**Exterior**	**Front porch header**	**White**	**Wood**	**1.03**
14	Exterior	Front porch handrail	White	Wood	0.00
15	Exterior	Front porch floor	Gray	Wood	0.00
16	Exterior	Front porch floor skirt	Gray	Wood	0.00
17	Exterior	Window shutter	Gray	Wood	0.17
18	Exterior	Foundation	Gray	Brick	0.00
19	Exterior	Front porch column	Gray	Brick	0.00
20	Exterior	Fascia	White	Wood	0.10
21	Exterior	Roof overhang	White	Wood	0.26
22	Exterior	Corner trim	White	Wood	0.92
23	Exterior	Foundation	White	Brick	0.01
24	Exterior	Foundation	White	CMU Block	0.00
25	Exterior	Front porch screen door	Black	Wood	0.04

FIELD DATA SHEET
XRF LBP ANALYSIS

Project Name: COS 583 Carpenter Street ACM/LBP

Sampled By: Tom Oliver

Project Location: 583 Carpenter Street, Spartanburg, SC 29301

Project Manager: Tom Oliver

Project Number: 0119-09

Date: 4/24/2019

Sample No.	Sample Location	Component	Color	Substrate	Analytical Result (mg/m^3)
26	Exterior	Window	Black	Wood	0.12
27	Exterior	Side porch ceiling	White	Wood	0.03
28	Exterior	Side porch framing	White	Wood	0.27
29	Exterior	Side porch handrail	White	Wood	0.00
30	Exterior	Side porch steps	Gray	CMU Block	0.00
31	**Exterior**	**Side porch floor skirt**	**Gray**	**Wood**	**1.06**
32	**Interior**	**Wall**	**Beige**	**Plaster**	**1.00**
33	Interior	Ceiling	Brown	Bead board	0.34
34	Interior	Base board	Black	Wood	0.10
35	Interior	Door	Beige	Wood	0.07
36	Interior	Door casing	Black	Wood	0.07
37	Interior	Crown molding	Beige	Wood	0.18
38	Interior	Window	Black	Wood	0.04
39	Interior	Window casing	Black	Wood	0.07
40	Interior	Window	Beige	Wood	0.04
41	Interior	Window casing	Beige	Wood	0.08
42	Interior	Door casing	Beige	Wood	0.15
43	**Interior**	**Wall**	**Beige**	**Bead board**	**2.47**
44	Interior	Base board	Beige	Wood	0.05
45	**Interior**	**Wall**	**Beige**	**Drywall**	**1.00**
46	Interior	Ceiling	Beige	Drywall	0.45
47	Interior	Fire place mantle	Black	Wood	0.08
48	Calibration				1.17
49	Calibration				1.22
50	Calibration				1.10

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:	411903759
Customer ID:	AXEM25
Customer PO:	
Project ID:	

Attention:	Tom Oliver	**Phone:**	(864) 640-5274
	Apex Environmental Management	**Fax:**	
	7 Winchester Court	**Received Date:**	04/25/2019 9:10 AM
	Mauldin, SC 29662	**Analysis Date:**	04/30/2019 - 05/01/2019
		Collected Date:	04/24/2019
Project:	0119-09 COS 583 Carpenter St.		

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1-Shingle *411903759-0001*	Roof Shingles (1 Layer) w/ Tar & No Felt	Gray/Black Fibrous Homogeneous	5% Glass	5% Quartz 20% Ca Carbonate 70% Non-fibrous (Other)	None Detected
1-Tar *411903759-0001A*	Roof Shingles (1 Layer) w/ Tar & No Felt	Black Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	None Detected
2-Shingle *411903759-0002*	Roof Shingles (1 Layer) w/ Tar & No Felt	Gray/Black Fibrous Homogeneous	5% Glass	5% Quartz 20% Ca Carbonate 70% Non-fibrous (Other)	None Detected
2-Tar *411903759-0002A*	Roof Shingles (1 Layer) w/ Tar & No Felt	Black Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
4 *411903759-0003*	Window Glazing	Tan/White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
5 *411903759-0004*	Window Glazing	Tan/White Non-Fibrous Homogeneous	1% Fibrous (Other)	20% Ca Carbonate 79% Non-fibrous (Other)	None Detected
7 *411903759-0005*	Window Caulk	Brown/White Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
8 *411903759-0006*	Window Caulk	Brown/White Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
10-Drywall *411903759-0007*	Plaster w/ Finish over Unfinished Drywall	Brown/White Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
10-Skim Coat *411903759-0007A*	Plaster w/ Finish over Unfinished Drywall	White Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
10-Rough Coat *411903759-0007B*	Plaster w/ Finish over Unfinished Drywall	Gray Non-Fibrous Homogeneous		20% Quartz 5% Ca Carbonate 75% Non-fibrous (Other)	None Detected
11-Drywall *411903759-0008*	Plaster w/ Finish over Unfinished Drywall	Brown/Gray Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
11-Skim Coat *411903759-0008A*	Plaster w/ Finish over Unfinished Drywall	White Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
11-Rough Coat *411903759-0008B*	Plaster w/ Finish over Unfinished Drywall	Gray Non-Fibrous Homogeneous		20% Quartz 5% Ca Carbonate 75% Non-fibrous (Other)	None Detected
12-Drywall *411903759-0009*	Plaster w/ Finish over Unfinished Drywall	Brown/Gray Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
12-Skim Coat *411903759-0009A*	Plaster w/ Finish over Unfinished Drywall	White Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected

Initial report from: 05/01/2019 13:25:36

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: 411903759
Customer ID: AXEM25
Customer PO:
Project ID:

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
12-Rough Coat *411903759-0009B*	Plaster w/ Finish over Unfinished Drywall	Tan Non-Fibrous Homogeneous		20% Quartz 5% Ca Carbonate 75% Non-fibrous (Other)	None Detected
13-Drywall *411903759-0010*	Drywall w/ Joint Compound & Tape	Brown/Gray Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
13-White Joint Compound *411903759-0010A*	Drywall w/ Joint Compound & Tape	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
13-Tan Joint Compound *411903759-0010B*	Drywall w/ Joint Compound & Tape	Tan Non-Fibrous Homogeneous		40% Ca Carbonate 58% Non-fibrous (Other)	2% Chrysotile
13-Tape *411903759-0010C*	Drywall w/ Joint Compound & Tape				Positive Stop (Not Analyzed)
14 *411903759-0011*	Drywall w/ Joint Compound & Tape				Positive Stop (Not Analyzed)
15 *411903759-0012*	Drywall w/ Joint Compound & Tape				Positive Stop (Not Analyzed)
16 *411903759-0013*	Brown Wooden Plank Pattern Vinyl Floor w/ No Mastic	Brown/White Fibrous Homogeneous	3% Glass	20% Ca Carbonate 77% Non-fibrous (Other)	None Detected
17 *411903759-0014*	Brown Wooden Plank Pattern Vinyl Floor w/ No Mastic	Brown/White Fibrous Homogeneous	3% Glass	20% Ca Carbonate 77% Non-fibrous (Other)	None Detected
19 *411903759-0015*	Tan Small Square Pattern Vinyl Floor w/ No Mastic	Gray/Tan Fibrous Homogeneous	40% Cellulose 5% Synthetic	10% Ca Carbonate 45% Non-fibrous (Other)	None Detected
20 *411903759-0016*	Tan Small Square Pattern Vinyl Floor w/ No Mastic	Gray/Tan Fibrous Homogeneous	40% Cellulose 5% Synthetic	10% Ca Carbonate 45% Non-fibrous (Other)	None Detected

Analyst(s)
Katherine Sluder (15)
Matthew McDonald (9)

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: 05/01/2019 13:25:36

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: 411903759
Customer ID: AXEM25
Customer PO:
Project ID:

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

Project: 0119-09 COS 583 Carpenter St.

Phone: (864) 640-5274
Fax:
Received Date: 04/25/2019 9:10 AM
Analysis Date: 05/07/2019
Collected Date: 04/24/2019

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 *411903759-0017*	Roof Shingles (1 Layer) w/ Tar & No Felt	Gray/Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
3-Tar *411903759-0018*	Roof Shingles (1 Layer) w/ Tar & No Felt	Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
6 *411903759-0019*	Window Glazing	White Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
9 *411903759-0020*	Window Caulk	White Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
18 *411903759-0021*	Brown Wooden Plank Pattern Vinyl Floor w/ No Mastic	Brown Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
21 *411903759-0022*	Tan Small Square Pattern Vinyl Floor w/ No Mastic	Tan Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Aaron Hartley (6)

Lee Plumley, Laboratory Manager
or other approved signatory

Samples analyzed by EMSL Analytical, Inc. Pineville, NC

Initial report from: 05/07/2019 10:28:40

OrderID: 411903759

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (*Lab Use Only*): 411903759

EMSL Analytical, Inc.
10801 Southern Loop Blvd
Pineville, NC 28134
PHONE: (704) 525-2205
FAX: (704) 525-2382

Company : Apex Environmental Management, Inc.	**EMSL-Bill to:** ☑ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 7 Winchester Court	
City: Mauldin **State/Province:** SC	**Zip/Postal Code:** 29662 **Country:** US
Report To (Name): Tom Oliver	**Telephone #:** 864-404-3210
Email Address: toliver@apex-ehs.com	**Fax #:** 864-404-3213 **Purchase Order:**
Project Name/Number: 0119-09 COS 583 Carpenter St	**Please Provide Results:** ☐ Fax ☑ Email ☐ Mail
U.S. State Samples Taken: SC	**CT Samples:** ☐ Commercial/Taxable ☐ 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
☑ PLM EPA 600/R-93/116 (<1%)	☑ TEM EPA NOB – EPA 600/R-93/116 Section 2.5.5.1
☐ PLM EPA NOB (<1%)	☐ NY ELAP Method 198.4 (TEM)
Point Count ☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ Chatfield Protocol (semi-quantitative)
Point Count w/Gravimetric ☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ TEM % by Mass – EPA 600/R-93/116 Section 2.5.5.2
☐ NIOSH 9002 (<1%)	☐ TEM Qualitative via Filtration Prep Technique
☐ NY ELAP Method 198.1 (friable in NY)	☐ TEM Qualitative via Drop Mount Prep Technique
☐ NY ELAP Method 198.6 NOB (non-friable-NY)	**Other**
☐ OSHA ID-191 Modified	☐
☐ Standard Addition Method	

☑ **Check For Positive Stop – Clearly Identify Homogenous Group** **Date Sampled:** 4-24-19

Samplers Name: Tom Oliver **Samplers Signature:**

Sample #	HA #	Sample Location	Material Description
1		Roof shingles (1 layer) w/	PLM
2		tar + no felt	1
3			TEM
4		Window glazing	PLM
5			1
6			TEM
7		Window caulk	PLM
8			1
9			TEM

Client Sample # (s): 1 - 21 **Total # of Samples:** 21

Relinquished (Client): **Date:** 4-24-19 **Time:** 5:00 PM

Received (Lab): Kyle Nelson **Date:** 4/25/19 **Time:** 9:10AM EMSLBK

Comments/Special Instructions:
Positive stop on all analysis. If joint compound is positive then do not analyze drywall and tape layers.

7957 1279 6898

EMSL Analytical, Inc.
10801 Southern Loop Blvd

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

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number *(Lab Use Only)*: 411903759

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

Sample #	HA #	Sample Location	Material Description
10		Plaster w/ finish over unfinished	PLM
11		drywall	"
12		"	"
13		Drywall w/ joint compound	PLM
14		+ tape	"
15		"	"
16		Brown wooden plank pattern	PLM
17		Vinyl floor w/ no mastic	"
18		"	TEM
19		Tan small square pattern vinyl	PLM
20		floor w/ no mastic	"
21		"	TEM

***Comments/Special Instructions:**
Positive stop on all analysis. If joint compound is positive then do not analyze drywall and tape layers.

SECTION IV

Photographic Log

Photo 1 – 583 Carpenter Street in Spartanburg, South Carolina

Photo 2 – Roof shingles with tar and no felt

Photo 3 – Tar on chimney & vent pipe – assumed positive

Photo 4 – Tar on roof line at the side porch – assumed positive

Photo 5 – Wooden window glazing

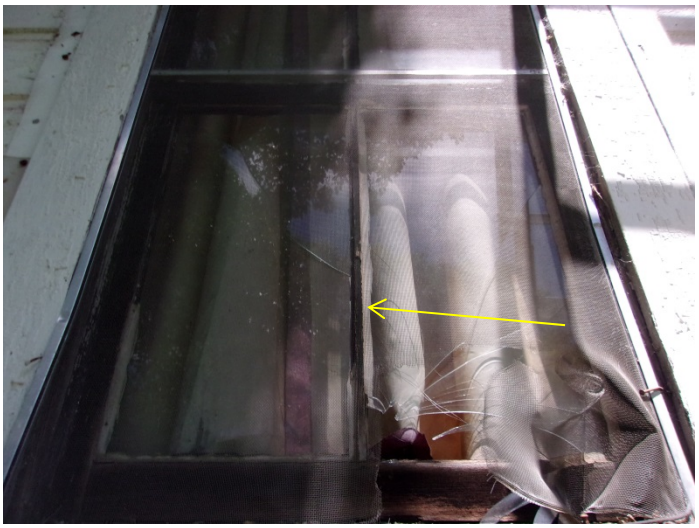

Photo 6 – Wooden window caulk

Photo 7 – Plaster with finish over unfinished drywall in the living room & front left bedroom walls

Photo 8 – Drywall with joint compound & tape in the back right bedroom walls & ceiling

Photo 9 – Brown wooden plank pattern vinyl floor with no mastic in the bathroom

Photo 10 – Tan small square pattern vinyl floor with no mastic in the kitchen

Photo 11 – The flooring is unstable and collapsed in some areas of the kitchen

Photo 12 – The flooring is unstable and collapsed in some areas of the kitchen

SECTION V

SC DHEC Asbestos Inspector License

SCDHEC ISSUED

Asbestos ID Card

Thomas H Oliver

		Expiration Date:
AIRSAMPLER	AS-00202	04/04/19
CONSULTBI	BI-00680	01/18/20