



Asbestos & Lead Based Paint Assessment

City of Spartanburg
447 Brawley Street
Spartanburg, South Carolina

Prepared for:

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

Prepared by:

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

Project Number: 0417-66

November 3, 2017





Environmental Management

7 Winchester Court
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- Environmental Site Assessments
- Hazard Communication

Apex Project Number 0417-66

November 3, 2017

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

Reference: Asbestos and Lead-Based Paint Assessment Services
447 Brawley Street
Spartanburg, South Carolina

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
447 BRAWLEY STREET
SPARTANBURG, SOUTH CAROLINA**

APEX PROJECT NO. 0417-66

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SECTION I

Asbestos & Lead Evaluation Report

ASBESTOS EVALUATION REPORT APEX PROJECT NUMBER: 0417-66
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Date:	11/3/2017	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:	447 Brawley Street Spartanburg, SC		
Assessor:	Ted Shultz	Date of Assessment:	9/27/2017
Company:	Apex Environmental Management 7 Winchester Court Mauldin, SC 29662	Phone Number:	(864) 404-3210
Purpose of Assessment:	Demolition	Age of Structure:	Approximately 85 years
Building Type:	Residential	Number of Stories:	1
Foundation:	Crawlspace	Approximate Square Footage:	1,250 SF

EXTERIOR BUILDING MATERIALS

- Pitched wooden roof with shingles & no felt.
- Wooden doors with no caulk.
- Wooden windows with caulk.
- Concrete siding/walls.
- Roof/chimney mastic on 2 chimneys – assumed positive.
- An exterior shed is collapsed. The construction materials & finishes include: wooden roof with shingles and a rubber membrane and wooden walls, ceilings and floors.

INTERIOR BUILDING MATERIALS

- Popcorn ceiling texture over plaster in the front hallway, front left bedroom & dining room.
- Plaster with finish walls & ceilings throughout.
- Wooden floors.
- Carpet over wooden floors.
- Multiple types and layers of vinyl flooring with and without mastics.

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 CEI Labs (CEI) as an NVLAP certified laboratory, their accreditation number is 101768-0.
- 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-two (32) bulk samples were collected during the survey and submitted to CEI in Cary, 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). CEI participates in the National Voluntary Laboratory Accreditation Program (NVLAP). Their NVLAP accreditation number is 101768-0. 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). Nine (9) 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. Materials were analyzed to contain less than 1% asbestos and it should be noted that OSHA asbestos regulations will apply. 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 45 SF of beige vinyl flooring & mastic under wood in the bathroom.
- Approximately 12 LF of chimney mastic/tar on 2 chimneys – 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 ($30 \mu\text{g}/\text{m}^3$) 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, SCDHEC defines LBP as paint containing in excess of, or equal to, $1.0 \text{ mg}/\text{cm}^2$. The laboratory analytical results and chain-of-custody are included in the LBP Analysis Report in Appendix II. The approximate locations of the paint samples collected and analytical results are presented in the *LBP Data Table* included with this report.

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

- Exterior white wooden porch columns.
- Exterior white wooden doors & door frames.
- Exterior tan concrete house walls and porch ceilings.
- Exterior white wooden porch roof sheathing & associated rafters.
- Exterior white wooden support rafters on sheathing.
- Interior plaster walls with multiple colors throughout.
- Interior tan concrete walls in the enclosed back porch.

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 South Carolina Department of Health and Environmental Control (SCDHEC) 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 447 Brawley Street ACM/LBP

Sampled By: Tom Oliver

Project Location: 447 Brawley Street, Spartanburg, South Carolina

Project Manager: Tom Oliver

Project Number: 0417-66

Date: 9/27/2017

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
1	House Roof	Roof shingles (1 layer) and no felt	PLM - NAD	Non-Friable	Good	1,550 SF
2			TEM - NAD			
3						
4	House Wooden Windows	Window caulk	PLM - NAD	Non-Friable	Good	12 EA
5			TEM - <1% chrysotile			
6						
7	Exterior Shed Roof	Roof shingles (2 layers) and no felt	PLM - NAD	Friable	Significantly Damaged	225 SF
8			TEM - NAD			
9						
10	Throughout	Plaster with finish	PLM - NAD	Friable	Good	2,500 SF
11						
12						
13						
14						
15	Front hallway, front left bedroom & dining room	Popcorn ceiling texture	PLM - NAD	Friable	Significantly Damaged	465 SF
16						
17						
18	Kitchen over wood	12" x 12" brown self-stick floor tile with no mastic	PLM - NAD	Non-Friable	Good	145 SF
19			TEM - NAD			
20						
21	Kitchen under wood	Felt paper	PLM - NAD	Non-Friable	Good	145 SF
22			TEM - <1% chrysotile			
23						

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

Project Name: COS 447 Brawley Street ACM/LBP

Sampled By: Tom Oliver

Project Location: 447 Brawley Street, Spartanburg, South Carolina

Project Manager: Tom Oliver

Project Number: 0417-66

Date: 9/27/2017

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
24	Kitchen - patch	12" x 12" tan self-stick floor tile with mastic	PLM - NAD	Non-Friable	Good	7 SF
25			TEM - NAD			
26						
27	Bathroom - top layer	12" x 12" blue self-stick floor tile with mastic	PLM - NAD	Non-Friable	Good	45 SF
28			TEM - <1% chrysotile			
29						
30	Bathroom - bottom layer (under wood)	Beige vinyl flooring with mastic	PLM - 50% chry (flooring)	Non-Friable	Good	45 SF
31			3% chry (mastic)			
32						
Assumed	Chimney/roof	Chimney mastic on 2 chimneys	Assumed	Non-Friable	Good	12 LF

NAD = No Asbestos Detected

LF = Linear Feet

EA = Each

Amos = Amosite

Bold = Positive For Asbestos

SF = Square Feet

Chry = Chrysotile

FIELD DATA SHEET

LBP ANALYSIS

Project Name: COS 447 Brawley Arch Street ACM/LBP

Sampled By: Tom Oliver

Project Location: 447 Brawley Street, Spartanburg, South Carolina

Project Manager: Tom Oliver

Project Number: 0417-66

Date: 9/27/2017

Sample No.	Sample Location	Component	Color	Substrate	Analytical Result (mg/m ³)
1	Standardization Calibration				184.00
2	Calibration				1.11
3	Calibration				1.09
4	Calibration				1.13
5	Porch	Column	White	Wood	5.00
6	Porch	Rail	White	Wood	0.16
7	Porch	Window Frame	White	Wood	0.22
8	Porch	Door Frame	White	Wood	5.00
9	Porch	Door	White	Wood	4.32
10	Porch	Siding	Tan	Concrete	2.28
11	Porch	Ceiling	Tan	Concrete	2.05
12	Porch	Rafter	White	Wood	3.34
13	Porch	Sheathing	White	Wood	2.52
14	Porch	Floor	Grey	Concrete	0.01
15	Foundation	Foundation	Grey	Brick	0.01
16	Hallway	Wall	Grey	Plaster	1.00
17	Hallway	Wall	White	Plaster	1.00
18	Hallway	Base Board	White	Wood	0.33
19	Hallway	Chair Rail	White	Wood	0.52
20	Hallway	Door Frame	White	Wood	0.23
21	Bedroom	Window Frame	White	Wood	0.18
22	Bedroom	Window Sill	White	Wood	0.11
23	Bedroom	Fireplace Mantle	White	Wood	0.28
24	Bedroom	Crown Molding	White	Wood	0.03

**FIELD DATA SHEET
LBP ANALYSIS**

Project Name: COS 447 Brawley Arch Street ACM/LBP

Sampled By: Tom Oliver

Project Location: 447 Brawley Street, Spartanburg, South Carolina

Project Manager: Tom Oliver

Project Number: 0417-66

Date: 9/27/2017

Sample No.	Sample Location	Component	Color	Substrate	Analytical Result (mg/m ³)
25	Bedroom	Ceiling	White	Plaster	0.08
26	Bedroom	Floor	Brown	Wood	0.15
27	Bedroom	Door	White	Wood	0.41
28	Bathroom	Wall	Blue	Plaster	1.00
29	Living Room	Wall	Tan	Plaster	1.00
30	Kitchen	Wall	Burgundy	Plaster	1.72
31	Kitchen	Cabinet	White	Plaster	0.00
32	Back Porch	Wall	Tan	Concrete	1.58
33	Back Porch	Wall	Yellow	Wood	0.04

Bold = LBP

SECTION III

Laboratory Analytical Results



October 4, 2017

Apex Environmental Management
7 Winchester Court
Mauldin, SC 29662

CLIENT PROJECT: COS 447 Brawley St. ACM/LBP; 0417-66
CEI LAB CODE: A17-13770

Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on September 28, 2017. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations. If you have any questions, please feel free to call our office at 919-481-1413.

Kind Regards,

A handwritten signature in black ink, appearing to read "Tianbao Bai".

Tianbao Bai, Ph.D., CIH
Laboratory Director





AMENDED

ASBESTOS ANALYTICAL REPORT
By: Polarized Light Microscopy

Prepared for

Apex Environmental Management

CLIENT PROJECT: COS 447 Brawley St. ACM/LBP; 0417-66

CEI LAB CODE: A17-13770

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 10/03/17

TOTAL SAMPLES ANALYZED: 23

SAMPLES >1% ASBESTOS: 2

TEL: 866-481-1412

www.ceilabs.com



AMENDED

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: COS 447 Brawley St. ACM/LBP; 0417-66 **CEI LAB CODE:** A17-13770

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
1		A2507811	Black	Roof Shingle	None Detected
2		A2507812	Black	Roof Shingle	None Detected
3		A2507813		Sample Submitted for TEM Analysis	
4		A2507814	Gray/Black	Window Caulk	None Detected
5		A2507815	Gray/Black	Window Caulk	None Detected
6		A2507816		Sample Submitted for TEM Analysis	
7		A2507817	Black	Roof Shingle	None Detected
8		A2507818	Black	Roof Shingle	None Detected
9		A2507819		Sample Submitted for TEM Analysis	
10	Layer 1	A2507820	Beige	Plaster Skim Coat W/ Finish	None Detected
	Layer 2	A2507820	Beige	Plaster Base Coat	None Detected
11	Layer 1	A2507821	Beige	Plaster Skim Coat W/ Finish	None Detected
	Layer 2	A2507821	Beige	Plaster Base Coat	None Detected
12	Layer 1	A2507822	Beige	Plaster Skim Coat W/ Finish	None Detected
	Layer 2	A2507822	Beige	Plaster Base Coat	None Detected
13	Layer 1	A2507823	Beige	Plaster Skim Coat W/ Finish	None Detected
	Layer 2	A2507823	Beige	Plaster Base Coat	None Detected
14	Layer 1	A2507824	Beige	Plaster Skim Coat W/ Finish	None Detected
	Layer 2	A2507824	Beige	Plaster Base Coat	None Detected
15		A2507825	White	Popcorn Ceiling Texture	None Detected
16		A2507826	White	Popcorn Ceiling Texture	None Detected
17		A2507827	White	Popcorn Ceiling Texture	None Detected
18		A2507828	Brown	Self Stick Floor Tile	None Detected
19		A2507829	Brown	Self Stick Floor Tile	None Detected
20		A2507830		Sample Submitted for TEM Analysis	
21		A2507831	Gray	Felt Paper	None Detected
22		A2507832	Gray	Felt Paper	None Detected



AMENDED

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: COS 447 Brawley St. ACM/LBP; 0417-66 CEI LAB CODE: A17-13770

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
23		A2507833		Sample Submitted for TEM Analysis	
24		A2507834A	Tan	Self Stick Floor Tile	None Detected
		A2507834B	Tan/Clear	Mastic	None Detected
25		A2507835A	Tan	Self Stick Floor Tile	None Detected
		A2507835B	Clear	Mastic	None Detected
26		A2507836		Sample Submitted for TEM Analysis	None Detected
27		A2507837A	Blue	Self Stick Floor Tile	None Detected
		A2507837B	Tan	Mastic	None Detected
28		A2507838A	Blue	Self Stick Floor Tile	None Detected
		A2507838B	Tan	Mastic	None Detected
29		A2507839		Sample Submitted for TEM Analysis	
30	Layer 1	A2507840	Beige	Vinyl Flooring (Backing)	Chrysotile 50%
	Layer 2	A2507840	Tan	Mastic	Chrysotile 3%
31		A2507841		Sample Not Analyzed per COC	
32		A2507842		Sample Not Analyzed per COC	



AMENDED

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Apex Environmental Management
 7 Winchester Court
 Mauldin, SC 29662

CEI Lab Code: A17-13770
Date Received: 09-28-17
Date Analyzed: 09-29-17
Date Reported: 10-03-17

Project: COS 447 Brawley St. ACM/LBP; 0417-66

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
1 A2507811	Roof Shingle	Heterogeneous	25%	Fiberglass	10%	Gravel	None Detected
		Black			60%	Tar	
		Fibrous			5%	Silicates	
		Bound					
2 A2507812	Roof Shingle	Heterogeneous	25%	Fiberglass	10%	Gravel	None Detected
		Black			60%	Tar	
		Fibrous			5%	Silicates	
		Bound					
3 A2507813	Sample Submitted for TEM Analysis						
4 A2507814	Window Caulk	Heterogeneous	2%	Cellulose	98%	Caulk	None Detected
		Gray/Black					
		Fibrous					
		Bound					
5 A2507815	Window Caulk	Heterogeneous	2%	Cellulose	98%	Caulk	None Detected
		Gray/Black					
		Fibrous					
		Bound					
6 A2507816	Sample Submitted for TEM Analysis						
7 A2507817	Roof Shingle	Heterogeneous	25%	Cellulose	10%	Gravel	None Detected
		Black			60%	Tar	
		Fibrous			5%	Vermiculite	
		Bound					
8 A2507818	Roof Shingle	Heterogeneous	25%	Cellulose	10%	Gravel	None Detected
		Black			60%	Tar	
		Fibrous			5%	Vermiculite	
		Bound					
9 A2507819	Sample Submitted for TEM Analysis						



AMENDED

ASBESTOS BULK ANALYSIS

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
10 Layer 1 A2507820	Plaster Skim Coat W/ Finish	Heterogeneous	2%	Cellulose	8%	Paint	None Detected
		Beige Fibrous Bound			90%	Binder	
Layer 2 A2507820	Plaster Base Coat	Homogeneous	2%	Cellulose	60%	Binder	None Detected
		Beige Fibrous Bound	<1%	Hair	38%	Silicates	
11 Layer 1 A2507821	Plaster Skim Coat W/ Finish	Heterogeneous	2%	Cellulose	8%	Paint	None Detected
		Beige Fibrous Bound			90%	Binder	
Layer 2 A2507821	Plaster Base Coat	Homogeneous	2%	Cellulose	60%	Binder	None Detected
		Beige Fibrous Bound	<1%	Hair	38%	Silicates	
12 Layer 1 A2507822	Plaster Skim Coat W/ Finish	Heterogeneous	2%	Cellulose	8%	Paint	None Detected
		Beige Fibrous Bound			90%	Binder	
Layer 2 A2507822	Plaster Base Coat	Homogeneous	2%	Cellulose	60%	Binder	None Detected
		Beige Fibrous Bound	<1%	Hair	38%	Silicates	
13 Layer 1 A2507823	Plaster Skim Coat W/ Finish	Heterogeneous	2%	Cellulose	8%	Paint	None Detected
		Beige Fibrous Bound			90%	Binder	



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ASBESTOS BULK ANALYSIS

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
Layer 2 A2507823	Plaster Base Coat	Homogeneous Beige Fibrous Bound	2% <1%	Cellulose Hair	60% 38%	Binder Silicates	None Detected
14 Layer 1 A2507824	Plaster Skim Coat W/ Finish	Heterogeneous Beige Fibrous Bound	2%	Cellulose	8% 90%	Paint Binder	None Detected
Layer 2 A2507824	Plaster Base Coat	Homogeneous Beige Fibrous Bound	2% <1%	Cellulose Hair	60% 38%	Binder Silicates	None Detected
15 A2507825	Popcorn Ceiling Texture	Heterogeneous White Fibrous Bound	2%	Cellulose	85% 13%	Binder Foam	None Detected
16 A2507826	Popcorn Ceiling Texture	Heterogeneous White Fibrous Bound	2%	Cellulose	85% 13%	Binder Foam	None Detected
17 A2507827	Popcorn Ceiling Texture	Heterogeneous White Fibrous Bound	2%	Cellulose	85% 13%	Binder Foam	None Detected
18 A2507828	Self Stick Floor Tile	Heterogeneous Brown Fibrous Bound	2%	Synthetic Fiber	60% 38%	Vinyl Calc Carb	None Detected

Lab Notes: No Mastic present in the sample.



AMENDED

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Project: COS 447 Brawley St. ACM/LBP; 0417-66

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
19 A2507829	Self Stick Floor Tile	Heterogeneous Brown Fibrous Bound	2%	Synthetic Fiber	60%	Vinyl 38% Calc Carb	None Detected
Lab Notes: No Mastic present in the sample.							
20 A2507830	Sample Submitted for TEM Analysis						
21 A2507831	Felt Paper	Heterogeneous Gray Fibrous Loosely Bound	65%	Cellulose	35%	Binder	None Detected
22 A2507832	Felt Paper	Heterogeneous Gray Fibrous Loosely Bound	65%	Cellulose	35%	Binder	None Detected
23 A2507833	Sample Submitted for TEM Analysis						
24 A2507834A	Self Stick Floor Tile	Heterogeneous Tan Fibrous Bound	2%	Cellulose	60%	Vinyl 38% Calc Carb	None Detected
A2507834B	Mastic	Heterogeneous Tan/Clear Fibrous Bound	2%	Cellulose	60%	Mastic 38% Calc Carb	None Detected
25 A2507835A	Self Stick Floor Tile	Heterogeneous Tan Fibrous Bound	2%	Cellulose	60%	Vinyl 38% Calc Carb	None Detected



AMENDED

ASBESTOS BULK ANALYSIS

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Project: COS 447 Brawley St. ACM/LBP; 0417-66

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
A2507835B	Mastic	Homogeneous Clear Fibrous Bound	2%	Cellulose	60%	Mastic 38% Calc Carb	None Detected
26 A2507836	Sample Submitted for TEM Analysis						None Detected
27 A2507837A	Self Stick Floor Tile	Heterogeneous Blue Fibrous Bound	2%	Cellulose	60%	Vinyl 38% Calc Carb	None Detected
A2507837B	Mastic	Homogeneous Tan Fibrous Bound	2%	Cellulose	60%	Mastic 38% Calc Carb	None Detected
28 A2507838A	Self Stick Floor Tile	Heterogeneous Blue Fibrous Bound	2%	Cellulose	60%	Vinyl 38% Calc Carb	None Detected
A2507838B	Mastic	Homogeneous Tan Fibrous Bound	2%	Cellulose	60%	Mastic 38% Calc Carb	None Detected
29 A2507839	Sample Submitted for TEM Analysis						
30 Layer 1 A2507840	Vinyl Flooring (Backing)	Heterogeneous Beige Fibrous Bound	10%	Cellulose	40%	Binder	50% Chrysotile

Lab Notes: Vinyl top not present in the sample, just the backing.



AMENDED

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Apex Environmental Management
7 Winchester Court
Mauldin, SC 29662

CEI Lab Code: A17-13770
Date Received: 09-28-17
Date Analyzed: 09-29-17
Date Reported: 10-03-17

Project: COS 447 Brawley St. ACM/LBP; 0417-66

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Non-Fibrous			
Layer 2 A2507840	Mastic	Homogeneous Tan Fibrous Bound	2%	Cellulose	60%	Mastic	3% Chrysotile
					35%	Calc Carb	

Lab Notes: Possible chances of contamination from the positive Backing material.

31 Sample Not Analyzed
A2507841 per COC

32 Sample Not Analyzed
A2507842 per COC



LEGEND: Non-Anth = Non-Asbestiform Anthophyllite
Non-Trem = Non-Asbestiform Tremolite
Calc Carb = Calcium Carbonate

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORTING LIMIT: <1% by visual estimation

REPORTING LIMIT FOR POINT COUNTS: 0.25% by 400 Points or 0.1% by 1,000 Points

REGULATORY LIMIT: >1% by weight

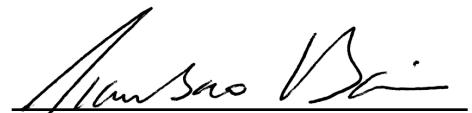
Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation. Estimated measurement of uncertainty is available on request.

This report relates only to the samples tested or analyzed and may not be reproduced, except in full, without written approval by CEI Labs, Inc. CEI Labs makes no warranty representation regarding the accuracy of client submitted information in preparing and presenting analytical results. Interpretation of the analytical results is the sole responsibility of the client. Samples were received in acceptable condition unless otherwise noted. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.

ANALYST:


Shilpa Ladekar

APPROVED BY:


Tianbao Bai, Ph.D., CIH
Laboratory Director





107 New Edition Court, Cary, NC 27511
 Tel: 866-481-1412; Fax: 919-481-1442

ASBESTOS
 CHAIN OF CUSTODY

32) 17-13770
 A2507811
 A2507892

LAB USE ONLY:
CEI Lab Code:
CEI Lab I.D. Range:

COMPANY INFORMATION	PROJECT INFORMATION
CEI CLIENT #:	Job Contact: Tom Oliver
Company: Apex Environmental Management, Inc.	Email / Tel: tolover@apex-ehs.com
Address: 7 Winchester Court Mauldin, South Carolina 29662	Project Name: COS 447 Brawley St. ACM/LBP
Email: tolover@apex-ehs.com	Project ID# 0417-66
Tel: 864-404-3210 Fax: 864-404-3213	PO #:
STATE SAMPLES COLLECTED IN: South Carolina	

GENERAL INSTRUCTIONS		
POSITIVE STOP ANALYSIS	<input checked="" type="checkbox"/>	PLM DUE DATE: / /
ANALYZE NOB'S BY TEM	<input checked="" type="checkbox"/>	TEM DUE DATE: / /

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

ASBESTOS	METHOD	TURN AROUND TIME					
		4 HR	8 HR	24 HR	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLM POINT COUNT (400)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (1000)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM GRAV w POINT COUNT	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCM AIR	NIOSH 7400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR AHERA	EPA AHERA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR NIOSH	NIOSH 7402	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM BULK	CHATFIELD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TEM DUST WIPE	ASTM D6480-05	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST MICROVAC	ASTM D5755-09	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM SOIL	ASTM D7521-13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM VERMICULITE	CINCINNATI METHOD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

REMARKS: Utilize Positive Stop During Analysis		<input checked="" type="checkbox"/> Accept Samples	<input type="checkbox"/> Reject Samples
Relinquished By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	9-27-17	<i>[Signature]</i>	9-28-17

Samples will be disposed of 30 days after analysis

ASBESTOS SAMPLING FORM



COMPANY CONTACT INFORMATION	
Company: Apex Environmental Management, Inc.	Job Contact: Tom Oliver
Project Name: COS 447 Brawley Street ACM/LBP	
Project ID #: 0417-66	Tel: 864-640-5127

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST			
			PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
1	Roof shingles (1)		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
2	+ no felt ↓		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
3			PLM	<input type="checkbox"/>	TEM	<input checked="" type="checkbox"/>
4	Window caulk		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
5			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
6			PLM	<input type="checkbox"/>	TEM	<input checked="" type="checkbox"/>
7	Roof shingles (2) +		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
8	no felt ↓		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
9			PLM	<input type="checkbox"/>	TEM	<input checked="" type="checkbox"/>
10	Plaster with finish		PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
11			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
12			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
13			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
14			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
15	Popcorn ceiling texture		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
16			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
17			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
18	12"x12" brown self-		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
19	stick floor tile ↓		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
20			PLM	<input type="checkbox"/>	TEM	<input checked="" type="checkbox"/>
21	Felt paper ↓		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
22			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
23			PLM	<input type="checkbox"/>	TEM	<input checked="" type="checkbox"/>
24	12"x12" tan self-		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
25	stick floor tile ↓		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
26			PLM	<input type="checkbox"/>	TEM	<input checked="" type="checkbox"/>
27	12"x12" blue self-		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
28	stick floor tile ↓		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
29			PLM	<input type="checkbox"/>	TEM	<input checked="" type="checkbox"/>
			PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>

Am-1370

ASBESTOS SAMPLING FORM



COMPANY CONTACT INFORMATION	
Company: Apex Environmental Management, Inc.	Job Contact: Tom Oliver
Project Name: COS 447 Brawley Street ACM/LBP	
Project ID #: 0417-66	Tel: 864-640-5127

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
30	Beige vinyl floor w/ mattie under wood ↓		<input checked="" type="checkbox"/>	<input type="checkbox"/>
31			<input checked="" type="checkbox"/>	<input type="checkbox"/>
32			<input type="checkbox"/>	<input checked="" type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
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			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>

Laura Bostwick

From: Tom Oliver <toliver@apex-ehs.com>
Sent: Tuesday, October 03, 2017 4:40 PM
To: Laura Bostwick
Subject: FW: Laboratory Report for COS 477 Brawley St. ACM/LBP; 0417-66 (A17-13770)
Attachments: A17-13770.pdf

Hi Laura,

Can you please change the address on the lab report from 477 Brawley street to 447 Brawley Street?

Thanks!

Thomas H. Oliver
Director of Operations
Apex Environmental Management, Inc.
7 Winchester Court
Mauldin, SC 29662

Office (864) 404-3210 Ext: 5
Mobile (864) 640-5127
Fax (864) 404-3213
Email toliver@apex-ehs.com
Website www.apex-ehs.com

-----Original Message-----

From: Laura Bostwick [<mailto:asbestos@ceilabs.com>]
Sent: Tuesday, October 03, 2017 3:46 PM
To: toliver@apex-ehs.com
Subject: Laboratory Report for COS 477 Brawley St. ACM/LBP; 0417-66 (A17-13770)

Attached is the laboratory report for your recently submitted samples.
Please print out a copy for your records.

We appreciate your business,

CEI Labs, Inc.
(866) 481-1412

The contents contained in this email are confidential and legally protected.
If you happen to receive this email in error, please call our office and delete immediately.



October 6, 2017

Apex Environmental Management
7 Winchester Court
Mauldin, SC 29662

CLIENT PROJECT: COS 447 Brawley St. ACM/LBP; 0417-66
CEI LAB CODE: T17-2100

Dear Customer:

Enclosed are asbestos analysis results for TEM bulk samples received at our laboratory on September 29, 2017. The samples were analyzed for asbestos using transmission electron microscopy (TEM) per Chatfield Method.

Sample results containing > 1% asbestos are considered asbestos-containing materials (ACMs) per the EPA regulatory requirements. The detection limit for the TEM Chatfield method is <1% depending on the processed weight and constituents of the sample.

Thank you for your business and we look forward to continuing good relations. If you have any questions, please feel free to call our office at 919-481-1413.

Kind Regards,

A handwritten signature in black ink, appearing to read "Tianbao Bai".

Tianbao Bai, Ph.D., CIH
Laboratory Director



AMENDED

ASBESTOS ANALYTICAL REPORT
By: Transmission Electron Microscopy

Prepared for

Apex Environmental Management

CLIENT PROJECT: COS 447 Brawley St. ACM/LBP; 0417-66

CEI LAB CODE: T17-2100

TEST METHOD: Bulk Chatfield
EPA 600 / R93 / 116

REPORT DATE: 10/06/17

TEL: 866-481-1412

www.ceilabs.com



AMENDED

ASBESTOS BULK ANALYSIS

By: TRANSMISSION ELECTRON MICROSCOPY

Client: Apex Environmental Management
7 Winchester Court
Mauldin, SC 29662

CEI Lab Code: T17-2100
Date Received: 09-29-17
Date Analyzed: 10-05-17
Date Reported: 10-06-17

Project: COS 447 Brawley St. ACM/LBP; 0417-66

TEM BULK CHATFIELD / EPA 600 / R93 / 116

Client ID Lab ID	Material Description	Sample Weight (g)	Organic Material %	Acid Soluble Material %	Acid Insoluble Material %	Asbestos %
3 T68708	Black Roof Shingle	0.578	18.3	39.4	42.3	None Detected
6 T68709	Gray/Black Window Caulk	0.28	96.1	3.6	.3	<1% Chrysotile
9 T68710	Black Roof Shingle	0.46	68.7	2.2	29.1	None Detected
20 T68711	Brown Self Stick Floor Tile	0.341	20.8	78.9	.3	None Detected
23 T68712	Gray Felt Paper	0.251	51.4	0	48.6	<1% Chrysotile
26 T68713	Tan Self Stick Floor Tile	0.303	10.2	89.4	.4	None Detected
26 T68714	Tan/Clear Mastic	0.135	44.4	54.1	1.5	None Detected
29 T68715	Blue Self Stick Floor Tile	0.312	18.9	80.4	.7	None Detected
29 T68716	Tan Mastic	0.111	46.8	52.3	.9	<1% Chrysotile



LEGEND: None


METHOD: CHATFIELD & EPA/600/R-93/116

LIMIT OF DETECTION: Varies with the weight and constituents of the sample (<1%)

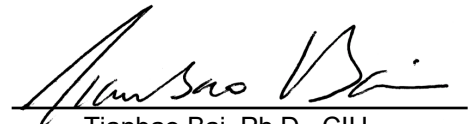
REGULATORY LIMIT: >1% by weight

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ANALYST:


Jennifer Turner

APPROVED BY:


Tianbao Bai, Ph.D., CIH
Laboratory Director



107 New Edition Court, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

777-2100
768-708-716
(9)

**ASBESTOS
CHAIN OF CUSTODY**

(32) 117-13770
A2507811
A2507842

LAB USE ONLY:
CEI Lab Code:
CEI Lab I.D. Range:

COMPANY INFORMATION	PROJECT INFORMATION
CEI CLIENT #:	Job Contact: Tom Oliver
Company: Apex Environmental Management, Inc.	Email / Tel: tolover@apex-ehs.com
Address: 7 Winchester Court Mauldin, South Carolina 29662	Project Name: COS 447 Brawley St. ACM/LBP
Email: tolover@apex-ehs.com	Project ID# 0417-66
Tel: 864-404-3210 Fax: 864-404-3213	PO #:
STATE SAMPLES COLLECTED IN: South Carolina	

GENERAL INSTRUCTIONS		
POSITIVE STOP ANALYSIS	<input checked="" type="checkbox"/>	PLM DUE DATE: / /
ANALYZE NOB'S BY TEM	<input checked="" type="checkbox"/>	TEM DUE DATE: / /

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

ASBESTOS	METHOD	TURN AROUND TIME					
		4 HR	8 HR	24 HR	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLM POINT COUNT (400)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (1000)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM GRAV w POINT COUNT	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCM AIR	NIOSH 7400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR AHERA	EPA AHERA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR NIOSH	NIOSH 7402	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM BULK	CHATFIELD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TEM DUST WIPE	ASTM D6480-05	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST MICROVAC	ASTM D5755-09	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM SOIL	ASTM D7521-13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM VERMICULITE	CINCINNATI METHOD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

REMARKS: Utilize Positive Stop During Analysis		<input checked="" type="checkbox"/> Accept Samples
		<input type="checkbox"/> Reject Samples
Relinquished By:	Date/Time	Received By:
<i>[Signature]</i>	9-27-17	<i>[Signature]</i>
<i>[Signature]</i>	09/29/17 12:35pm	

Samples will be disposed of 30 days after analysis

ASBESTOS SAMPLING FORM



COMPANY CONTACT INFORMATION	
Company: Apex Environmental Management, Inc.	Job Contact: Tom Oliver
Project Name: COS 447 Brawley Street ACM/LBP	
Project ID #: 0417-66	Tel: 864-640-5127

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
			PLM	TEM
1	Roof shingles (1)		<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	+ no felt ↓		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3			<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Window caulk		<input type="checkbox"/>	<input type="checkbox"/>
5			<input checked="" type="checkbox"/>	<input type="checkbox"/>
6			<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	Roof shingles (2) +		<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	no felt ↓		<input checked="" type="checkbox"/>	<input type="checkbox"/>
9			<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	Plaster with finish		<input type="checkbox"/>	<input type="checkbox"/>
11			<input checked="" type="checkbox"/>	<input type="checkbox"/>
12			<input type="checkbox"/>	<input type="checkbox"/>
13			<input checked="" type="checkbox"/>	<input type="checkbox"/>
14			<input checked="" type="checkbox"/>	<input type="checkbox"/>
15	Popcorn ceiling texture		<input checked="" type="checkbox"/>	<input type="checkbox"/>
16			<input type="checkbox"/>	<input type="checkbox"/>
17			<input checked="" type="checkbox"/>	<input type="checkbox"/>
18	12"x12" brown self-		<input checked="" type="checkbox"/>	<input type="checkbox"/>
19	stick floor tile ↓		<input checked="" type="checkbox"/>	<input type="checkbox"/>
20			<input type="checkbox"/>	<input checked="" type="checkbox"/>
21	Felt paper ↓		<input type="checkbox"/>	<input type="checkbox"/>
22			<input checked="" type="checkbox"/>	<input type="checkbox"/>
23			<input type="checkbox"/>	<input checked="" type="checkbox"/>
24	12"x12" tan self-		<input type="checkbox"/>	<input type="checkbox"/>
25	stick floor tile ↓		<input type="checkbox"/>	<input type="checkbox"/>
26			<input type="checkbox"/>	<input checked="" type="checkbox"/>
27	12"x12" blue self-		<input type="checkbox"/>	<input type="checkbox"/>
28	stick floor tile ↓		<input type="checkbox"/>	<input type="checkbox"/>
29			<input type="checkbox"/>	<input checked="" type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>

177-2100

ASBESTOS SAMPLING FORM



COMPANY CONTACT INFORMATION	
Company: Apex Environmental Management, Inc.	Job Contact: Tom Oliver
Project Name: COS 447 Brawley Street ACM/LBP	
Project ID #: 0417-66	Tel: 864-640-5127

SAMPLE ID#	DESCRIPTION/LOCATION	VOLUME/ AREA	TEST	
30	Beige vinyl floor w/		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
31	matte under wood		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
32			PLM <input type="checkbox"/>	TEM <input checked="" type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
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			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>

SECTION IV
Photographic Log

Asbestos & Lead Assessment
City of Spartanburg
447 Brawley Street
Spartanburg, South Carolina



Photo 1 – 447 Brawley Street in Spartanburg, South Carolina.



Photo 2 – Roof shingles and no felt.



Photo 3 – Wooden window glazing.



Photo 4 – Collapsed exterior shed with roofing materials.



Photo 5 – Mastic on 2 chimneys assumed positive.



Photo 6 – Collapsed exterior shed with roofing materials.



Photo 7 – Collapsed exterior shed with roofing materials.



Photo 8 – Plaster with finish throughout



Photo 9 – Popcorn ceiling texture in the front hallway, front left bedroom & dining room.



Photo 10 – 12" x 12" brown self-stick floor tile with no mastic in the kitchen over wood.



Photo 11 – felt paper in the kitchen under wood.



Photo 12 – 12" x 12" tan self-stick floor tile with mastic in the kitchen over wood (patch).

Asbestos & Lead Assessment
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Spartanburg, South Carolina



Photo 13 – 12" x 12" blue self-stick floor tile with mastic (top layer over wood) over beige vinyl flooring with mastic 2nd layer under wood) in the bathroom.

SECTION V

SC DHEC Asbestos Inspector License

SCDHEC ISSUED
Asbestos ID Card

Tedman K Shultz

Expiration Date



AIR SAMPLER AS-00355 02/24/18
CONSULTBI BI-00971 01/18/18

**North Carolina
Asbestos Accreditation**



EXPIRATION

02-28-2018

DOB	SEX	HT	WT
03-16-1972	M	5'10"	275
CLASS	#	EXP	
AIR MONITOR	80864	02-18	
INSPECTOR	12900	01-18	

Tedman K Shultz
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Greenville, SC 29607

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