



Asbestos & Lead Based Paint Assessment

City of Spartanburg
581 South Center Street
Spartanburg, South Carolina

Prepared for:

The City of Spartanburg
201 Caulder Avenue
Spartanburg, South Carolina

Prepared by:

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

Project Number: 0815-163

January 12, 2017





Apex Project Number 0815-163

January 12, 2017

7 Winchester Court
Mauldin, SC 29662
864.404.3210 office
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Mr. Sidney Ferguson
City of Spartanburg
201 Caulder Avenue
Spartanburg, South Carolina 29304

Reference: Asbestos and Lead-Based Paint Assessment Services
581 South Center Street
Spartanburg, South Carolina

SERVICES

Indoor Air Quality
Mold Remediation
Asbestos & Lead
Industrial Hygiene
Worker Health & Safety
Mold Consulting
Moisture Management Plans
Safety Assessment
Environmental Site Assessments
Hazard Communication

Dear Mr. Ferguson:

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.

Nick Neerhof
Project Manager

Tom Oliver
Director of Operations

Appendices

ASBESTOS AND LEAD BASED PAINT ASSESSMENT

**CITY OF SPARTANBURG
581 SOUTH CENTER STREET
SPARTANBURG, SOUTH CAROLINA**

APEX PROJECT NO. 0815-163

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SECTION I

Asbestos & Lead Evaluation Report

ASBESTOS/LEAD EVALUATION REPORT
APEX PROJECT NUMBER: 0815-163

Date:	1/12/2017	Page Number:	1 of 4
Client:	City of Spartanburg	Client Contact:	Mr. Sidney Ferguson
Client Address:	201 Caulder Avenue Spartanburg, SC 29304	Client Phone Number:	(864) 596-2912
Project:	Asbestos and Lead Evaluation		
Property Address:	518 South Center Street Spartanburg, SC		
Assessor:	Ben Oliver	Date of Assessment:	1/5/2017
Company:	Apex Environmental Management 7 Winchester Court Mauldin, SC 29662	Phone Number:	
Purpose of Assessment:	Demolition	Age of Structure:	Approximately 75 years
Building Type:	Residential	Number of Stories:	1
Foundation:	Block crawlspace	Approximate Square Footage:	1,800 SF

EXTERIOR BUILDING MATERIALS

- Pitched wooden roof with multiple types of shingles and no felt on the house and on the front porch.
- Metal siding with brown paper over cement board siding with felt and wood beneath.
- Vinyl and metal windows with no caulk.
- Wooden windows with glazing.
- One exterior shed with pitched metal roof with sealant on the nail heads; wooden and metal siding, vinyl and wooden windows with no caulk or glazing; wooden floor;,, walls and ceiling and unfinished drywall.
- Chimney with mastic assumed positive.

INTERIOR BUILDING MATERIALS

- Multiple types & layers of vinyl floor with & without mastics & felt backing.
- Drywall with joint compound, and tape.
- Wooden floors and ceilings.
- Wall panels with mastic in the bathroom.
- Fire damage and unstable ceilings and flooring exists in portions of the residence.
- Wooden wall panels with no mastic and drywall beneath.
- Flooring felt.
- Vinyl flooring exists below wooden floors.
- Multiple types of ceiling textures.

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. Sixty-two (62) 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). Thirty-three (33) 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 Containing Materials

The EPA defines an asbestos-containing material (ACM) as a material containing more than 1% asbestos. OSHA defines ACM as a material containing any amount of asbestos. A specific *PLM* and *TEM* 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 375 SF of roof sealant on the shed roof.
- Approximately 1,800 SF of cement board siding below the metal siding.
- Approximately 250 SF of swirl ceiling texture in the living room.
- Approximately 425 SF of light ceiling texture in the front and back left bedrooms.
- Approximately 200 SF of black and white checker pattern floor tile and mastic over wood in the large middle room in front of the kitchen.
- Approximately 3,800 SF of the drywall system throughout.
- Approximately 6 LF of chimney mastic on 1 chimney - assumed.

Lead Based Paint

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

Currently, SCDHEC defines LBP as paint containing in excess of, or equal to, $1.0 \text{ mg}/\text{cm}^3$. The laboratory analytical results and chain-of-custody are included in the Lead Analysis Reports in Appendix A. The approximate locations of the paint samples collected and analytical results are presented in Appendix II included with this report.

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

- Exterior white wooden windows and window frames on the house.
- Exterior white wooden door frames on the house.
- Exterior white wooden doors on the shed.
- Interior brown wooden doors and door frames in the house.
- Interior white wooden fire place mantels in the house.
- Interior blue wooden doors in the house.

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/cm²) 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 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 (µg/m³) 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

Project Name: COS 581 South Center Street ACM

Sampled By: Ben Oliver

Project Location: 581 South Center St, Spartanburg SC

Project Manager: Ted Shultz

Project Number: 0815-163

Date: 1/5/2017

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
1	Shed roof	Roof sealant	PLM - 2% Chrysotile	Non-Friable	Good	375 SF
2						
3						
4	Inside shed	Unfinished drywall	PLM - NAD	Friable	Good	150 SF
5						
6						
7	Wooden windows	Window glazing	PLM - NAD	Non-Friable	Good	14 EA
8			TEM - NAD			
9						
10	Under metal siding	Brown siding paper	PLM - NAD	Non-Friable	Damaged	1,800 SF
11			TEM - NAD			
12						
13	Under metal siding	Cement board siding	PLM - 15% Chrysotile	Non-Friable	Good	1,800 SF
14						
15						
16	Under metal siding	Felt beneath cement board siding	PLM - NAD	Non-Friable	Good	1,800 SF
17			TEM - NAD			
18						
19	House roof - 1/2 of roof in the middle portion	Red diamond shaped roof shingles (6 layers) and no felt	PLM - NAD	Non-Friable	Good	1,000 SF
20			TEM - NAD			
21						
22	House roof - 1/2 of roof on the sides	Brown rectangular roof shingles (8 layers) and no felt	PLM - NAD	Non-Friable	Good	1,000 SF
23			TEM - NAD			
24						

ASBESTOS SURVEY FIELD DATA SHEET

Project Name: COS 581 South Center Street ACM

Sampled By: Ben Oliver

Project Location: 581 South Center St, Spartanburg SC

Project Manager: Ted Shultz

Project Number: 0815-163

Date: 1/5/2017

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
25	Front porch roof	Roof shingle (2 layers) and felt (1 layer)	PLM - NAD	Non-Friable	Good	160 SF
26			TEM - NAD			
27						
28	Living room under hardwood flooring	Tan pattern vinyl flooring with brown paper and no mastic	PLM - NAD	Non-Friable	Good	250 SF
29			TEM - NAD			
30						
31	Front right room	Flooring felt	PLM - NAD	Non-Friable	Good	125 SF
32			TEM - NAD			
33						
34	Living room	Swirl ceiling texture	PLM - 2% Chrysotile	Friable	Good	250 SF
35						
36						
37	Front left bedroom and back left bedroom	Light ceiling texture	PLM - 2% Chrysotile	Friable	Significantly Damaged	425 SF
38						
39						
40	Large middle room in front of kitchen	Top layer over wood - black & white checker pattern floor tiles with mastic; 2nd to 4th layers under wood - 2 layers of vinyl floor with no mastic over flooring paper	PLM - 3% Chry-top layer FT & mastic; NAD-2nd to 4th layers	Non-Friable	Damaged	200 SF
41			TEM-NAD-2nd to 4th layers			
42						
43	Large middle room in the closet	2 layers of vinyl flooring with no mastic	PLM - NAD	Non-Friable	Good	15 SF
44			TEM - NAD			
45						
46	Kitchen	Beige large square pattern vinyl flooring with no mastic	PLM - NAD	Non-Friable	Good	105 SF
47			TEM - NAD			
48						

ASBESTOS SURVEY FIELD DATA SHEET

Project Name: COS 581 South Center Street ACM

Sampled By: Ben Oliver

Project Location: 581 South Center St, Spartanburg SC

Project Manager: Ted Shultz

Project Number: 0815-163

Date: 1/5/2017

Sample No.	Location	Sample Description	Analytical Results	Friable/Non Friable	Condition	Quantity
49	Bathroom	Wall panel mastic	PLM - NAD	Non-Friable	Good	60 SF
50			TEM - NAD			
51						
52	Throughout	Drywall with joint compound and tape	PLM - 2% Chrysotile	Friable	Good	3,800 SF
53						
54						
55						
56						
57	Bathroom	Tan pattern vinyl flooring with no mastic	PLM - NAD	Non-Friable	Good	35 SF
58			TEM - NAD			
59						
60	Large middle room in front of kitchen	Skim coating over seams of plywood ceiling	PLM - NAD	Friable	Good	200 SF
61						
62						
Assumed	Chimney	Chimney tar on 1 chimney	Assumed Positive	Non-Friable	Good	6 LF

NAD = No Asbestos Detected
Bold = Positive For Asbestos

LF = Linear Feet
 SF = Square Feet

EA = Each
 Chry = Chrysotile

**FIELD DATA SHEET
LBP ANALYSIS**

Project Name: COS 581 South Center Street ACM/LBP

Sampled By: Thomas Oliver

Project Location: 581 South Center St, Spartanburg, SC

Project Manager: Ted Shultz

Project Number: 0815-163

Date: 1/5/2017

Sample No.	Sample Location	Component	Color	Substrate	Analytical Result (mg/m ³)
42	Exterior - house	Porch ceiling	White	Wood	Insufficient Test Time
43	Exterior - house	Porch ceiling	White	Wood	0.00
44	Exterior - house	Siding	Green	Metal	0.03
45	Exterior - house	Porch rail	White	Wood	0.00
46	Exterior - house	Window frame	White	Wood	4.15
47	Exterior - house	Window	White	Wood	1.84
48	Exterior - house	Porch floor	Grey	Concrete	0.06
49	Exterior - house	Soffit/fascia	White	Wood	0.00
50	Exterior - house	Door frame	White	Wood	2.60
51	Exterior - house	Door	Brown	Wood	0.00
52	Exterior - house	Porch trim	White	Wood	0.08
53	Exterior - house	Post/Support	Black	Metal	0.03
54	Exterior - house	Siding	White	Cement board	0.00
55	Exterior - house	Siding	White	Wood	0.00
56	Exterior - house	Door	White	Wood	0.00
57	Exterior - house	Door frame	White	Wood	0.02
58	Exterior - shed	Window	Brown	Wood	0.00
59	Exterior - shed	Door frame	White	Wood	0.01
60	Exterior - shed	Door	White	Wood	4.33
61	Interior - shed	Balusters	White	Wood	0.00
62	Interior - house	Door frame	Brown	Wood	1.45
63	Interior - house	Door	Brown	Wood	2.24
64	Interior - house	Wall panel	White	Wood	0.10
65	Interior - house	Original floor	Grey	Wood	0.10
66	Interior - house	Baseboard	Brown	Wood	0.05
67	Interior - house	Window sill	Brown	Wood	Insufficient Test Time

**FIELD DATA SHEET
LBP ANALYSIS**

Project Name: COS 581 South Center Street ACM/LBP

Sampled By: Thomas Oliver

Project Location: 581 South Center St, Spartanburg, SC

Project Manager: Ted Shultz

Project Number: 0815-163

Date: 1/5/2017

Sample No.	Sample Location	Component	Color	Substrate	Analytical Result (mg/m ³)
68	Interior - house	Window sill	Brown	Wood	0.00
69	Interior - house	Ceiling	White	Drywall	0.00
70	Interior - house	Wall	White	Drywall	0.00
71	Interior - house	Mantle	White	Wood	2.37
72	Interior - house	Fireplace cover	Black	Metal	0.54
73	Interior - house	Wall panel	Brown	Wood	0.00
74	Interior - house	Ceiling	White	Wood	0.00
75	Interior - house	Wall panel	Yellow	Wood	Insufficient Test Time
76	Interior - house	Wall panel	Yellow	Wood	0.01
77	Interior - house	Wall	Green	Drywall	0.00
78	Interior - house	Door	Blue	Wood	3.09
79	Interior - house	Wall	Blue	Wood	0.00
80	Interior - house	Door frame	Blue	Wood	0.00

Bold is Lead Based Paint

SECTION III

Laboratory Analytical Results



January 11, 2017

Apex Environmental Management
7 Winchester Court
Mauldin, SC 29662

CLIENT PROJECT: COS 581 South Center Street ACM; 0815-163
CEI LAB CODE: A17-0227

Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on January 6, 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





ASBESTOS ANALYTICAL REPORT
By: Polarized Light Microscopy

Prepared for

Apex Environmental Management

CLIENT PROJECT: COS 581 South Center Street ACM; 0815-163

CEI LAB CODE: A17-0227

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

REPORT DATE: 01/11/17

TOTAL SAMPLES ANALYZED: 37

SAMPLES >1% ASBESTOS: 9

TEL: 866-481-1412

www.ceilabs.com



Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: COS 581 South Center Street ACM; 0815 CEI LAB CODE: A17-0227
-163

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

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
1		A2293754	Silver,Black	Roof Sealant	Chrysotile 2%
2		A2293755		Sample Not Analyzed per COC	
4		A2293757	White	Unfinished Drywall	None Detected
5		A2293758	White	Unfinished Drywall	None Detected
6		A2293759	White	Unfinished Drywall	None Detected
7		A2293760	White	Window Glazing	None Detected
8		A2293761	White	Window Glazing	None Detected
10		A2293763	Brown	Siding Paper	None Detected
11		A2293764	Brown	Siding Paper	None Detected
13		A2293766	Gray	Cement Board Siding	Chrysotile 15%
14		A2293767		Sample Not Analyzed per COC	
15		A2293768		Sample Not Analyzed per COC	
16		A2293769	Black	Felt	None Detected
17		A2293770	Black	Felt	None Detected
19	Layer 1	A2293772A	Tan	Roof Shingle	None Detected
	Layer 2	A2293772A	Green,Black	Roof Shingle	None Detected
		A2293772B	Brown,Black	Roof Shingle	None Detected
		A2293772C	Green	Roof Shingle	None Detected
		A2293772D	Brown	Roof Shingle	None Detected
		A2293772E	Black	Roof Shingle	None Detected
20	Layer 1	A2293773A	Tan	Roof Shingle	None Detected
	Layer 2	A2293773A	Green,Black	Roof Shingle	None Detected
		A2293773B	Brown,Black	Roof Shingle	None Detected
		A2293773C	Green	Roof Shingle	None Detected
		A2293773D	Brown	Roof Shingle	None Detected
		A2293773E	Black	Roof Shingle	None Detected
22	Layer 1	A2293775A	Brown	Roof Shingle	None Detected
	Layer 2	A2293775A	Brown,Black	Roof Shingle	None Detected
		A2293775B	Brown Green, Black	Roof Shingle	None Detected
		A2293775C	Brown,Green	Roof Shingle	None Detected



Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: COS 581 South Center Street ACM; 0815 CEI LAB CODE: A17-0227
-163

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

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
		A2293775D	Green	Roof Shingle	None Detected
		A2293775E	Green	Roof Shingle	None Detected
		A2293775F	Green	Roof Shingle	None Detected
		A2293775G	Green	Roof Shingle	None Detected
23	Layer 1	A2293776A	Brown	Roof Shingle	None Detected
	Layer 2	A2293776A	Brown,Black	Roof Shingle	None Detected
		A2293776B	Brown Green, Black	Roof Shingle	None Detected
		A2293776C	Brown,Green	Roof Shingle	None Detected
		A2293776D	Green	Roof Shingle	None Detected
		A2293776E	Green	Roof Shingle	None Detected
		A2293776F	Green	Roof Shingle	None Detected
		A2293776G	Green	Roof Shingle	None Detected
25	Layer 1	A2293778A	Gray	Roof Shingle	None Detected
	Layer 2	A2293778A	Black,Gray	Roof Shingle	None Detected
		A2293778B	Black	Felt	None Detected
26	Layer 1	A2293779A	Gray	Roof Shingle	None Detected
	Layer 2	A2293779A	Black,Gray	Roof Shingle	None Detected
		A2293779B	Black	Felt	None Detected
28	Layer 1	A2293781	Tan,Patterned	Vinyl Flooring	None Detected
	Layer 2	A2293781	Brown	Paper	None Detected
29	Layer 1	A2293782	Tan,Patterned	Vinyl Flooring	None Detected
	Layer 2	A2293782	Brown	Paper	None Detected
31		A2293784	Black	Flooring Felt	None Detected
32		A2293785	Black	Flooring Felt	None Detected
34		A2293787	White,Beige	Swirl Ceiling Texture	Chrysotile 2%
35		A2293788		Sample Not Analyzed per COC	
36		A2293789		Sample Not Analyzed per COC	
37		A2293790	Gray,Beige	Light Ceiling Texture	Chrysotile 2%
38		A2293791		Sample Not Analyzed per COC	
39		A2293792		Sample Not Analyzed per COC	



Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: COS 581 South Center Street ACM; 0815 CEI LAB CODE: A17-0227
-163

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

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
40		A2293793A	Black	Tile	Chrysotile 3%
		A2293793B	Black	Mastic	Chrysotile 3%
		A2293793C	Beige	Tile	Chrysotile 3%
		A2293793D	Black	Mastic	Chrysotile 3%
		A2293793E	Green,Brown	Vinyl Flooring	None Detected
	Layer 1	A2293793F	Gray,Red	Vinyl Flooring	None Detected
	Layer 2	A2293793F	Brown	Paper	None Detected
41		A2293794A		Sample Not Analyzed per COC	
		A2293794B		Sample Not Analyzed per COC	
		A2293794C		Sample Not Analyzed per COC	
		A2293794D		Sample Not Analyzed per COC	
		A2293794E	Green,Brown	Vinyl Flooring	None Detected
	Layer 1	A2293794F	Gray,Red	Vinyl Flooring	None Detected
	Layer 2	A2293794F	Brown	Paper	None Detected
43		A2293796A	Tan	Vinyl Flooring	None Detected
		A2293796B	Brown Red, Variously	Vinyl Flooring	None Detected
44		A2293797A	Tan	Vinyl Flooring	None Detected
		A2293797B	Brown Red, Variously	Vinyl Flooring	None Detected
46		A2293799	Beige,Square Pattern	Vinyl Flooring	None Detected
47		A2293800	Beige,Square Pattern	Vinyl Flooring	None Detected
49		A2293802	Tan	Wall Panel Mastic	None Detected
50		A2293803	Tan	Wall Panel Mastic	None Detected
52	Layer 1	A2293805	White	Joint Compound	None Detected
	Layer 2	A2293805	Beige	Joint Compound	Chrysotile 3%
	Layer 3	A2293805	Off-white	Tape	None Detected
	Layer 4	A2293805	White	Drywall	None Detected
53		A2293806		Sample Not Analyzed per COC	
54		A2293807		Sample Not Analyzed per COC	



Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: COS 581 South Center Street ACM; 0815 **CEI LAB CODE:** A17-0227
-163

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

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
55		A2293808		Sample Not Analyzed per COC	
56		A2293809		Sample Not Analyzed per COC	
57		A2293810	Tan,Patterned	Vinyl Flooring	None Detected
58		A2293811	Tan,Patterned	Vinyl Flooring	None Detected
60		A2293813	White	Skim Coating	None Detected
61		A2293814	White	Skim Coating	None Detected
62		A2293815	White	Skim Coating	None Detected



ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

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

CEI Lab Code: A17-0227
Date Received: 01-06-17
Date Analyzed: 01-10-17
Date Reported: 01-11-17

Project: COS 581 South Center Street ACM; 0815-163

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
1 A2293754	Roof Sealant	Heterogeneous Silver,Black Non-fibrous Bound	3%	Cellulose	70%	Binder	2% Chrysotile
2 A2293755	Sample Not Analyzed per COC						
4 A2293757	Unfinished Drywall	Heterogeneous White Fibrous Bound	15% <1%	Cellulose Fiberglass	85%	Gypsum	None Detected
5 A2293758	Unfinished Drywall	Heterogeneous White Fibrous Bound	15% <1%	Cellulose Fiberglass	85%	Gypsum	None Detected
6 A2293759	Unfinished Drywall	Heterogeneous White Fibrous Bound	15% <1%	Cellulose Fiberglass	85%	Gypsum	None Detected
7 A2293760	Window Glazing	Heterogeneous White Non-fibrous Bound	2%	Talc	50% 48%	Calc Carb Binder	None Detected
8 A2293761	Window Glazing	Heterogeneous White Non-fibrous Bound	2%	Talc	50% 43% 5%	Calc Carb Binder Paint	None Detected
10 A2293763	Siding Paper	Homogeneous Brown Fibrous Bound	100%	Cellulose			None Detected



ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

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

CEI Lab Code: A17-0227
Date Received: 01-06-17
Date Analyzed: 01-10-17
Date Reported: 01-11-17

Project: COS 581 South Center Street ACM; 0815-163

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
11 A2293764	Siding Paper	Homogeneous Brown Fibrous Bound	100%	Cellulose			None Detected
13 A2293766	Cement Board Siding	Heterogeneous Gray Fibrous Bound			35% 50%	Silicates Binder	15% Chrysotile
14 A2293767	Sample Not Analyzed per COC						
15 A2293768	Sample Not Analyzed per COC						
16 A2293769	Felt	Heterogeneous Black Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
17 A2293770	Felt	Heterogeneous Black Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
19 Layer 1 A2293772A	Roof Shingle	Heterogeneous Tan Fibrous Bound	20%	Fiberglass	55% 25%	Tar Gravel	None Detected
Layer 2 A2293772A	Roof Shingle	Heterogeneous Green,Black Fibrous Bound	30% 5%	Cellulose Synthetic Fiber	40% 25%	Tar Gravel	None Detected



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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		
A2293772B	Roof Shingle	Heterogeneous Brown,Black Fibrous Bound	30%	Cellulose	45%	Tar	None Detected
					25%	Gravel	
A2293772C	Roof Shingle	Heterogeneous Green Fibrous Bound	30%	Cellulose	45%	Tar	None Detected
					25%	Gravel	
A2293772D	Roof Shingle	Heterogeneous Brown Fibrous Bound	30%	Cellulose	45%	Tar	None Detected
					25%	Gravel	
A2293772E	Roof Shingle	Heterogeneous Black Fibrous Bound	40%	Cellulose	50%	Tar	None Detected
					10%	Gravel	
20 Layer 1 A2293773A	Roof Shingle	Heterogeneous Tan Fibrous Bound	20%	Fiberglass	55%	Tar	None Detected
					25%	Gravel	
Layer 2 A2293773A	Roof Shingle	Heterogeneous Green,Black Fibrous Bound	30%	Cellulose	40%	Tar	None Detected
			5%	Synthetic Fiber	25%	Gravel	
A2293773B	Roof Shingle	Heterogeneous Brown,Black Fibrous Bound	30%	Cellulose	45%	Tar	None Detected
					25%	Gravel	



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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		
A2293773C	Roof Shingle	Heterogeneous Green Fibrous Bound	30%	Cellulose	45%	Tar 25% Gravel	None Detected
A2293773D	Roof Shingle	Heterogeneous Brown Fibrous Bound	30%	Cellulose	45%	Tar 25% Gravel	None Detected
A2293773E	Roof Shingle	Heterogeneous Black Fibrous Bound	40%	Cellulose	50%	Tar 10% Gravel	None Detected
22 Layer 1 A2293775A	Roof Shingle	Heterogeneous Brown Fibrous Bound	20%	Fiberglass	55%	Tar 25% Gravel	None Detected
Layer 2 A2293775A	Roof Shingle	Heterogeneous Brown,Black Fibrous Bound	20%	Fiberglass	55%	Tar 25% Gravel	None Detected
A2293775B	Roof Shingle	Heterogeneous Brown Green, Black Fibrous Bound	30%	Cellulose	45%	Tar 25% Gravel	None Detected
A2293775C	Roof Shingle	Heterogeneous Brown,Green Fibrous Bound	30%	Cellulose	45%	Tar 25% Gravel	None Detected



ASBESTOS BULK ANALYSIS

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Project: COS 581 South Center Street ACM; 0815-163

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
A2293775D	Roof Shingle	Heterogeneous Green Fibrous Bound	30%	Cellulose	45%	Tar 25% Gravel	None Detected
A2293775E	Roof Shingle	Heterogeneous Green Fibrous Bound	30%	Cellulose	45%	Tar 25% Gravel	None Detected
A2293775F	Roof Shingle	Heterogeneous Green Fibrous Bound	30%	Cellulose	45%	Tar 25% Gravel	None Detected
A2293775G	Roof Shingle	Heterogeneous Green Fibrous Bound	30%	Cellulose	45%	Tar 25% Gravel	None Detected
23 Layer 1 A2293776A	Roof Shingle	Heterogeneous Brown Fibrous Bound	20%	Fiberglass	55%	Tar 25% Gravel	None Detected
Layer 2 A2293776A	Roof Shingle	Heterogeneous Brown,Black Fibrous Bound	20%	Fiberglass	55%	Tar 25% Gravel	None Detected
A2293776B	Roof Shingle	Heterogeneous Brown Green, Black Fibrous Bound	30%	Cellulose	45%	Tar 25% Gravel	None Detected



ASBESTOS BULK ANALYSIS

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Project: COS 581 South Center Street ACM; 0815-163

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
A2293776C	Roof Shingle	Heterogeneous Brown,Green Fibrous Bound	30%	Cellulose	45%	Tar Gravel	None Detected
A2293776D	Roof Shingle	Heterogeneous Green Fibrous Bound	30%	Cellulose	45%	Tar Gravel	None Detected
A2293776E	Roof Shingle	Heterogeneous Green Fibrous Bound	30%	Cellulose	45%	Tar Gravel	None Detected
A2293776F	Roof Shingle	Heterogeneous Green Fibrous Bound	30%	Cellulose	45%	Tar Gravel	None Detected
A2293776G	Roof Shingle	Heterogeneous Green Fibrous Bound	30%	Cellulose	45%	Tar Gravel	None Detected
25 Layer 1 A2293778A	Roof Shingle	Heterogeneous Gray Fibrous Bound	20%	Fiberglass	55%	Tar Gravel	None Detected
Layer 2 A2293778A	Roof Shingle	Heterogeneous Black,Gray Fibrous Bound	20%	Fiberglass	55%	Tar Gravel	None Detected



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Project: COS 581 South Center Street ACM; 0815-163

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
A2293778B	Felt	Homogeneous Black Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
26 Layer 1 A2293779A	Roof Shingle	Heterogeneous Gray Fibrous Bound	20%	Fiberglass	55%	Tar 25% Gravel	None Detected
Layer 2 A2293779A	Roof Shingle	Heterogeneous Black,Gray Fibrous Bound	20%	Fiberglass	55%	Tar 25% Gravel	None Detected
A2293779B	Felt	Homogeneous Black Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
28 Layer 1 A2293781	Vinyl Flooring	Heterogeneous Tan,Patterned Fibrous Bound	50%	Cellulose	30%	Vinyl 20% Tar	None Detected
Layer 2 A2293781	Paper	Homogeneous Brown Fibrous Bound	100%	Cellulose			None Detected
29 Layer 1 A2293782	Vinyl Flooring	Heterogeneous Tan,Patterned Fibrous Bound	50%	Cellulose	30%	Vinyl 20% Tar	None Detected



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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 A2293782	Paper	Homogeneous Brown Fibrous Bound	100%	Cellulose			None Detected
31 A2293784	Flooring Felt	Homogeneous Black Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
32 A2293785	Flooring Felt	Homogeneous Black Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
34 A2293787	Swirl Ceiling Texture	Heterogeneous White,Beige Non-fibrous Bound			5%	Paint	2% Chrysotile
					65%	Calc Carb	
					28%	Binder	
35 A2293788	Sample Not Analyzed per COC						
36 A2293789	Sample Not Analyzed per COC						
37 A2293790	Light Ceiling Texture	Heterogeneous Gray,Beige Non-fibrous Bound			5%	Paint	2% Chrysotile
					65%	Calc Carb	
					28%	Binder	
38 A2293791	Sample Not Analyzed per COC						
39 A2293792	Sample Not Analyzed per COC						



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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		
40 A2293793A	Tile	Heterogeneous Black Non-fibrous Bound	97%		Vinyl	3% Chrysotile	
A2293793B	Mastic	Heterogeneous Black Non-fibrous Bound	97%		Mastic	3% Chrysotile	
A2293793C	Tile	Heterogeneous Beige Non-fibrous Bound	97%		Vinyl	3% Chrysotile	
A2293793D	Mastic	Heterogeneous Black Non-fibrous Bound	97%		Mastic	3% Chrysotile	
A2293793E	Vinyl Flooring	Heterogeneous Green,Brown Fibrous Bound	50%	Cellulose	30% 20%	Vinyl Tar	None Detected
Layer 1 A2293793F	Vinyl Flooring	Heterogeneous Gray,Red Fibrous Bound	50%	Cellulose	30% 20%	Vinyl Tar	None Detected
Layer 2 A2293793F	Paper	Homogeneous Brown Fibrous Bound	100%	Cellulose			None Detected
41 A2293794A	Sample Not Analyzed per COC						



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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		
A2293794B	Sample Not Analyzed per COC						
A2293794C	Sample Not Analyzed per COC						
A2293794D	Sample Not Analyzed per COC						
A2293794E	Vinyl Flooring	Heterogeneous Green,Brown Fibrous Bound	50%	Cellulose	30%	Vinyl 20% Tar	None Detected
Layer 1 A2293794F	Vinyl Flooring	Heterogeneous Gray,Red Fibrous Bound	50%	Cellulose	30%	Vinyl 20% Tar	None Detected
Layer 2 A2293794F	Paper	Homogeneous Brown Fibrous Bound	100%	Cellulose			None Detected
43 A2293796A	Vinyl Flooring	Heterogeneous Tan Fibrous Bound	50%	Cellulose	30%	Vinyl 20% Tar	None Detected
A2293796B	Vinyl Flooring	Heterogeneous Brown Red, Variously Fibrous Bound	50%	Cellulose	30%	Vinyl 20% Tar	None Detected
44 A2293797A	Vinyl Flooring	Heterogeneous Tan Fibrous Bound	50%	Cellulose	30%	Vinyl 20% Tar	None Detected



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Project: COS 581 South Center Street ACM; 0815-163

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %
			Fibrous	Non-Fibrous		
A2293797B	Vinyl Flooring	Heterogeneous Brown Red, Variously Fibrous Bound	50%	Cellulose	30% Vinyl 20% Tar	None Detected
46 A2293799	Vinyl Flooring	Heterogeneous Beige, Square Pattern Non-fibrous Bound			85% Vinyl 15% Binder	None Detected
47 A2293800	Vinyl Flooring	Heterogeneous Beige, Square Pattern Non-fibrous Bound			85% Vinyl 15% Binder	None Detected
49 A2293802	Wall Panel Mastic	Heterogeneous Tan Non-fibrous Bound	<1%	Cellulose	100% Mastic	None Detected
50 A2293803	Wall Panel Mastic	Heterogeneous Tan Non-fibrous Bound	<1%	Cellulose	100% Mastic	None Detected
52 Layer 1 A2293805	Joint Compound	Heterogeneous White Non-fibrous Bound			5% Paint 70% Calc Carb 25% Binder	None Detected
Layer 2 A2293805	Joint Compound	Heterogeneous Beige Non-fibrous Bound			<1% Paint 70% Calc Carb 27% Binder	3% Chrysotile



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Project: COS 581 South Center Street ACM; 0815-163

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Non-Fibrous			
Layer 3 A2293805	Tape	Homogeneous Off-white Fibrous Bound	100%	Cellulose			None Detected
Layer 4 A2293805	Drywall	Heterogeneous White Fibrous Bound	10%	Cellulose	90%	Gypsum	None Detected
53 A2293806	Sample Not Analyzed per COC						
54 A2293807	Sample Not Analyzed per COC						
55 A2293808	Sample Not Analyzed per COC						
56 A2293809	Sample Not Analyzed per COC						
57 A2293810	Vinyl Flooring	Heterogeneous Tan, Patterned Fibrous Bound	5%	Cellulose	50%	Vinyl Binder	None Detected
Lab Notes: Insufficient mastic for analysis							
58 A2293811	Vinyl Flooring	Heterogeneous Tan, Patterned Fibrous Bound	5%	Cellulose	50%	Vinyl Binder	None Detected
Lab Notes: Insufficient mastic for analysis							
60 A2293813	Skim Coating	Heterogeneous White Non-fibrous Bound		<1%	Paint		None Detected
				70%	Calc Carb		
				30%	Binder		



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Project: COS 581 South Center Street ACM; 0815-163

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
61 A2293814	Skim Coating	Heterogeneous	<1%	Paint	None Detected
		White	70%	Calc Carb	
		Non-fibrous	30%	Binder	
		Bound			
62 A2293815	Skim Coating	Heterogeneous	<1%	Paint	None Detected
		White	70%	Calc Carb	
		Non-fibrous	30%	Binder	
		Bound			



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

LIMIT OF DETECTION: <1% by visual estimation

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.

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ANALYST: *Samantha Card*
Samantha Card

APPROVED BY: *Tianbao Bai*
Tianbao Bai, Ph.D., CIH
Laboratory Director



62) A17-0227
 A229 3754
 A229 3815



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

ASBESTOS CHAIN OF CUSTODY

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

COMPANY INFORMATION	PROJECT INFORMATION
CEI CLIENT #:	Job Contact: Ben Oliver
Company: Apex Environmental Management, Inc.	Email / Tel: boliver@apex-ehs.com
Address: 7 Winchester Court Mauldin, South Carolina 29662	Project Name: COS 581 South Center Street ACM
Email: boliver@apex-ehs.com	Project ID# 0815-163
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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 Run TEM and PLM analysis simultaneously		<input checked="" type="checkbox"/> Accept Samples <input type="checkbox"/> Reject Samples	
Relinquished By:	Date/Time	Received By:	Date/Time
	1-5-2017	A	16 17 9:30

Samples will be disposed of 30 days after analysis

ASBESTOS SAMPLING FORM



COMPANY CONTACT INFORMATION	
Company: Apex Environmental Management, Inc.	Job Contact: Ben Oliver
Project Name: COS 581 South center Street ACM	
Project ID #: 0815-163	Tel: 864-640-1147

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
			PLM	TEM
1	Roof sealant		<input checked="" type="checkbox"/>	<input type="checkbox"/>
2			<input checked="" type="checkbox"/>	<input type="checkbox"/>
3			<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Unfinished drywall		<input checked="" type="checkbox"/>	<input type="checkbox"/>
5			<input checked="" type="checkbox"/>	<input type="checkbox"/>
6			<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	Window glazing		<input checked="" type="checkbox"/>	<input type="checkbox"/>
8			<input checked="" type="checkbox"/>	<input type="checkbox"/>
9			<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	Brown siding paper		<input checked="" type="checkbox"/>	<input type="checkbox"/>
11			<input type="checkbox"/>	<input type="checkbox"/>
12			<input type="checkbox"/>	<input checked="" type="checkbox"/>
13	Cement board siding		<input checked="" type="checkbox"/>	<input type="checkbox"/>
14			<input checked="" type="checkbox"/>	<input type="checkbox"/>
15			<input checked="" type="checkbox"/>	<input type="checkbox"/>
16	Felt beneath cement board		<input checked="" type="checkbox"/>	<input type="checkbox"/>
17			<input checked="" type="checkbox"/>	<input type="checkbox"/>
18			<input type="checkbox"/>	<input checked="" type="checkbox"/>
19	Roof shingles (6) layers		<input checked="" type="checkbox"/>	<input type="checkbox"/>
20	+ no felt		<input checked="" type="checkbox"/>	<input type="checkbox"/>
21			<input type="checkbox"/>	<input checked="" type="checkbox"/>
22	Roof shingles (8) layers		<input checked="" type="checkbox"/>	<input type="checkbox"/>
23	+ no felt		<input checked="" type="checkbox"/>	<input type="checkbox"/>
24			<input type="checkbox"/>	<input checked="" type="checkbox"/>
25	Roof shingles (2) layers		<input checked="" type="checkbox"/>	<input type="checkbox"/>
26	+ felt (1) layer		<input checked="" type="checkbox"/>	<input type="checkbox"/>
27			<input type="checkbox"/>	<input checked="" type="checkbox"/>
28	Tan pattern VF w/no		<input checked="" type="checkbox"/>	<input type="checkbox"/>
29	brown paper mastic +		<input checked="" type="checkbox"/>	<input type="checkbox"/>
30	brown paper		<input type="checkbox"/>	<input checked="" type="checkbox"/>

ASBESTOS SAMPLING FORM



COMPANY CONTACT INFORMATION	
Company: <u>Same</u>	Job Contact: <u>Same</u>
Project Name:	
Project ID #:	Tel:

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
31	Flooring felt		<input checked="" type="checkbox"/>	<input type="checkbox"/>
32			<input checked="" type="checkbox"/>	<input type="checkbox"/>
33			<input type="checkbox"/>	<input checked="" type="checkbox"/>
34	Swirl ceiling texture		<input checked="" type="checkbox"/>	<input type="checkbox"/>
35			<input checked="" type="checkbox"/>	<input type="checkbox"/>
36			<input checked="" type="checkbox"/>	<input type="checkbox"/>
37	Light ceiling texture		<input checked="" type="checkbox"/>	<input type="checkbox"/>
38			<input checked="" type="checkbox"/>	<input type="checkbox"/>
39			<input checked="" type="checkbox"/>	<input type="checkbox"/>
40	Multiple layers of VF		<input checked="" type="checkbox"/>	<input type="checkbox"/>
41	w/ + w/ no mastics		<input checked="" type="checkbox"/>	<input type="checkbox"/>
42			<input type="checkbox"/>	<input checked="" type="checkbox"/>
43	2 layers of VF w/		<input checked="" type="checkbox"/>	<input type="checkbox"/>
44	no mastics		<input checked="" type="checkbox"/>	<input type="checkbox"/>
45			<input type="checkbox"/>	<input checked="" type="checkbox"/>
46	Beige large square pattern VF w/ no mastic		<input checked="" type="checkbox"/>	<input type="checkbox"/>
47			<input checked="" type="checkbox"/>	<input type="checkbox"/>
48			<input type="checkbox"/>	<input checked="" type="checkbox"/>
49	Wall panel mastic		<input checked="" type="checkbox"/>	<input type="checkbox"/>
50			<input checked="" type="checkbox"/>	<input type="checkbox"/>
51			<input type="checkbox"/>	<input checked="" type="checkbox"/>
52	Drywall w/ joint compound + tape		<input checked="" type="checkbox"/>	<input type="checkbox"/>
53			<input checked="" type="checkbox"/>	<input type="checkbox"/>
54			<input checked="" type="checkbox"/>	<input type="checkbox"/>
55			<input checked="" type="checkbox"/>	<input type="checkbox"/>
56			<input checked="" type="checkbox"/>	<input type="checkbox"/>
57	Tan pattern VF w/ mastic		<input checked="" type="checkbox"/>	<input type="checkbox"/>
58			<input checked="" type="checkbox"/>	<input type="checkbox"/>
59			<input type="checkbox"/>	<input checked="" type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>



January 11, 2017

Apex Environmental Management
7 Winchester Court
Mauldin, SC 29662

CLIENT PROJECT: COS 581 South Center Street ACM; 0815-163
CEI LAB CODE: T17-0044

Dear Customer:

Enclosed are asbestos analysis results for TEM bulk samples received at our laboratory on January 6, 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', is written in a cursive style.

Tianbao Bai, Ph.D., CIH
Laboratory Director



ASBESTOS ANALYTICAL REPORT
By: Transmission Electron Microscopy

Prepared for

Apex Environmental Management

CLIENT PROJECT: COS 581 South Center Street ACM; 0815-163

CEI LAB CODE: T17-0044

TEST METHOD: Bulk Chatfield
EPA 600 / R93 / 116

REPORT DATE: 01/11/17

TEL: 866-481-1412

www.ceilabs.com



ASBESTOS BULK ANALYSIS

By: TRANSMISSION ELECTRON MICROSCOPY

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

CEI Lab Code: T17-0044
Date Received: 01-06-17
Date Analyzed: 01-11-17
Date Reported: 01-11-17

Project: COS 581 South Center Street ACM; 0815-163

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 T57012	Roof Sealant			Positive Stop		
9 T57013	Window Glazing	0.768	9.8	84.4	5.8	None Detected
12 T57014	Brown Siding Paper	0.09	95.6	2.2	2.2	None Detected
18 T57015	Felt	01.227	17.2	82.2	.6	None Detected
21 T57016	Tan Roof Shingle	0.674	49	15.6	35.4	None Detected
21 T57017	Green, Black Roof Shingle	0.902	48.6	14.2	37.2	None Detected
21 T57018	Brown, Black Roof Shingle	01.066	19.9	58.3	21.8	None Detected
21 T57019	Green Roof Shingle	0.647	47	2.5	50.5	None Detected
21 T57020	Brown Roof Shingle	0.557	48.8	.7	50.5	None Detected
21 T57021	Black Roof Shingle	0.44	77.7	16.1	6.2	None Detected
24 T57022	Brown Roof Shingle	0.481	52.2	4.8	43	None Detected
24 T57023	Brown, Black Roof Shingle	0.335	60.3	2.4	37.3	None Detected



ASBESTOS BULK ANALYSIS

By: TRANSMISSION ELECTRON MICROSCOPY

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

CEI Lab Code: T17-0044
Date Received: 01-06-17
Date Analyzed: 01-11-17
Date Reported: 01-11-17

Project: COS 581 South Center Street ACM; 0815-163

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 %
24 T57024	Brown, Green, Black Roof Shingle	0.509	55.8	2.6	41.6	None Detected
24 T57025	Brown, Green Roof Shingle	0.304	58.6	2.3	39.1	None Detected
24 T57026	Green Roof Shingle	0.544	51.8	2.2	46	None Detected
24 T57027	Green Roof Shingle	0.655	21.8	50.8	27.4	None Detected
24 T57028	Green Roof Shingle	0.759	22.7	56.5	20.8	None Detected
24 T57029	Green Roof Shingle	0.606	48	2.3	49.7	None Detected
27 T57030	Gray Roof Shingle	0.761	21.9	43	35.1	None Detected
27 T57031	Black, Gray Roof Shingle	0.756	25.4	56.5	18.1	None Detected
27 T57032	Felt Paper	0.435	92.2	3.4	4.4	None Detected
30 T57033	Tan Pattern Vinyl Flooring	0.177	75.1	16.9	8	None Detected
33 T57034	Flooring Felt	0.298	91.6	7.7	.7	None Detected
42 T57035	Green, Brown Vinyl Flooring	0.403	74.4	19.9	5.7	None Detected



ASBESTOS BULK ANALYSIS

By: TRANSMISSION ELECTRON MICROSCOPY

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

CEI Lab Code: T17-0044
Date Received: 01-06-17
Date Analyzed: 01-11-17
Date Reported: 01-11-17

Project: COS 581 South Center Street ACM; 0815-163

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 %
42 T57036	Gray, Red Vinyl Flooring	0.214	71	16.8	12.2	None Detected
42 T57037	Beige Floor Tile					Positive Stop
42 T57038	Black Mastic					Positive Stop
42 T57039	Black Floor Tile					Positive Stop
45 T57040	Tan Vinyl Flooring	0.374	74.3	22.7	3	None Detected
45 T57041	Brown Red, Variously Vinyl Flooring	0.426	77	9.6	13.4	None Detected
48 T57042	Beige, Square Pattern Vinyl Flooring	0.192	81.8	16.7	1.5	None Detected
51 T57043	Wall Panel Mastic	0.124	36.3	57.3	6.4	None Detected
59 T57044	Tan, Pattern Vinyl Flooring	0.256	69.9	19.5	10.6	None Detected



LEGEND: None

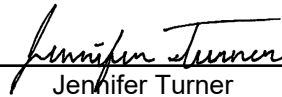
METHOD: CHATFIELD & EPA/600/R-93/116

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


REGULATORY LIMIT: >1% by weight

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.

ANALYST:


Jennifer Turner

APPROVED BY:


Tianbao Bai, Ph.D., CIH
Laboratory Director

62) A17-0227
 A229 3754
 A229 3815



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

ASBESTOS CHAIN OF CUSTODY

LAB USE ONLY:	
CEI Lab Code:	T17-0044
CEI Lab I.D. Range:	TS7012-045 (34)

COMPANY INFORMATION	PROJECT INFORMATION
CEI CLIENT #:	Job Contact: Ben Oliver
Company: Apex Environmental Management, Inc.	Email / Tel: boliver@apex-ehs.com
Address: 7 Winchester Court Mauldin, South Carolina 29662	Project Name: COS 581 South Center Street ACM
Email: boliver@apex-ehs.com	Project ID# 0815-163
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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 Run TEM and PLM analysis simultaneously		<input checked="" type="checkbox"/> Accept Samples <input type="checkbox"/> Reject Samples	
Relinquished By:	Date/Time	Received By:	Date/Time
	1-5-2017	A	16 17 9:30

Samples will be disposed of 30 days after analysis

ASBESTOS SAMPLING FORM



COMPANY CONTACT INFORMATION	
Company: Apex Environmental Management, Inc.	Job Contact: Ben Oliver
Project Name: COS 581 South center Street ACM	
Project ID #: 0815-163	Tel: 864-640-1147

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
			PLM <input type="checkbox"/>	TEM <input type="checkbox"/>
1	Root sealant		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
2			PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
3			PLM <input type="checkbox"/>	TEM <input checked="" type="checkbox"/>
4	Unfinished drywall		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
5			PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
6			PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
7	Window glazing		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
8			PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
9			PLM <input type="checkbox"/>	TEM <input checked="" type="checkbox"/>
10	Brown siding paper		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
11			PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
12			PLM <input type="checkbox"/>	TEM <input checked="" type="checkbox"/>
13	Cement board siding		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
14			PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
15			PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
16	Felt beneath cement		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
17	board		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
18			PLM <input type="checkbox"/>	TEM <input checked="" type="checkbox"/>
19	Roof shingles (6) layers		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
20	+ no felt		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
21			PLM <input type="checkbox"/>	TEM <input checked="" type="checkbox"/>
22	Roof shingles (8) layers		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
23	+ no felt		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
24			PLM <input type="checkbox"/>	TEM <input checked="" type="checkbox"/>
25	Roof shingles (2) layers		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
26	+ felt (1) layer		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
27			PLM <input type="checkbox"/>	TEM <input checked="" type="checkbox"/>
28	Tan pattern VF w/ no		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
29	brown paper mastic +		PLM <input checked="" type="checkbox"/>	TEM <input type="checkbox"/>
30	brown paper		PLM <input type="checkbox"/>	TEM <input checked="" type="checkbox"/>

012

013

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016-021

022-029

030-032

033

ASBESTOS SAMPLING FORM



COMPANY CONTACT INFORMATION	
Company: <u>Same</u>	Job Contact: <u>Same</u>
Project Name:	
Project ID #:	Tel:

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST			
			PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>
31	Flooring felt		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
32			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
33			PLM	<input type="checkbox"/>	TEM	<input checked="" type="checkbox"/>
34	Swirl ceiling		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
35	texture		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
36			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
37	Light ceiling texture		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
38			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
39			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
40	Multiple layers of VF		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
41	w/ & w/ no mastics		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
42			PLM	<input type="checkbox"/>	TEM	<input checked="" type="checkbox"/>
43	2 layers of VF w/		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
44	no mastics		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
45			PLM	<input type="checkbox"/>	TEM	<input checked="" type="checkbox"/>
46	Beige large square		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
47	pattern VF w/ no mastic		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
48			PLM	<input type="checkbox"/>	TEM	<input checked="" type="checkbox"/>
49	Wall panel mastic		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
50			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
51			PLM	<input type="checkbox"/>	TEM	<input checked="" type="checkbox"/>
52	Drywall w/ joint compound		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
53	& tape		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
54			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
55			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
56			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
57	Tan pattern VF w/ mastic		PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
58			PLM	<input checked="" type="checkbox"/>	TEM	<input type="checkbox"/>
59			PLM	<input type="checkbox"/>	TEM	<input checked="" type="checkbox"/>
			PLM	<input type="checkbox"/>	TEM	<input type="checkbox"/>

034

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040-041

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SECTION IV
Photographic Log



Photo 1 -- 581 South Center Street in Spartanburg, SC.



Photo 2 – Roof sealant on shed roof.



Photo 3 – Unfinished drywall inside the shed.



Photo 4 – Exterior rear shed.



Photo 5 – Six layers of roof shingles and no felt (red diamond shaped shingles).



Photo 6 – Eight layers of roof shingles and no felt (brown rectangular shaped shingles).



Photo 7 – Two layers of roof shingles and one layer of felt on front porch roof.



Photo 8 – Window glazing on wooden windows.



Photo 9 – Black felt paper beneath cement board siding. Brown siding paper under metal siding.



Photo 10 – Tan pattern vinyl flooring with brown paper and no mastic under wood in the living room.



Photo 11 – Flooring felt in front right room.



Photo 12 – Swirl ceiling texture on the living room ceiling.



Photo 13 – Light ceiling texture in the front left bedroom and back left bedroom.



Photo 14 – Light ceiling texture in the back left bedroom.



Photo 15 – Multiple layers of vinyl flooring with and without mastic in the large middle room in front of the kitchen.



Photo 16 – Two layers of vinyl flooring with no mastic in the closet of the large middle room in front of the kitchen.



Photo 17 – Beige large square pattern vinyl flooring with no mastic in the kitchen.



Photo 18 – Wall panel mastic in the bathroom.



Photo 19 – Drywall, joint compound and tape throughout.



Photo 20 – Tan pattern vinyl flooring with mastic throughout bathroom.



Photo 21 – Skim coating on seams of plywood ceiling in the large middle room in front of kitchen.



Photo 22 – Drywall, joint compound and tape throughout.

SECTION V

SC DHEC Asbestos Inspector License

SCDHEC ISSUED

Asbestos ID Card

John Oliver



Expiration Date

AIRAMPLER AS-00486 04/01/17
CONSULTBI BI-01528 04/08/17

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

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

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