

# ASBESTOS ASSESSMENT



DWELLING DEMOLITION

224 SHAMROCK DRIVE  
SUMMERVILLE, SOUTH CAROLINA 29483

ECS PROJECT NO. 49:11848

FOR: TOWN OF SUMMERVILLE

JUNE 29, 2020





June 29, 2020

Mr. Russ Cornette  
Town of Summerville  
200 S Main Street  
Summerville, South Carolina 29483

ECS Project No. 49:11848

Reference: Asbestos Assessment, Dwelling Demolition, 224 Shamrock Drive, Summerville, South Carolina

Dear Mr. Cornette:

ECS Southeast, LLP (ECS) is pleased to provide Town of Summerville with the results of the above referenced Asbestos Assessment performed at the dwelling located at 224 Shamrock Drive in Summerville, South Carolina. This report summarizes our observations, analytical results, findings, and recommendations related to the work performed. The work described in this report was performed by ECS in general accordance with the Scope of Services described in ECS Proposal Number 49:19226 and the terms and conditions of the agreement authorizing those services.

ECS appreciates this opportunity to provide Town of Summerville with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Southeast, LLP

Kurt Robert Gauthier  
Assistant Staff Project Manager  
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Justin Roth, CHMM  
Environmental Principal  
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## EXECUTIVE SUMMARY

The subject property is improved with an approximately 1,003 square foot, single-family dwelling reportedly originally constructed in 1980. At the time of our survey the subject building was vacant and is currently scheduled to be demolished.

The purpose of the survey was to determine if asbestos-containing materials (ACMs) are present on the subject property. The assessment was performed within interior and exterior areas of the residence as well as the roof.

Based on the laboratory analysis of the bulk samples collected during the survey, the following materials were reported to contain asbestos:

- **Beige Patterned Linoleum & Mastic: (Sample ID 03-01,02,03)**
- **White Under Sink Coating: (Sample ID 04-01,02,03)**

Based on the laboratory analysis of the bulk samples collected during the survey, the following materials were reported to contain trace amounts ( $\leq 1\%$ ) of asbestos:

- **Kitchen Wall Panel Mastic: (Sample ID 10-01,02,03)**

The executive summary is an integral portion of this report, however, ECS recommends the report be read in its entirety.

<b>TABLE OF CONTENTS</b>		<b>PAGE</b>
<b>1.0</b>	<b>SITE DESCRIPTION</b> .....	<b>1</b>
<b>2.0</b>	<b>PURPOSE</b> .....	<b>1</b>
<b>3.0</b>	<b>METHODOLOGY</b> .....	<b>1</b>
3.1	Asbestos-Containing Materials .....	1
<b>4.0</b>	<b>RESULTS</b> .....	<b>2</b>
4.1	Asbestos-Containing Materials .....	2
4.2	Suspect or Assumed Asbestos-Containing Materials .....	4
<b>5.0</b>	<b>RECOMMENDATIONS AND REGULATORY REQUIREMENTS</b> .....	<b>5</b>
5.1	Asbestos-Containing Materials .....	5
<b>6.0</b>	<b>LIMITATIONS</b> .....	<b>6</b>

## **TABLE OF APPENDICES**

Appendix I: Figures

Appendix II: Site Photographs

Appendix III: Asbestos Bulk Sample Results

Appendix IV: Certifications/Licenses

## 1.0 SITE DESCRIPTION

The subject property is improved with an approximately 1,003 square foot, single-family dwelling reportedly originally constructed in 1980. Building finishes observed within the residence consist of a concrete sub-floor, linoleum, carpet, and ceramic tiles; the wall systems consist of drywall wallboard; and the ceiling systems consist of drywall. The exterior walls of the residence consist mainly of brick.

## 2.0 PURPOSE

The purpose of the Asbestos Assessment was to identify asbestos-containing materials (ACMs), which may require special handling and/or disposal if removed during construction activities. The identification of ACMs may require trained labor, regulated work practices, and special disposal.

## 3.0 METHODOLOGY

ECS performed the authorized Scope of Services in general accordance with our proposal, standard industry practice(s) and methods specified by regulation(s) for the identification of Asbestos-Containing Materials (ACMs).

### 3.1 Asbestos-Containing Materials

The non-destructive asbestos assessment was performed by an asbestos inspector who has received EPA accredited training and is licensed by South Carolina (Kurt Gauthier SC Building Inspector No. BI-01787). Samples of suspect ACMs were collected utilizing hand tools and placed into individual, labeled plastic bags. Unique bulk suspect ACM samples were submitted to SAI Lab in Greensboro, North Carolina for analysis via Polarized Light Microscopy (PLM) in accordance with current EPA-600 methodology. Materials consisting of additional layers were analyzed separately. SAI Lab is listed as an accredited laboratory by the National Voluntary Laboratory Accreditation Plan (NVLAP) managed by the National Institute of Standards and Technology (NIST) for bulk sample analysis by currently approved EPA methodology by PLM and TEM.

During the survey, ECS attempted to identify suspect ACMs in readily accessible areas. However, due to the destructive means required to identify some materials, certain areas were deemed inaccessible (i.e. behind walls or sub grade materials) and were not surveyed for suspect ACMs. Unidentified suspect ACMs may be located in these and/or other inaccessible areas.

Samples were collected in general accordance with EPA Standard 40 CFR 763 Subpart E, Asbestos Hazard Emergency Response Act (AHERA) and OSHA Standard 29 CFR 1926.1101 Inspection Protocol. Multiple samples of each unique material were submitted. Samples were analyzed using "Positive Stop" methodology. If one sample of a homogeneous material is reported to contain asbestos, the remaining samples of that material are not analyzed. EPA regulations stipulate that if one sample contains asbestos the entire quantity of that material contains asbestos, regardless of additional analysis.

If one sample of a material from a homogeneous area was reported to contain greater than 1% asbestos, then by EPA definition, it was characterized as asbestos-containing material. If samples of non-friable organically bound (NOB) materials were collected and reported by the laboratory to contain less than 1% asbestos by PLM, these materials were re-analyzed in accordance with SC-DHEC requirements for NOB's by transmission electron microscopy (TEM) using the Chatfield method.

## 4.0 RESULTS

The following is a summary of laboratory results, findings and observations.

### 4.1 Asbestos-Containing Materials

In total, 47 bulk samples from 15 homogeneous areas were submitted to the laboratory of which 65 layers were analyzed.

An Asbestos-Containing Material (ACM) is defined as any material containing more than one percent (>1%) asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, PLM. Materials are categorized by the U.S. EPA in the following categories:

- Friable ACMs are defined as any ACM that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure. Non-friable ACMs are defined as any ACM that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
- Category I non-friable ACM are listed as following: packings, gaskets, resilient floor coverings, and asphalt roofing products containing more than one percent (>1%) asbestos.
- Category II non-friable ACM are listed as any material, excluding Category I non-friable ACM, containing more than one percent (>1%) asbestos.

Regulated Asbestos Containing Materials (RACM) are friable ACM or non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading or has crumbled, been pulverized, or reduced to powder in the course of renovation and/or demolition operations.

SAI Lab submitted a signed final laboratory report to ECS on June 29, 2020. Of the bulk samples submitted for analysis three of the materials analyzed were reported to contain asbestos in detectable concentrations. These materials are summarized below. A complete list of the sampled materials submitted for analysis and sample locations are located in the Appendix of this report. Additional details regarding the overall locations of the materials identified as asbestos-containing are provided further in the report. Photographs of collected samples reported as asbestos-containing are also located in the Appendix of this report.

### Summary of Asbestos-Containing Materials Identified

Sample ID	Location	Material Description	Analytical Results	Category	Estimated Quantity
01-01,02,03	Kitchen	Grey 12" x 12" Patterned Linoleum	None Detected	Non Friable /Good Condition	180 SF
02-01,02,03	Kitchen	White 6" x 6" Patterned Linoleum & Mastic	None Detected	Non Friable /Good Condition	180 SF
<b>03-01,02,03</b>	<b>Kitchen</b>	<b>Beige Patterned Linoleum &amp; Mastic</b>	<b>Linoleum &amp; Mastic: 20% Chrysotile</b>	<b>Non Friable /Good Condition</b>	<b>180 SF</b>
<b>04-01,02,03</b>	<b>Kitchen</b>	<b>White Under Sink Coating</b>	<b>5% Chrysotile</b>	<b>Non Friable /Good Condition</b>	<b>4 SF</b>
05-01,02,03	Bathroom	Beige Under Sink Coating	None Detected	Non Friable /Good Condition	4 SF
06-01,02,03	Throughout	Drywall	None Detected	Friable/ Good Condition	2,300 SF
07-01,02,03,04,05	Throughout	Joint Compound	None Detected	Friable/ Good Condition	2,300 SF
08-01,02,03	Throughout	Textured Ceiling	None Detected	Friable/ Good Condition	990 SF
09-01,02,03	Entryway	Light Beige Square Patterned Linoleum & Mastic	None Detected	Non Friable /Good Condition	8 SF

Sample ID	Location	Material Description	Analytical Results	Category	Estimated Quantity
10-01,02,03	Kitchen wall	Kitchen Wall Panel Mastic	0.55% Chrysotile	Non Friable /Good Condition	12 SF
11-01,02,03	HVAC ducts	White & Black Duct Mastic	None Detected	Non Friable /Good Condition	100 SF
12-01,02,03	Windows/ doors	White Window & Door Caulking	None Detected	Non Friable /Good Condition	40 LF
13-01,02,03	Windows	Black Window Liner	None Detected	Non Friable /Good Condition	20 LF
14-01,02,03	Roof	Shingle & Felt Paper	None Detected	Non Friable /Good Condition	1,400 SF
15-01,02,03	Roof penetrations	Black Roof Tar	None Detected	Non Friable /Good Condition	10 SF

\*Quantities are estimated and should not be utilized for bidding purposes for abatement.

#### 4.2 Suspect or Assumed Asbestos-Containing Materials

Due to the inaccessibility or the destructive means that asbestos sampling requires, additional suspect ACMs may remain within the building hidden behind inaccessible areas that include, but are not limited to, sub-grade walls, structural members, topping slabs, sub-grade sealants, flooring located below underlayments, areas behind exterior walls, pipe trenches, and subsurface utilities, etc. These areas were deemed inaccessible and were not assessed.

If these materials are discovered during construction activities, they should be presumed to contain asbestos and be treated as ACMs or be sampled immediately upon discovery and prior to disturbance for asbestos content by a certified asbestos inspector in accordance with 29 CFR 1926.1101.

## 5.0 RECOMMENDATIONS AND REGULATORY REQUIREMENTS

Based on our understanding of the purpose of the Asbestos Assessment, the results of laboratory analysis, and our findings and observations, ECS presents the following recommendations.

### 5.1 Asbestos-Containing Materials

Based on the laboratory analysis of the bulk samples collected during the assessment, the following materials were reported to contain asbestos:

- **Beige Patterned Linoleum & Mastic: (Sample ID 03-01,02,03)**
- **White Under Sink Coating: (Sample ID 04-01,02,03)**

Based on the laboratory analysis of the bulk samples collected during the survey, the following materials were reported to contain trace amounts ( $\leq 1\%$ ) of asbestos:

- **Kitchen Wall Panel Mastic: (Sample ID 10-01,02,03)**

NESHAP requires the identification of friable ACM and non-friable ACM likely to become friable during demolition and/or renovation activities. NESHAP requires that the identified ACM be removed prior to initiating activities likely to disturb the ACM. Notification to the SC-DHEC is required for demolitions including move-off of a facility and the intentional burning of a facility within South Carolina. Notification is also required for renovations that include the disturbing or removal of regulated quantities of RACM; it is also required for planned renovations to occur at the same facility or project during a year's time. Each structure or facility must have a separate notification. Notification is required for facilities which do not contain asbestos as well. The starting date for demolition or renovation must be at least 10 working days from the date of submission of a complete notification to SCDHEC. ECS recommends abating asbestos containing materials in the structure prior to disturbance. Based on the square footage of friable asbestos containing material, the SCDHEC will require a project design for this abatement project.

ECS recommends that a project specification be prepared to delineate and quantify known and suspect hazardous and regulated materials in the buildings and to outline proper procedures for the abatement. This will help protect the owner's liability in better defining the scope of work and contractors' roles and responsibilities in the abatement process and holding the contractor accountable for the performance of the project. The specification typically defines the Contractor's scope of work and outline requirements and procedures that must be followed for the project. The intent of the specification is to give performance requirements for the Contractor so that the project can be completed safely and in compliance with applicable federal and state regulations. Typically, the specification document serves as part of the site owner's contract with the contractor.

ECS recommends where a material type has been identified as asbestos containing that other materials with similar color, texture, age and size throughout the building's interior and exterior be assumed to contain asbestos. Please refer to Section 4.1 for a complete list of building materials that were reported positive for asbestos and to Section 4.2 for materials that were assumed to contain asbestos.

If ACMs are to be removed, it is recommended that an industrial hygienist monitor the project. This involves collecting air samples from within and outside abatement work areas to monitor the asbestos abatement contractor's work practices over the course of the project. The industrial hygienist should evaluate if the asbestos abatement work is in accordance with project specifications, U.S. EPA regulation 40 CFR Part 61-National Emission Standards for Hazardous Air Pollutants Subpart M: National Emission Standard for Asbestos, and U.S. Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1926.1101 – Asbestos in Construction. The industrial hygienist should assess each work area to monitor the removal of ACMs. Only after the industrial hygienist has determined the identified ACMs have been removed should final clearance air samples be collected (if necessary).

A trace amount of asbestos ( $\leq 1\%$ ) was detected in the bulk samples of (Sample ID: 10-01,02,03) analyzed by the laboratory. Although materials that contain trace amounts of asbestos are not subject to U.S. EPA or South Carolina regulations for the handling and disposal of asbestos, OSHA still regulates any work which will disturb materials identified with trace amounts of asbestos (reference the November 24, 2003 OSHA Interpretation document - Compliance Requirements For Renovation Work Involving Materials Containing Less Than 1% Asbestos). Therefore, any Contractors disturbing these materials will need to comply with components of 29 CFR 1926.1101, as detailed in the 2003 OSHA Interpretation document.

## 6.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

The observations, conclusions, and recommendations pertaining to environmental conditions at the subject site are necessarily limited to conditions observed, and/or materials reviewed at the time this study was undertaken. No warranty, expressed or implied, is made with regard to the conclusions and recommendations presented within this report. This report is provided for the exclusive use of the client. This report is not intended to be used or relied upon in connection with other projects or by other unidentified third parties without the written consent of ECS and the client.

Our recommendations are in part based on federal, state, and local regulations and guidelines. ECS does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to any local, state, or federal public agencies, any conditions at the site that may present a potential danger to public health, safety, or the environment. Under this scope of services, ECS assumes no responsibility regarding any response actions initiated as a result of these findings. General compliance with regulations and response actions are the sole responsibility of the Client and should be conducted in accordance with local, state, and/or federal requirements.

# **Appendix I: Figures**



**ASBESTOS ASSESSMENT**  
**SITE LOCATION**  
224 Shamrock Drive,  
Summerville, South Carolina  
29483  
ECS Project No. 49-11848

Source: Dorchester  
County GIS





**ASBESTOS ASSESSMENT**

**SAMPLE LOCATIONS**

224 Shamrock Drive,  
Summerville, South Carolina  
29483

ECS Project No. 49-11848

**LEGEND:**

- XX-XX Sample Negative
-  Sample Positive
-  Approximate Area of Positive Material
-  Trace Amounts of Asbestos Detected ( $\leq 1\%$ )

**NOTES:**

- Not to scale
- Samples Color Coded



# **Appendix II: Site Photographs**



1 - Image of the subject property



2 - Image of beige patterned linoleum & mastic: (Sample ID 03-01,02,03)



3 - Image of white under sink coating: (Sample ID 04-01,02,03)



4 - Image of beige kitchen wall panel mastic: (Sample ID 10-01,02,03)



5 - Image of grey 12" x 12" linoleum



6 - Image of white 6" x 6" patterned linoleum & mastic



7 - Image of beige under sink coating



8 - Image of joint compound sample



9 - Image of white textured ceiling



10 - Image of light beige square pattern linoleum & mastic



11 - Image of white & black duct mastic



12 - Image of black window liner



13 - Image of white window & door caulking



14 - Image of black roof tar

# **Appendix III: Asbestos Bulk Sample Results**



# Bulk Asbestos Analysis

By Polarized Light Microscopy  
 EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E,  
 App.E



**Customer:** ECS Carolinas, LLP  
 3820 Faber Place  
 North Charleston, SC 29405

**Attn:** Kurt Gauthier

**Lab Order ID:** 71945059  
**Analysis ID:** 71945059\_PLM  
**Date Received:** 6/25/2020  
**Date Reported:** 6/25/2020

**Project:** 10848:224 Shamrock Dr.

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
01-01	Grey 12"x12" pattern linoleum	None Detected		100% Other	Gray, White Non Fibrous Homogeneous
71945059PLM_1					Crushed, Ashed
01-02	Grey 12"x12" pattern linoleum	None Detected		100% Other	Gray, White Non Fibrous Homogeneous
71945059PLM_2					Crushed, Ashed
01-03	Grey 12"x12" pattern linoleum	Not Analyzed			
71945059PLM_3	TEM				
02-01 - A	White 6"x6" pattern linoleum & mastic	None Detected	60% Cellulose 10% Fiber Glass	30% Other	White Non Fibrous Homogeneous
71945059PLM_4	vinyl sheet flooring				Teased, Crushed
02-01 - B	White 6"x6" pattern linoleum & mastic	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945059PLM_48	mastic				Dissolved
02-02 - A	White 6"x6" pattern linoleum & mastic	None Detected	60% Cellulose 10% Fiber Glass	30% Other	White Non Fibrous Homogeneous
71945059PLM_5	vinyl sheet flooring				Teased, Crushed
02-02 - B	White 6"x6" pattern linoleum & mastic	None Detected		100% Other	Yellow Non Fibrous Homogeneous
71945059PLM_49	mastic				Dissolved
02-03 - A	White 6"x6" pattern linoleum & mastic	Not Analyzed			
71945059PLM_6	vinyl sheet flooring - TEM				

**Disclaimer:** Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Heather Davide (53)

Analyst

Approved Signatory



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Lab Sample ID	Lab Notes				Treatment
02-03 - B	White 6"x6" pattern linoleum & mastic	Not Analyzed			
71945059PLM_50	mastic - TEM				
03-01	Beige patterns linoleum & mastic	20% Chrysotile		80% Other	Beige, Yellow Non Fibrous Homogeneous
71945059PLM_7	vinyl sheet flooring/mastic inseparable				Teased, Crushed
03-02	Beige patterns linoleum & mastic	Not Analyzed			
71945059PLM_8					
03-03	Beige patterns linoleum & mastic	Not Analyzed			
71945059PLM_9					
04-01	White under sink coating	5% Chrysotile		95% Other	Beige Non Fibrous Homogeneous
71945059PLM_10					Crushed, Dissolved
04-02	White under sink coating	Not Analyzed			
71945059PLM_11					
04-03	White under sink coating	Not Analyzed			
71945059PLM_12					
05-01	Beige under sink coating	None Detected		100% Other	White Non Fibrous Homogeneous
71945059PLM_13					Crushed, Dissolved

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
05-02	Beige under sink coating	None Detected		100% Other	White Non Fibrous Homogeneous
71945059PLM_14					Crushed
05-03	Beige under sink coating	Not Analyzed			
71945059PLM_15	TEM				
06-01	Drywall	None Detected		100% Other	Gray Non Fibrous Homogeneous
71945059PLM_16					Crushed
06-02	Drywall	None Detected		100% Other	Gray Non Fibrous Homogeneous
71945059PLM_17					Crushed
06-03	Drywall	None Detected		100% Other	Gray Non Fibrous Homogeneous
71945059PLM_18					Crushed
07-01	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
71945059PLM_19					Crushed
07-02	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
71945059PLM_20					Crushed
07-03	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
71945059PLM_21					Crushed

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
07-04	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
71945059PLM_22					Crushed
07-05	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
71945059PLM_23					Crushed
08-01	Textured ceiling	None Detected		60% Perlite 40% Vermiculite	White Non Fibrous Heterogeneous
71945059PLM_24					Crushed
08-02	Textured ceiling	None Detected		60% Other 40% Vermiculite	White Non Fibrous Heterogeneous
71945059PLM_25					Crushed
08-03	Textured ceiling	None Detected		60% Other 40% Vermiculite	White Non Fibrous Heterogeneous
71945059PLM_26					Crushed
09-01	Light beige sq pattern linoleum & mastic	None Detected	50% Cellulose 10% Fiber Glass	40% Other	Beige Non Fibrous Homogeneous
71945059PLM_27					Teased, Crushed
09-02	Light beige sq pattern linoleum & mastic	None Detected	50% Cellulose 10% Fiber Glass	40% Other	Beige Non Fibrous Homogeneous
71945059PLM_28					Teased, Crushed
09-03	Light beige sq pattern linoleum & mastic	Not Analyzed			
71945059PLM_29	TEM				

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
10-01	Kitchen wall panel mastic	None Detected		100% Other	White, Brown Non Fibrous Homogeneous
71945059PLM_30	layers inseparable				Crushed, Ashed
10-02	Kitchen wall panel mastic	None Detected		100% Other	White, Brown Non Fibrous Homogeneous
71945059PLM_31	layers inseparable				Crushed, Ashed
10-03	Kitchen wall panel mastic	Not Analyzed			
71945059PLM_32	TEM				
11-01	White & black duct mastic	None Detected		100% Other	Black, White Non Fibrous Homogeneous
71945059PLM_33					Crushed, Ashed
11-02	White & black duct mastic	None Detected		100% Other	Black, White Non Fibrous Homogeneous
71945059PLM_34					Crushed, Ashed
11-03	White & black duct mastic	Not Analyzed			
71945059PLM_35	TEM				
12-01	White window/door caulking	None Detected		100% Other	Brown Non Fibrous Homogeneous
71945059PLM_36					Crushed, Ashed
12-02	White window/door caulking	None Detected		100% Other	Brown Non Fibrous Homogeneous
71945059PLM_37					Crushed, Ashed

**Disclaimer:** Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Heather Davide (53)

Analyst

Approved Signatory



# Bulk Asbestos Analysis

By Polarized Light Microscopy  
 EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E,  
 App.E



**Customer:** ECS Carolinas, LLP  
 3820 Faber Place  
 North Charleston, SC 29405

**Attn:** Kurt Gauthier

**Lab Order ID:** 71945059  
**Analysis ID:** 71945059\_PLM  
**Date Received:** 6/25/2020  
**Date Reported:** 6/25/2020

**Project:** 10848:224 Shamrock Dr.

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
12-03	White window/door caulking	Not Analyzed			
71945059PLM_38	TEM				
13-01	Black window liner	None Detected	15% Fiber Glass	85% Other	Black Non Fibrous Homogeneous
71945059PLM_39					Crushed, Ashed
13-02	Black window liner	None Detected	15% Fiber Glass	85% Other	Black Non Fibrous Homogeneous
71945059PLM_40					Crushed, Ashed
13-03	Black window liner	Not Analyzed			
71945059PLM_41	TEM				
14-01 - A	Shingle & felt paper	None Detected	15% Fiber Glass	85% Other	Black, Gray Non Fibrous Homogeneous
71945059PLM_42	shingle				Crushed, Dissolved
14-01 - B	Shingle & felt paper	None Detected	90% Cellulose	10% Other	Black Non Fibrous Homogeneous
71945059PLM_51	felt				Teased, Crushed
14-02 - A	Shingle & felt paper	None Detected	15% Fiber Glass	85% Other	Black, Gray Non Fibrous Homogeneous
71945059PLM_43	shingle				Crushed, Dissolved
14-02 - B	Shingle & felt paper	None Detected	90% Cellulose	10% Other	Black Non Fibrous Homogeneous
71945059PLM_52	felt				Teased, Crushed

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Heather Davide (53)

Analyst

Approved Signatory



# Bulk Asbestos Analysis

By Polarized Light Microscopy  
 EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E,  
 App.E



**Customer:** ECS Carolinas, LLP  
 3820 Faber Place  
 North Charleston, SC 29405

**Attn:** Kurt Gauthier

**Lab Order ID:** 71945059  
**Analysis ID:** 71945059\_PLM  
**Date Received:** 6/25/2020  
**Date Reported:** 6/25/2020

**Project:** 10848:224 Shamrock Dr.

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
14-03 - A	Shingle & felt paper	Not Analyzed			
71945059PLM_44	shingle - TEM				
14-03 - B	Shingle & felt paper	Not Analyzed			
71945059PLM_53	felt - TEM				
15-01	Black roof tar	None Detected	10% Cellulose	90% Other	Black Non Fibrous Homogeneous
71945059PLM_45					Crushed, Dissolved
15-02	Black roof tar	None Detected	10% Cellulose	90% Other	Black Non Fibrous Homogeneous
71945059PLM_46					Crushed, Dissolved
15-03	Black roof tar	Not Analyzed			
71945059PLM_47	TEM				

**Disclaimer:** Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAL. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Heather Davide (53)

Analyst

Approved Signatory



**Scientific Analytical Institute**  
 4604 Dundas Dr. Greensboro, NC 27407  
 Phone: 336.292.3888 Fax: 336.292.3313  
 www.sailab.com lab@sailab.com

Lab Use Only 71945059  
 Lab Order ID: \_\_\_\_\_  
 Client Code: \_\_\_\_\_

Company Contact Information	
Company: <u>ECS Southeast</u>	Contact: <u>Kurt Garthier</u>
Address: <u>3820 Faber Place</u>	Phone <input type="checkbox"/> :
<u>Dr. S-200 N. Charleston</u>	Fax <input type="checkbox"/> :
<u>SC 29405</u>	Email <input checked="" type="checkbox"/> : <u>kgarthier@ecslimited.com</u>

Billing/Invoice Information	Turn Around Times	
Company: <u>SAME</u>	90 Min. <input type="checkbox"/>	48 Hours <input type="checkbox"/>
Contact:	3 Hours <input type="checkbox"/>	72 Hours <input type="checkbox"/>
Address:	6 Hours <input type="checkbox"/>	96 Hours <input type="checkbox"/>
	12 Hours <input type="checkbox"/>	120 Hours <input type="checkbox"/>
	24 Hours <input checked="" type="checkbox"/>	144+ Hours <input type="checkbox"/>

PO Number: \_\_\_\_\_  
 Project Name/Number: 10848 : 221 Shamrock Dr.

*\*Rumper SCDHEC Regulations\**

Accepted   
 Rejected

Asbestos Test Types	
PLM EPA 600/R-93/116 (PLM)	<input checked="" type="checkbox"/>
Positive stop	<input checked="" type="checkbox"/>
PLM Point Count 400 (PT4)	<input type="checkbox"/>
PLM Point Count 1000 (PTM)	<input type="checkbox"/>
PCM NIOSH 7400-A Rules (PCM)	<input type="checkbox"/>
B Rules (PCB) <input type="checkbox"/>	TWA (PTA) <input type="checkbox"/>
TEM AHERA (AHE)	<input type="checkbox"/>
TEM Level II (LII)	<input type="checkbox"/>
TEM NIOSH 7402 (TNI)	<input type="checkbox"/>
TEM Bulk Qualitative (TBL)	<input type="checkbox"/>
TEM Bulk Chatfield (TBS)	<input checked="" type="checkbox"/>
TEM Bulk Quantitative (TBQ)	<input type="checkbox"/>
TEM Wipe ASTM D6480-05	<input type="checkbox"/>
TEM Microvac ASTM D5755-02	<input checked="" type="checkbox"/>
TEM Water EPA 1002 (TW1)	<input type="checkbox"/>
Other:	<input type="checkbox"/>

Sample ID #	Description	Volume/Area	Comments
01-01.02.03	<del>White</del> Grey 12"x12" pattern linoleum	180 SF	Kitchen
02-01.02.05	White 6"x6" Pattern linoleum + Mastic	180 SF	" "
03-01.02.03	Beige Patterned linoleum + Mastic	180 SF	" "
04-01.02.05	White under sink coating	4 SF	Kitchen
05-01.02.03	Beige under sink coating	4 SF	Bathroom
06-01.02.05	Drywall	2,300 SF	Throughout
07-01.02.03.04	Joint Compound	2,300 SF	" "
08-01.02.05	Textured Ceiling	<del>1,000</del> 900 SF	" "
09-01.02.05	Light Beige sq pattern linoleum + mastic	8 SF	entryway
10-01.02.03	Kitchen wall panel mastic	12 SF	
11-01.02.03	White & Black duct mastic	100 SF	

Total # of Samples 47

Relinquished by	Date/Time	Received by	Date/Time
<u>[Signature]</u>	4:30pm	<u>N. Anand</u>	6/25 12P
	6/24/20		





# Bulk Asbestos Analysis by Transmission Electron Microscopy

Semi-Quantitative  
Chatfield SOP 1988-02 Rev. 1

**Customer:** ECS Carolinas, LLP  
3820 Faber Place  
North Charleston, SC 29405

**Attn:** Kurt Gauthier

**Lab Order ID:** 71945109

**Analysis ID:** 71945109\_TB

**Date Received:** 6/26/2020

**Date Reported:** 6/29/2020

**Project:** 10848:224 Shamrock Dr.

Sample ID	Description	Organic	Acid Sol.	Asbestos		LCL-UCL
<i>Lab Sample ID</i>	<i>Lab Notes</i>	<i>(Wt. %)</i>	<i>(Wt. %)</i>	<i>(Wt. %)</i>		<i>(Wt. %)</i>
01-03	Grey 12"x12" pattern linoleum	71%	-	<b>None Detected</b>		
71945109TBS_1						
02-03 - A	White 6"x6" pattern linoleum & mastic	62%	-	<b>None Detected</b>		
71945109TBS_2	<i>Linoleum</i>					
02-03 - B	White 6"x6" pattern linoleum & mastic	42%	-	<b>None Detected</b>		
71945109TBS_3	<i>Mastic</i>					
05-03	Beige under sink coating	26%	-	<b>None Detected</b>		
71945109TBS_4						
09-03	Light beige sq pattern linoleum & mastic	60.0%	-	<b>None Detected</b>		
71945109TBS_5						
10-03	Kitchen wall panel mastic	82%	-	<b>0.55 %</b>	<b>Chrysotile</b>	0.50% - 0.61%
71945109TBS_6						

Disclaimer: This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government.

Heather Davide (12)

\_\_\_\_\_  
**Analyst**

\_\_\_\_\_  
**Approved Signatory**

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888



# Bulk Asbestos Analysis by Transmission Electron Microscopy

Semi-Quantitative  
Chatfield SOP 1988-02 Rev. 1

**Customer:** ECS Carolinas, LLP  
3820 Faber Place  
North Charleston, SC 29405

**Attn:** Kurt Gauthier

**Lab Order ID:** 71945109

**Analysis ID:** 71945109\_TB

**Date Received:** 6/26/2020

**Date Reported:** 6/29/2020

**Project:** 10848:224 Shamrock Dr.

Sample ID	Description	Organic	Acid Sol.	Asbestos	LCL-UCL
<i>Lab Sample ID</i>	<i>Lab Notes</i>	<i>(Wt. %)</i>	<i>(Wt. %)</i>	<i>(Wt. %)</i>	<i>(Wt. %)</i>
<b>11-03</b>	<b>White &amp; black duct mastic</b>	<b>64%</b>	<b>-</b>	<b>None Detected</b>	
<i>71945109TBS_7</i>					
<b>12-03</b>	<b>White window/door caulking</b>	<b>26%</b>	<b>-</b>	<b>None Detected</b>	
<i>71945109TBS_8</i>					
<b>13-03</b>	<b>Black window liner</b>	<b>65%</b>	<b>3.2%</b>	<b>None Detected</b>	
<i>71945109TBS_9</i>					
<b>14-03 - A</b>	<b>Shingle &amp; felt paper</b>	<b>22%</b>	<b>-</b>	<b>None Detected</b>	
<i>71945109TBS_10</i>	<i>Shingle</i>				
<b>14-03 - B</b>	<b>Shingle &amp; felt paper</b>	<b>94%</b>	<b>-</b>	<b>None Detected</b>	
<i>71945109TBS_11</i>	<i>Felt</i>				
<b>15-03</b>	<b>Black roof tar</b>	<b>58%</b>	<b>-</b>	<b>None Detected</b>	
<i>71945109TBS_12</i>					

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Heather Davide (12)

\_\_\_\_\_  
**Analyst**

Scientific Analytical Institute, Inc.

\_\_\_\_\_  
**Approved Signatory**

Scientific Analytical Institute, Inc.

4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888



**Scientific Analytical Institute**  
 4604 Dundas Dr. Greensboro, NC 27407  
 Phone: 336.292.3888 Fax: 336.292.3313  
 www.sailab.com lab@sailab.com

71945109

Lab Use Only  
 Lab Order ID: 71945109  
 Client Code: \_\_\_\_\_

Company Contact Information	
Company: <u>FCS Southeast</u>	Contact: <u>Kurt Gauthier</u>
Address: <u>3820 Faber Place</u>	Phone <input type="checkbox"/>
<u>Dr. S-200 N. Charleston</u>	Fax <input type="checkbox"/>
<u>SC 29405</u>	Email <input checked="" type="checkbox"/> : <u>kgauthier@ecslimited.com</u>

Asbestos Test Types	
PLM EPA 600/R-93/116 (PLM)	<input checked="" type="checkbox"/>
Positive stop	<input checked="" type="checkbox"/>
PLM Point Count 400 (PT4)	<input type="checkbox"/>
PLM Point Count 1000 (PTM)	<input type="checkbox"/>
PCM NIOSH 7400-A Rules (PCM)	<input type="checkbox"/>
B Rules (PCB) <input type="checkbox"/> TWA (PTA) <input type="checkbox"/>	
TEM AHERA (AHE)	<input type="checkbox"/>
TEM Level II (LII)	<input type="checkbox"/>
TEM NIOSH 7402 (TNI)	<input type="checkbox"/>
TEM Bulk Qualitative (TBL)	<input type="checkbox"/>
TEM Bulk Chatfield (TBS)	<input checked="" type="checkbox"/>
TEM Bulk Quantitative (TBQ)	<input type="checkbox"/>
TEM Wipe ASTM D6480-05	<input type="checkbox"/>
TEM Microvac ASTM D5755-02	<input checked="" type="checkbox"/>
TEM Water EPA 1002 (TV 1)	<input type="checkbox"/>
Other:	<input type="checkbox"/>

Billing/Invoice Information	Turn Around Times	
Company: <u>SAME</u>	90 Min. <input type="checkbox"/>	48 Hours <input type="checkbox"/>
Contact:	3 Hours <input type="checkbox"/>	72 Hours <input type="checkbox"/>
Address:	6 Hours <input type="checkbox"/>	96 Hours <input type="checkbox"/>
	12 Hours <input type="checkbox"/>	120 Hours <input type="checkbox"/>
	24 Hours <input checked="" type="checkbox"/>	144* Hours <input type="checkbox"/>

PO Number: \_\_\_\_\_  
 Project Name/Number: 10848 : 271 Shamrock Dr.

*\*RUMPER SCDHEC Regulations\**

Accepted   
 Rejected

Sample ID #	Description	Volume/Area	Comments
01-01.02.03	<del>White</del> Grey 12"x12" pattern linoleum	180 SF	Kitchen
02-01.02.03	White 6"x6" Pattern linoleum + Mastic	180 SF	" "
03-01.02.03	Beige Patterned linoleum + Mastic	180 SF	" "
04-01.02.03	White under sink coating	4 SF	Kitchen
05-01.02.03	Beige under sink coating	4 SF	Bathroom
06-01.02.03	Drywall	2,300 SF	Throughout
07-01.02.03.04	Joint Compound	2,300 SF	" "
08-01.02.03	Textured Ceiling	<del>100 SF</del> 90 SF	" "
09-01.02.03	Light Beige sq pattern linoleum + mastic	8 SF	entryway
10-01.02.03	Kitchen wall panel mastic	12 SF	
11-01.02.03	White & Black duct mastic	100 SF	

Total # of Samples 47

Relinquished by	Date/Time	Received by	Date/Time
	4:30pm		6/25 12.P
	6/24/20		



# **Appendix IV: Certifications/ Licenses**

**SCDHEC ISSUED**  
Asbestos ID Card

**Justin Roth**



**CONSULTBI**

**BI-01189**

Expiration Date:  
**09/04/20**

# SCDHEC ISSUED

Asbestos ID Card

**Kurt Gauthier**



**CONSULTBI**  
**CONSULTPD**

**BI-01787**  
**PD-00209**

Expire Date:

**02/02/21**  
**03/29/20**