PRE-DEMOLITION ASBESTOS CONTAINING MATERIALS SURVEY REPORT

St. James Baptist Church
329 New York Avenue
Spartanburg, South Carolina 29304

PREPARED FOR:

City of Spartanburg
PO Box 1749
Spartanburg, South Carolina 29304
Phone: 864.596.2838
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ISSUE DATE: September 20, 2017

F&R PROJECT NUMBER: 65V-0090

CONDUCTED/PREPARED BY:

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Sep 20 2017 4:30 PM

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REVIEWED BY:

JESSE D. PHILLIPS
SENIOR ENVIRONMENTAL PROFESSIONAL

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1.0 EXECUTIVE SUMMARY

Froehling & Robertson, Inc. (F&R) conducted a limited Pre-Demolition Asbestos Containing Material (ACM) Survey on September 8th and 18th of 2017 for St. James Baptist Church located at 329 New York Avenue in Spartanburg, South Carolina (Subject Property). It is F&R's understanding that the structure is subject of a planned demolition which will impact building materials. The below sections document the survey procedures and results.

1.1. Purpose

It is F&R's understanding that the one-story church building is the subject of a planned demolition wherein interior and exterior components will be impacted. The purpose of the Pre-Demolition ACM Survey is to identify Asbestos Containing Materials (ACMs) that may require appropriate removal, handling, and disposal procedures prior to scheduled demolition activities at the Subject Property.

1.2. Site Description

The Subject Property consists of an approximate 2,750 square foot (SF) single-story concrete masonry unit (CMU) block building constructed on a CMU foundation with a basement and partial crawlspace . The building has an asphalt shingle roof. Interior finishes include exposed masonry walls, wallboard and wood panel covered wood-framed demising walls, wallboard covered ceilings in select areas, drop-type ceilings, and a combination of carpet, vinyl sheet flooring, and self-stick vinyl floor tiles. The building includes office spaces, a worship/stage area, restrooms, foyer and classroom areas, a fellowship space, and a kitchen.

2.0 SCOPE OF SERVICES

As outlined in F&R proposal number 1865-00226E, the survey included the following services:

- Identification and sampling of suspect ACMs associated with the church structure to provide an evaluation with respect to the presence (or absence) of asbestos in building materials prior to demolition.
- Determine the presence, location, NESHAP category, estimated quantity and condition of identified ACMs.

Based on information provided by the client, it is our understanding that the structure is planned for demolition which will impact interior and exterior components. As such, this ACM survey as performed constitutes a relatively comprehensive building survey; however, this report shall not be utilized for the determination of presence or absence of other Hazardous Materials.

3.0 PRE-DEMOLTION ASBESTOS SURVEY

3.1. Asbestos Containing Materials (ACM) Methodology

F&R conducted a limited Pre-Demolition ACM survey of St. James Baptist Church located at 329 New York Avenue in Spartanburg, South Carolina on September 8th of 2017. F&R returned to the site on September 18th of 2017 to collect two additional samples of mastic associated with sheet flooring located at the entrance to the restrooms. The purpose of the Pre-Demolition ACM Survey is to identify ACMs that may require appropriate removal, handling, and disposal procedures prior to scheduled demolition activities at the Subject Property. Federal Regulations (40 CFR Part 61, Subpart M – National Emission Standard for Asbestos (NESHAP)), as well as South Carolina Regulation 61-86.1 Standards of Performance for Asbestos Projects require a thorough asbestos inspection of the structure to be conducted prior to the commencement of renovation and/or demolition activities.

The South Carolina Accredited Asbestos Building Inspector responsible for this project was Andréa LeCroy (SC Asbestos Building Inspector BI-01080). Refer to Appendix A for Personnel Accreditation documentation.

This survey was conducted in general accordance with the Federal NESHAP and State regulations for the presence of ACMs. The survey was characterized by a visual inspection and sampling of suspect building components at the Subject Property to be impacted by the proposed demolition activities.

Guidelines utilized in the asbestos survey were established by the EPA, ASTM International (ASTM), and The Environmental Information Association, Inc. (EIA). Utilized guidelines included: the Asbestos Hazard Emergency Response Act (40 CFR Part 763, Subpart E – Asbestos-Containing Materials in Schools (cited as AHERA)), ASTM Standard E2356-14 *Standard Practice for Comprehensive Building Asbestos Surveys*, and the EIA publication *Managing Asbestos in Buildings: A Guide for Owners and Managers – A Revision to the United States Environmental Protection Agency's 1985 document Guidance for Controlling Asbestos-Containing Materials in Buildings (EPA 560/5-85-024) Known as the Purple Book*.

Seventy-eight (78) bulk samples of suspect ACMs were collected at the site and analyzed for asbestos. At least three (3) samples of each suspect material were collected and analyzed using a positive stop protocol (if one of the three samples tested positive, the remaining samples were not analyzed with the exception of joint compound). The suspect ACM layers were organized as per the AHERA concept of Homogeneous Area (HA) and submitted to Scientific Analytical Institute (SAI) an NVLAP accredited lab (NVLAP Lab Code: 200664-0) and South Carolina licensed asbestos laboratory, in Greensboro, North Carolina, for analysis by Polarized Light Microscopy (PLM) following EPA Method 600/R-93/116. Additionally, as required by South Carolina DHEC, fifteen

(15) samples of non-friable organically bound (NOB) materials which were not identified as ACM using PLM analysis were designated for analysis by Transmission Electron Microscopy (TEM). Due to multiple layers and positive stop direction, a total of eight-one samples (81) were analyzed. The analytical results are presented in Table I. Refer to Appendix A for Laboratory Accreditation documentation. A copy of the laboratory Asbestos Bulk Analysis Report and Chain of Custody Documentation is included in Appendix C.

3.2. Asbestos Findings

The following materials were identified, sampled, and accordingly homogenized based upon similar construction discovered during bulk sampling in the structure:

- Carpet Mastic
- Multiple Sheet Floorings & Mastics
- Multiple Ceiling Tiles
- Masonry Block / Grout / Mortar
- Window Caulking
- Joint Compound
- Concrete Slab
- Roofing Shingles / Tarpaper
- Roofing Mastic
- Wallboard

The following table presents a summary of survey results from sampling events performed on September 8th and 18th of 2017. Positive asbestos samples (samples containing >1% asbestos) are in **BOLD** type.

TABLE 1: Asbestos Sample Results: September 8, 2017

Homogeneous Area #	Sample Number	Sample Type	Sample Location	Floor[1]	Analytical Results
1	CM-1 CM-2 CM-3*	Cream Carpet Mastic (Red Carpet)	1st Floor	1	NAD[2]
2	SF-4-A SF-5-A SF-6-A*	Brown Sheet Vinyl Flooring	Entrance to Restrooms	1	NAD
2	SF-4-B SF-5-B SF-6-B*	Mastic Associated with Brown Sheet Vinyl Flooring	Entrance to Restrooms	1	NAD
3	SF-7-A SF-8-A SF-9-A*	Dark Brown, Small Rectangle Sheet Flooring	Entrance to Restrooms	1	NAD
3	SF-7-B SF-8-B SF-9-B*	Mastic Associated with Dark Brown, Small Rectangle Sheet Flooring	Entrance to Restrooms	1	NAD

Homogeneous Area #	Sample Number	Sample Type	Sample Location	Floor[1]	Analytical Results
4	SF-10 SF-11 SF-12*	Light Brown Square Pattern Self-Stick Tiles	Restrooms	1	NAD
5	CM-13 CM-14* CM-15	Brown Carpet Mastic (Green Outdoor Carpet)	Porch 1 Stairs Porch 2	1	NAD
6	MOR-16 MOR-17 MOR-18	Mortar (CMU Blocks)	Masonry Walls	1, B	NAD
7	CMU-19 CMU-20 CMU-21	CMU Blocks	Masonry Walls	1, B	NAD
8	GR-22 GR-23 GR-24	Grout (CMU Block Fill)	Masonry Walls	1	NAD
9	CT-25 CT-26 CT-27	Brown Fiber Board 1' X 2' Ceiling Tile	1st Floor Ceiling (85% of Ceiling)	1	NAD
10	CT-28 CT-29 CT-30	Gray Fiber Board 1' X 1' Ceiling Tile	1st Floor Ceiling (15% of Ceiling)	1	NAD
11	CT-31 CT-32 CT-33	Light Gray Fiber Board 2' X 4' Ceiling Tile	Storage Room Behind Stage	1	NAD
12	CT-34 CT-35 CT-36	Yellow Fiber with White Outer Sheeting 2' X 4' Ceiling Tile	Restrooms Isolated Area at Stage	1	NAD
13	**SC-40*** **SC-41** **SC-42**	**Gray Sink Coating**	**Sink in Basement**	**B**	**8%-8.4% Chrysotile**
14	WB-43 WB-44 WB-45 WB-46 WB-47	Wallboard		1, B	NAD
15	**JC-48** **JC-49** **JC-50** **JC-51** **JC-52**	**Joint Compound**	**Isolated Areas on 1st Floor and Basement Levels**	**1, B**	**2% and 3% Chrysotile**

Homogeneous Area #	Sample Number	Sample Type	Sample Location	Floor[1]	Analytical Results
16	CS-53 CS-54 CS-55	Concrete Slab	Basement	B	NAD
17	CA-56* CA-57 CA-58	White Caulk	Windows 1st Floor Only	1	NAD
18	TP-59 TP-60 TP-61*	Tar Paper Type 1	Roof	R	NAD
19	TP-62 TP-63 TP-64*	Tar Paper Type 2	Roof	R	NAD
20	RS-65* RS-66 RS-67	Roofing Shingle Type 1	Roof (Oldest Layer)	R	NAD
21	RS-68 RS-69* RS-70	Roofing Shingle Type 2	Roof (Middle Layer)	R	NAD
22	RS-71 RS-72 RS-73*	Roofing Shingle Type 3	Roof (Newest Roof)	R	NAD
23	M-74 M-75 M-76*	Black Mastic (Tar Like)	Seams of Roof and Flashing / Vent Pipe	R	NAD

Floor: 1 –First; 2 – Second; B – Basement; R - Roof; E – Exterior; S – Shed; A - Attic

[2]NAD: No Asbestos Detected

*Bulk sample Analyzed by TEM

Bold: Asbestos Containing Material or Trace (<1%) Asbestos Present

Refer to Appendix B: Bulk Sample Location Drawings to further describe the locations of collected bulk samples.

3.3. Asbestos Containing Materials

ACMs were identified during this survey as follows.

TABLE II: Identified Asbestos Containing Materials

HA #	Material Description	Location	Result (Percent ACM)	NESHAP CATEGORY	CONDITION	Estimated Quantity
13	Gray Sink Coating	Coating on the Bottom of the Sink Located in the Basement	8-8.4% Chrysotile	Category II Non-Friable	Good	3 SF
15	Joint Compound	Select Walls and Ceilings Throughout the Building	2% and 3% Chrysotile	Friable	Good	1540 SF of wall and ceiling systems

SF = Square Feet | LF = Linear Feet | CF = Cubic Feet | TBD = To Be Determined

As detailed above, several materials were identified as asbestos-containing, utilized in various instances throughout the structure.

The identified asbestos containing materials (ACMs) include the gray coating located on the bottom of the sink in the kitchen area on the basement level of the building and joint compound located on wallboard covered walls and ceilings in select areas throughout the building. F&R notes that wallboard covered walls in the kitchen area on the basement level are unfinished and joint compound was not observed on these walls.

Prior to demolition activities, F&R recommends that all identified ACMs be appropriately removed, handled, and disposed of by a South Carolina licensed Abatement Contractor utilizing appropriately accredited personnel. F&R further recommends that an asbestos abatement specification, should these materials be removed, be developed and incorporated into the overall project prior to the commencement of demolition activities. Asbestos abatement specifications define the Abatement Contractor's scope of work and outline the requirements and procedures that must be followed during the course of the Project. The intent of the asbestos abatement specification is to give performance requirements for the Abatement Contractor so that the Project can be completed safety and in compliance with all applicable federal, state, and local regulations.

3.3.1. Presumed Asbestos Containing Materials

During the conduct of this survey, sampling was limited to those materials which were within the areas designated by the client, which were safely accessible, and which were able to be sampled without damaging systems or structures. As such, some materials should be presumed to be positive, unless sampling is conducted and shown to be negative. Such presumed asbestos containing materials (PACMS) include, but are not limited to:

- Items concealed within wall cavities or other finish materials;

Should additional suspect ACMs be discovered during demolition or cleanup activities, F&R recommends all work to cease. Samples of suspect materials should be collected by a South Carolina licensed asbestos inspector, analyzed, and handled accordingly prior to the resumption of demolition activities. F&R further recommends that an Asbestos Abatement Contractor, utilizing appropriately accredited personnel, be engaged to properly remove the ACMs prior to demolition activities.

It should be noted that through NESHAP Applicability Determinations, asbestos bulk samples analyzed via PLM which indicate a result of asbestos content to be less than ten (10) percent, including trace amounts (<1%), the material in question shall either be assumed to be an ACM or further analyzed via PLM Point Count or TEM to verify asbestos content. Results obtained via PLM Point Count or TEM analysis shall supersede previous results obtained by standard PLM analysis. Samples with analytical results via PLM which indicate that no asbestos was detected are not required to be further analyzed via PLM Point Count or TEM.

3.4. Applicable Regulations

3.4.1. EPA/NESHAP Regulations for Asbestos Containing Materials

The U.S. Environmental Protection Agency promulgated the National Emission Standards for Hazardous Air Pollutants (NESHAP) [40 CFR Part 61], which addresses the application, removal, and disposal of asbestos-containing materials (ACM). Under NESHAP the following categories are defined for asbestos-containing materials:

Friable - When dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

Non-friable - When dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Category I Non-friable ACM - Packings, gaskets, resilient floor coverings, and asphalt roofing products containing more than 1% asbestos.

Category II Non-friable ACM – Any material, excluding Category I Non-friable ACM, which contains more than 1% asbestos.
Regulated Asbestos Containing Material (RACM) – One of the following:

1. Friable ACM
2. Category I Non-friable ACM that has become friable.
3. Category I Non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading.
4. Category II Non-friable ACM that has a high probability of becoming, or has become, friable by the forces expected to act on the material in the course of demolition or renovation operations.

Under NESHAP, the following actions are required:

1. Prior to the commencement of demolition or renovation activities, the building owner must inspect the affected facility or part of the facility where the demolition or renovation activities will occur for the presence of asbestos.

2. Remove all RACM from the facility before any activity begins that would break up, dislodge, or similarly disturb the material or preclude access for subsequent removal.

3. RACM need not be removed if:

    a) It is Category I non-friable ACM that is not in poor condition.
    b) It is on a facility component that is encased in concrete or other similar material and is adequately wet whenever exposed.
    c) It was not accessible for testing and was therefore not discovered until after demolition began and because of the demolition the material cannot be safely removed.
    d) It is Category II non-friable ACM and the probability is low that the material will become crumbled, pulverized, or reduced to powder during demolition.

Note: Based on our experience, F&R recommends that all ACM be removed prior to demolition due to the fact that disturbance can damage the materials and make them friable. This recommendation is made as a best practice to reduce potential exposure to workers and limit liability. F&R further recommends that an Asbestos Abatement Contractor, utilizing appropriately accredited personnel, be engaged to properly remove the ACMs prior to renovation and/or demolition activities. If asbestos abatement activities are performed within the building, all work should be performed by a South Carolina licensed asbestos abatement contractor.

3.4.2. OSHA

The Occupational Safety and Health Administration (OSHA) regulates employee exposure to asbestos under 29 CFR 1926.1101 and 29 CFR 1926.1001. Work associated with known or suspect ACMs must be conducted according to these regulations in addition to the noted EPA regulations.

4.0 LIMITATIONS

This report has been prepared for the exclusive use of the City of Spartanburg and/or their agents. This service was performed in accordance with generally accepted environmental practices. No other warranty, expressed or implied, is made. Our conclusions and recommendations are based, in part, upon information provided to us by others and our site observations. We have not verified the completeness or accuracy of the information provided by others, unless otherwise noted. Our observations and recommendations are based upon conditions readily visible at the site at the time of our site visit, and upon current industry standards.

During this study, suspect asbestos samples were submitted for analysis at an NVLAP-accredited laboratory via polarized light microscopy and transmission light microscopy. As with any similar survey of this nature, actual conditions exist only at the precise locations from which samples were collected or tested. Certain inferences are based on the results of this sampling and related testing to form a professional opinion of conditions in areas beyond those from which the samples were collected. Visual evaluation of other materials of concern conducted comprised a cursory visual review of the building materials and, to a limited extent, contents of the facility. It is also understood that this is a non-invasive survey so that it is possible that concealed materials may be present that were not accessible during the original survey. No other warranty, expressed or implied, is made. Reasonable effort was made by inspection personnel to locate and, where appropriate, sample suspect materials within the structure with regard to the scope of services. However, for any facility, the existence of unique or concealed ACMs and debris, or other chemicals of concern is a possibility. F&R does not warrant, guarantee or profess to have the ability to locate or identify all ACMs in a facility.

Under this scope of services, F&R assumes no responsibility regarding response actions (e.g. O&M Plans, Encapsulation, Abatement, Removal, Tenant Notification, etc.) initiated as a result of these findings. F&R assumes no liability for the duties and responsibilities of the Client with respect to compliance with these regulations. 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 and should be performed by appropriately qualified and licensed-personnel, as warranted.

Froehling & Robertson, Inc. by virtue of providing the services described in this report, 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. The Client agrees to notify the appropriate local, state, or federal public agencies as required by law, or otherwise to disclose, in a timely manner, any information that may be necessary to prevent any danger to public health, safety, or the environment. The contents of the report should not be construed in any way as a recommendation to purchase, sell, or develop the project site.

F&R retains the right to revise this report if new information is later discovered or made available. The report must be presented in its entirety.

Appendix A

F&R Personnel Accreditations
Laboratory Certificates of Accreditations

ANDRÉA LeCROY

Environmental Scientist

alecroy@fandr.com

Education

B.S., Environmental Studies
University of North Carolina
Asheville, 2001

Undergraduate Coursework
Geology, University of South Carolina (1991-1993)

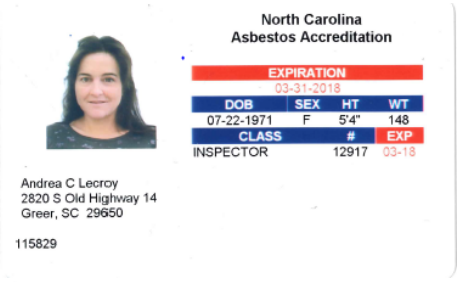
Years of Experience

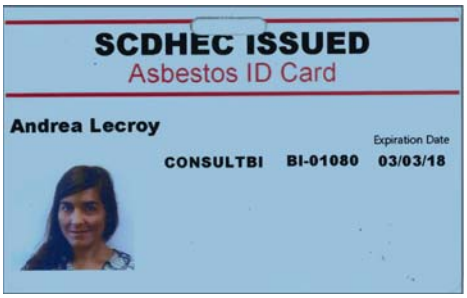
1 Year with F&R
5 Years Total

Asbestos

Federal / North Carolina / South Carolina

- Building Inspector





Erosion Control & Sediment Control

- ***SC Certified Erosion Prevention and Sediment Control Inspector (CEPSCI)***

OSHA Training

- 40-Hour HAZWOPER

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200664-0

Scientific Analytical Institute

Greensboro, NC

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2017-01-01 through 2017-12-31

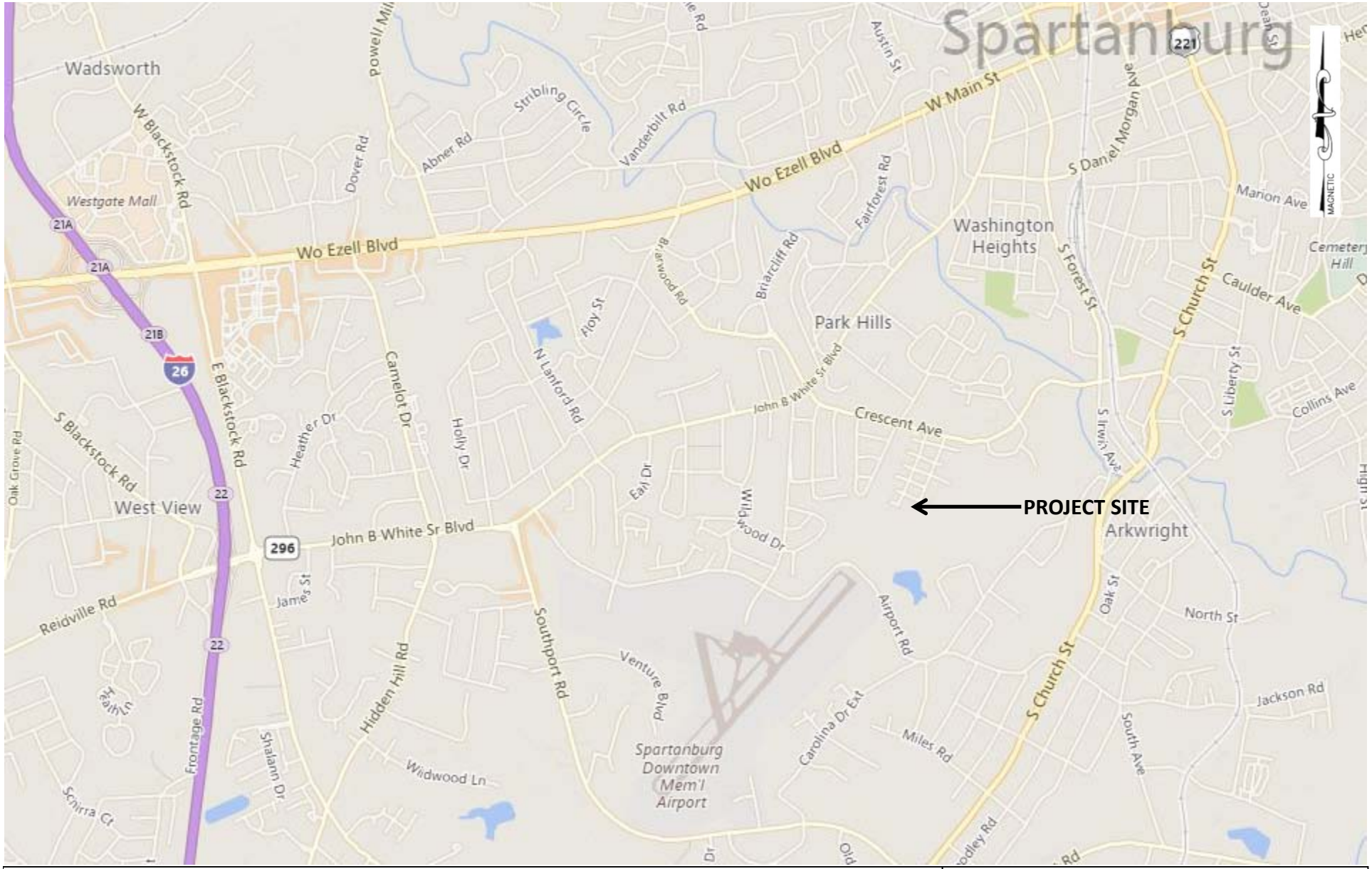
Effective Dates

DEPARTMENT OF COMMERCE * UNITED STATES OF AMERICA *

For the National Voluntary Laboratory Accreditation Program

Appendix B

Site Location Maps
Bulk Sample Location Drawings



SITE VICINITY MAP

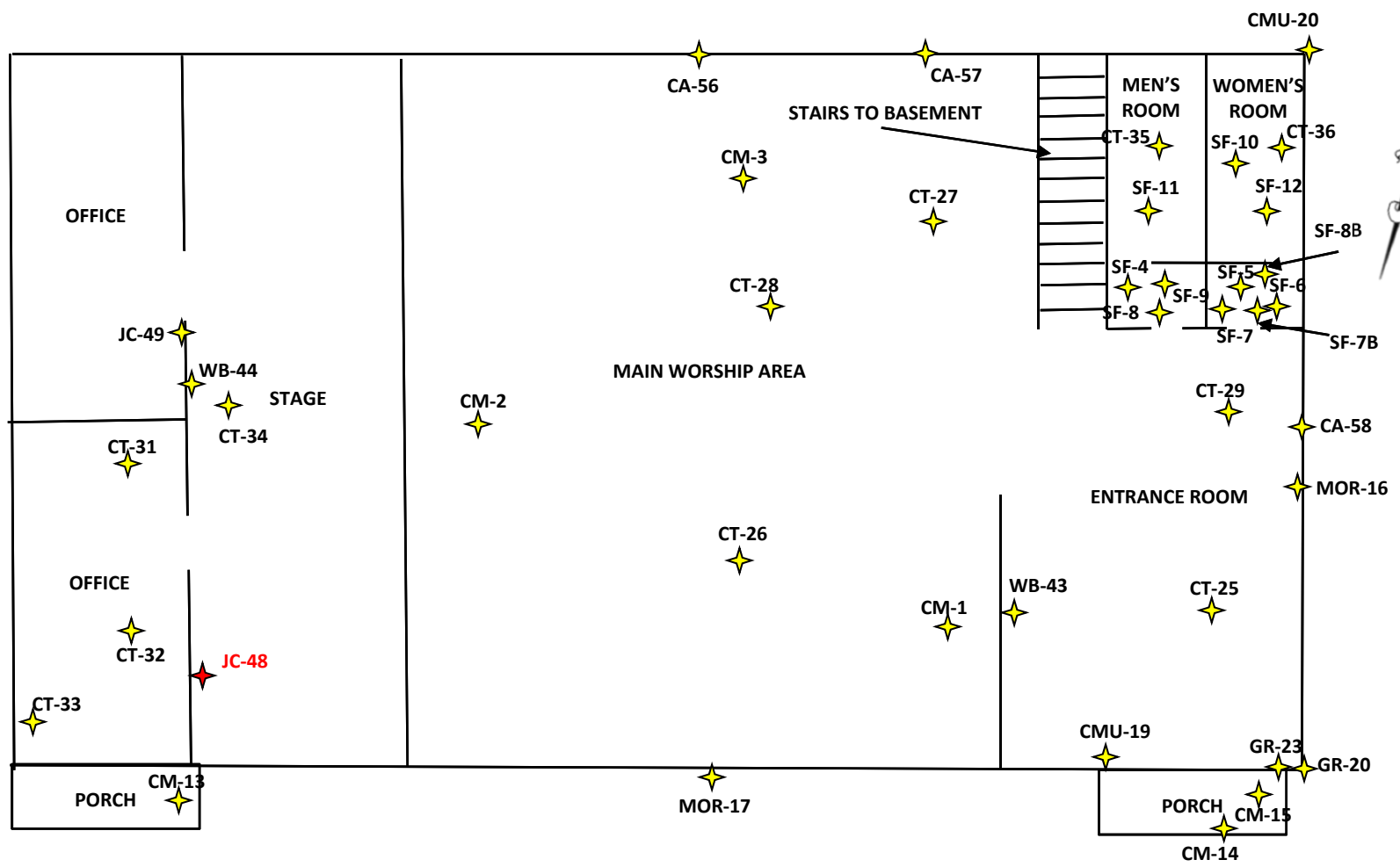
FROEHLING & ROBERTSON, INC.
Engineering Stability Since 1881
18 Woods Lake Road
Greenville, SC 29607 I USA
T 864.271.2840 I F 864.271.8124

Client:	City of Spartanburg
Project:	St. James Baptist Church Pre-Demolition Asbestos Survey
Location:	329 New York Avenue, Spartanburg, South Carolina
F&R Project No:	65V-0090
Source:	Bing Maps
Date: September 20, 2017	Scale not specified — Figure 1

SITE LOCATION MAP

FROEHLING & ROBERTSON, INC.
Engineering Stability Since 1881
18 Woods Lake Road
Greenville, SC 29607 I USA
T 864.271.2840 I F 864.271.8124

Client:	City of Spartanburg
Project:	St. James Baptist Church Pre-Demolition Asbestos Survey
Location:	329 New York Avenue, Spartanburg, South Carolina
F&R Project No:	65V-0090
Source:	Spartanburg County GIS
Date: September 20, 2017	Scale not specified — Figure 2



>1% Asbestos Detected

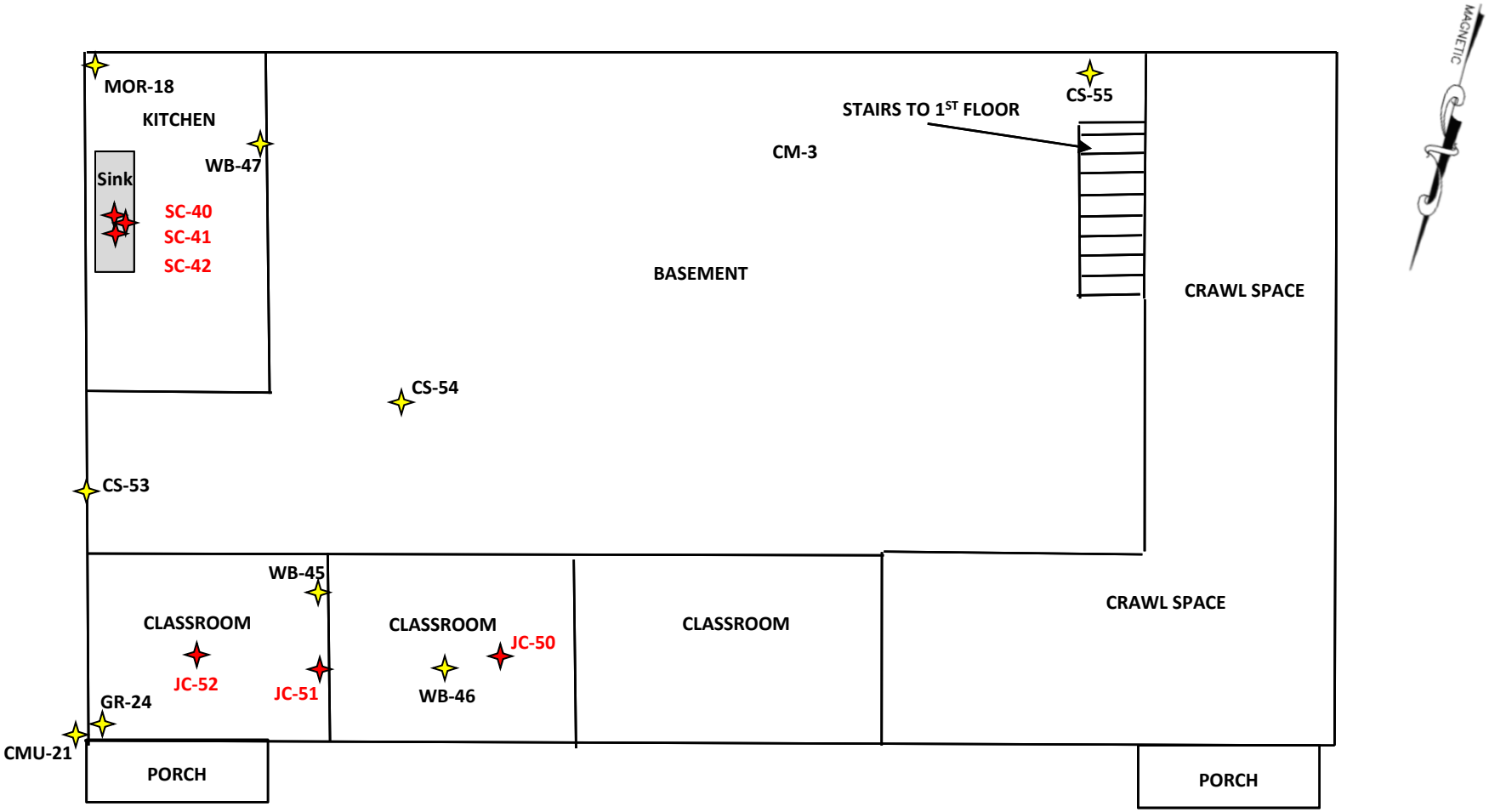
No Asbestos Detected

SAMPLE LOCATIN PLAN – 1ST FLOOR

FROEHLING & ROBERTSON, INC.
Engineering Stability Since 1881
18 Woods Lake Road
Greenville, SC 29607 I USA
T 864.271.2840 I F 864.271.8124

Client:	City of Spartanburg
Project:	St. James Baptist Church Pre-Demolition Asbestos Survey
Location:	329 New York Avenue, Spartanburg, South Carolina
F&R Project No:	65V-0090
Source:	F&R
Date: September 20, 2017	Not to Scale

Figure 3



>1% Asbestos Detected

No Asbestos Detected

SAMPLE LOCATION PLAN - BASEMENT LEVEL

FROEHLING & ROBERTSON, INC.
Engineering Stability Since 1881
18 Woods Lake Road
Greenville, SC 29607 I USA
T 864.271.2840 I F 864.271.8124

Client:	City of Spartanburg
Project:	St. James Baptist Church Pre-Demolition Asbestos Survey
Location:	329 New York Avenue, Spartanburg, South Carolina
F&R Project No:	65V-0090
Source:	F&R
Date: September 20, 2017	Not to Scale

Figure 4

ROOF SAMPLE LOCATION PLAN

FROEHLING & ROBERTSON, INC.
Engineering Stability Since 1881
18 Woods Lake Road
Greenville, SC 29607 I USA
T 864.271.2840 I F 864.271.8124

Client:	City of Spartanburg
Project:	St. James Baptist Church Pre-Demolition Asbestos Survey
Location:	329 New York Avenue, Spartanburg, South Carolina
F&R Project No:	65V-0090
Source:	Spartanburg County GIS
Date: September 20, 2017	Not to Scale

Figure 5

Appendix C

Laboratory Certificates of Analysis
Bulk Sample Chain of Custody Forms

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code: 200664-0

Customer: Froehling & Robertson
18 Woods Lake Rd
Greenville, SC 29607

Attn: Andrea LeCroy

Lab Order ID: 1719311
Analysis ID: 1719311_PLM
Date Received: 9/11/2017
Date Reported: 9/13/2017

Project: St. James Baptist Church Pre-Demo Asbestos Survey

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
CM-1 *1719311PLM_1*	Cream carpet mastic (red carpet)	**None Detected**		**100% Other**	Cream Non Fibrous Homogeneous Dissolved
CM-2 *1719311PLM_2*	Cream carpet mastic (red carpet)	**None Detected**		**100% Other**	Cream Non Fibrous Homogeneous Dissolved
CM-3 *1719311PLM_3*	Cream carpet mastic (red carpet) *TEM*	**Not Analyzed**			
SF-4 - A *1719311PLM_4*	Brown rectangle sheet flooring/mastic *vinyl sheet flooring*	**None Detected**	**20% Cellulose**	**80% Other**	Brown Non Fibrous Homogeneous Ashed, Dissolved
SF-4 - B *1719311PLM_77*	Brown rectangle sheet flooring/mastic *mastic*	**None Detected**		**100% Other**	Cream Non Fibrous Homogeneous Dissolved
SF-5 - A *1719311PLM_5*	Brown rectangle sheet flooring/mastic *vinyl sheet flooring*	**None Detected**	**20% Cellulose**	**80% Other**	Brown Non Fibrous Homogeneous Ashed, Dissolved
SF-5 - B *1719311PLM_78*	Brown rectangle sheet flooring/mastic *mastic*	**None Detected**		**100% Other**	Cream Non Fibrous Homogeneous Dissolved
SF-6 - A *1719311PLM_6*	Brown rectangle sheet flooring/mastic *vinyl sheet flooring - TEM*	**Not Analyzed**			

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 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. 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%.

Philip Szabo (79)

Analyst

Approved Signatory

P-F-002 r15 1/15/2018

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code: 200664-0

Customer: Froehling & Robertson
18 Woods Lake Rd
Greenville, SC 29607

Attn: Andrea LeCroy

Lab Order ID: 1719311
Analysis ID: 1719311_PLM
Date Received: 9/11/2017
Date Reported: 9/13/2017

Project: St. James Baptist Church Pre-Demo Asbestos Survey

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
SF-6 - B *1719311PLM_79*	Brown rectangle sheet flooring/mastic *mastic - TEM*	**Not Analyzed**			
SF-7 *1719311PLM_7*	Dark brown small rectangles sheet flooring	**None Detected**		**100% Other**	Brown Non Fibrous Homogeneous Ashed, Dissolved
SF-8 *1719311PLM_8*	Dark brown small rectangles sheet flooring	**None Detected**		**100% Other**	Brown Non Fibrous Homogeneous Ashed, Dissolved
SF-9 *1719311PLM_9*	Dark brown small rectangles sheet flooring *TEM*	**Not Analyzed**			
SF-10 *1719311PLM_10*	Light brown square pattern self-stick tiles	**None Detected**		**100% Other**	Brown Non Fibrous Homogeneous Ashed, Dissolved
SF-11 *1719311PLM_11*	Light brown square pattern self-stick tiles	**None Detected**		**100% Other**	Brown Non Fibrous Homogeneous Ashed, Dissolved
SF-12 *1719311PLM_12*	Light brown square pattern self-stick tiles *TEM*	**Not Analyzed**			
CM-13 *1719311PLM_13*	Brown carpet mastic (green outdoor carpet)	**None Detected**		**100% Other**	Brown, Yellow Non Fibrous Homogeneous Dissolved

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Philip Szabo (79)

Analyst

Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code: 200664-0

Customer: Froehling & Robertson
18 Woods Lake Rd
Greenville, SC 29607

Attn: Andrea LeCroy

Lab Order ID: 1719311
Analysis ID: 1719311_PLM
Date Received: 9/11/2017
Date Reported: 9/13/2017

Project: St. James Baptist Church Pre-Demo Asbestos Survey

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
CM-14 *1719311PLM_14*	Brown carpet mastic (green outdoor carpet) *TEM*	**Not Analyzed**			
CM-15 *1719311PLM_15*	Brown carpet mastic (green outdoor carpet)	**None Detected**		**100% Other**	Brown, Yellow Non Fibrous Homogeneous Dissolved
MOR-16 *1719311PLM_16*	Mortar (CMU block)	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Dissolved
MOR-17 *1719311PLM_17*	Mortar (CMU block)	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Dissolved
MOR-18 *1719311PLM_18*	Mortar (CMU block)	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Dissolved
CMU-19 *1719311PLM_19*	CMU blocks (masonry)	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Dissolved
CMU-20 *1719311PLM_20*	CMU blocks (masonry)	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Dissolved
CMU-21 *1719311PLM_21*	CMU blocks (masonry)	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Dissolved

Philip Szabo (79)

Analyst

Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code: 200664-0

Customer: Froehling & Robertson
18 Woods Lake Rd
Greenville, SC 29607

Attn: Andrea LeCroy

Project: St. James Baptist Church Pre-Demo Asbestos Survey

Lab Order ID: 1719311
Analysis ID: 1719311_PLM
Date Received: 9/11/2017
Date Reported: 9/13/2017

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
GR-22 *1719311PLM_22*	Grout (block fill)	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Dissolved
GR-23 *1719311PLM_23*	Grout (block fill)	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Dissolved
GR-24 *1719311PLM_24*	Grout (block fill)	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Dissolved
CT-25 *1719311PLM_25*	Brown fiber board ceiling tile (1'x2')	**None Detected**	**98% Cellulose**	**2% Other**	White, Brown Fibrous Homogeneous Dissolved
CT-26 *1719311PLM_26*	Brown fiber board ceiling tile (1'x2')	**None Detected**	**98% Cellulose**	**2% Other**	White, Brown Fibrous Homogeneous Dissolved
CT-27 *1719311PLM_27*	Brown fiber board ceiling tile (1'x2')	**None Detected**	**98% Cellulose**	**2% Other**	White, Brown Fibrous Homogeneous Dissolved
CT-28 *1719311PLM_28*	Gray fiber board ceiling tile (1'x1')	**None Detected**	**45% Cellulose** **35% Fiber Glass**	**10% Perlite** **10% Other**	White Fibrous Homogeneous Ashed, Dissolved
CT-29 *1719311PLM_29*	Gray fiber board ceiling tile (1'x1')	**None Detected**	**45% Cellulose** **35% Fiber Glass**	**10% Perlite** **10% Other**	White Fibrous Homogeneous Ashed, Dissolved

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Philip Szabo (79)

Analyst

Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code: 200664-0

Customer: Froehling & Robertson
18 Woods Lake Rd
Greenville, SC 29607

Attn: Andrea LeCroy

Project: St. James Baptist Church Pre-Demo Asbestos Survey

Lab Order ID: 1719311
Analysis ID: 1719311_PLM
Date Received: 9/11/2017
Date Reported: 9/13/2017

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
CT-30 *1719311PLM_30*	Gray fiber board ceiling tile (1'x1')	None Detected	45% Cellulose 35% Mineral Wool	10% Perlite 10% Other	White Fibrous Homogeneous Ashed, Dissolved
CT-31 *1719311PLM_31*	Light gray fiber board ceiling tile (2'x4')	None Detected	45% Cellulose 35% Mineral Wool	10% Perlite 10% Other	White Fibrous Homogeneous Ashed, Dissolved
CT-32 *1719311PLM_32*	Light gray fiber board ceiling tile (2'x4')	None Detected	45% Cellulose 35% Mineral Wool	10% Perlite 10% Other	White Fibrous Homogeneous Ashed, Dissolved
CT-33 *1719311PLM_33*	Light gray fiber board ceiling tile (2'x4')	None Detected	45% Cellulose 35% Mineral Wool	10% Perlite 10% Other	White Fibrous Homogeneous Ashed, Dissolved
CT-34 *1719311PLM_34*	Yellow fiber w/ white outer sheeting ceiling tile (2'x4')	None Detected	90% Fiber Glass	10% Other	White, Yellow Fibrous Homogeneous Teased, Dissolved
CT-35 *1719311PLM_35*	Yellow fiber w/ white outer sheeting ceiling tile (2'x4')	None Detected	90% Fiber Glass	10% Other	White, Yellow Fibrous Homogeneous Teased, Dissolved
CT-36 *1719311PLM_36*	Yellow fiber w/ white outer sheeting ceiling tile (2'x4')	None Detected	90% Fiber Glass	10% Other	White, Yellow Fibrous Homogeneous Teased, Dissolved
CT-37 *1719311PLM_37*	Light brown fiber board ceiling tile (1'x2')	None Detected	95% Cellulose	5% Other	Brown, White Fibrous Homogeneous Dissolved

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Philip Szabo (79)

Analyst

Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code: 200664-0

Customer: Froehling & Robertson
18 Woods Lake Rd
Greenville, SC 29607

Attn: Andrea LeCroy

Project: St. James Baptist Church Pre-Demo Asbestos Survey

Lab Order ID: 1719311
Analysis ID: 1719311_PLM
Date Received: 9/11/2017
Date Reported: 9/13/2017

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
CT-38 *1719311PLM_38*	Light brown fiber board ceiling tile (1'x2')	**None Detected**	**95% Cellulose**	**5% Other**	White, Brown Fibrous Homogeneous Dissolved
CT-39 *1719311PLM_39*	Light brown fiber board ceiling tile (1'x2')	**None Detected**	**95% Cellulose**	**5% Other**	White, Brown Fibrous Homogeneous Dissolved
SC-40 *1719311PLM_40*	Gray sink coating *TEM*	**Not Analyzed**			
SC-41 *1719311PLM_41*	Gray sink coating	**8% Chrysotile**		**92% Other**	Gray Non Fibrous Homogeneous Dissolved
SC-42 *1719311PLM_42*	Gray sink coating	**Not Analyzed**			
WB-43 *1719311PLM_43*	Wallboard	**None Detected**	**10% Cellulose**	**90% Other**	Gray Non Fibrous Homogeneous Dissolved
WB-44 *1719311PLM_44*	Wallboard	**None Detected**	**10% Cellulose**	**90% Other**	Gray Non Fibrous Homogeneous Dissolved
WB-45 *1719311PLM_45*	Wallboard	**None Detected**	**10% Cellulose**	**90% Other**	Gray Non Fibrous Homogeneous Dissolved

Philip Szabo (79)

Analyst

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Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code: 200664-0

Customer: Froehling & Robertson
18 Woods Lake Rd
Greenville, SC 29607

Attn: Andrea LeCroy

Project: St. James Baptist Church Pre-Demo Asbestos Survey

Lab Order ID: 1719311
Analysis ID: 1719311_PLM
Date Received: 9/11/2017
Date Reported: 9/13/2017

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
WB-46 *1719311PLM_46*	Wallboard	None Detected	10% Cellulose	90% Other	Gray Non Fibrous Homogeneous Dissolved
WB-47 *1719311PLM_47*	Wallboard	None Detected	10% Cellulose	90% Other	Gray Non Fibrous Homogeneous Dissolved
JC-48 *1719311PLM_48*	Joint compound	None Detected		100% Other	Tan Non Fibrous Homogeneous Dissolved
JC-49 *1719311PLM_49*	Joint compound	3% Chrysotile		97% Other	Tan Non Fibrous Homogeneous Dissolved
JC-50 *1719311PLM_50*	Joint compound	2% Chrysotile		98% Other	Tan Non Fibrous Homogeneous Dissolved
JC-51 *1719311PLM_51*	Joint compound	2% Chrysotile		98% Other	Tan Non Fibrous Homogeneous Dissolved
JC-52 *1719311PLM_52*	Joint compound	3% Chrysotile		97% Other	Tan Non Fibrous Homogeneous Dissolved
CS-53 *1719311PLM_53*	Concrete slab	None Detected		100% Other	Gray Non Fibrous Homogeneous Dissolved

Philip Szabo (79)

Analyst

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Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code: 200664-0

Customer: Froehling & Robertson
18 Woods Lake Rd
Greenville, SC 29607

Attn: Andrea LeCroy

Lab Order ID: 1719311
Analysis ID: 1719311_PLM
Date Received: 9/11/2017
Date Reported: 9/13/2017

Project: St. James Baptist Church Pre-Demo Asbestos Survey

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
CS-54 *1719311PLM_54*	Concrete slab	None Detected		100% Other	Gray Non Fibrous Homogeneous Dissolved
CS-55 *1719311PLM_55*	Concrete slab	None Detected		100% Other	Gray Non Fibrous Homogeneous Dissolved
CA-56 *1719311PLM_56*	White caulk *TEM*	Not Analyzed			
CA-57 *1719311PLM_57*	White caulk	None Detected		100% Other	White Non Fibrous Homogeneous Ashed, Dissolved
CA-58 *1719311PLM_58*	White caulk	None Detected		100% Other	White Non Fibrous Homogeneous Ashed, Dissolved
TP-59 *1719311PLM_59*	Tar paper (type 1)	None Detected	70% Cellulose	30% Other	Black Fibrous Homogeneous Dissolved
TP-60 *1719311PLM_60*	Tar paper (type 1)	None Detected	70% Cellulose	30% Other	Black Fibrous Homogeneous Dissolved
TP-61 *1719311PLM_61*	Tar paper (type 1) *TEM*	Not Analyzed			

Philip Szabo (79)

Analyst

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Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code: 200664-0

Customer: Froehling & Robertson
18 Woods Lake Rd
Greenville, SC 29607

Attn: Andrea LeCroy

Project: St. James Baptist Church Pre-Demo Asbestos Survey

Lab Order ID: 1719311
Analysis ID: 1719311_PLM
Date Received: 9/11/2017
Date Reported: 9/13/2017

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
TP-62 *1719311PLM_62*	Tar paper (type 2)	**None Detected**	**70% Cellulose**	**30% Other**	Black Fibrous Homogeneous Dissolved
TP-63 *1719311PLM_63*	Tar paper (type 2)	**None Detected**	**70% Cellulose**	**30% Other**	Black Fibrous Homogeneous Dissolved
TP-64 *1719311PLM_64*	Tar paper (type 2) *TEM*	**Not Analyzed**			
RS-65 *1719311PLM_65*	Roofing shingle (type 1) *TEM*	**Not Analyzed**			
RS-66 *1719311PLM_66*	Roofing shingle (type 1)	**None Detected**	**15% Cellulose**	**85% Other**	Black Non Fibrous Homogeneous Dissolved
RS-67 *1719311PLM_67*	Roofing shingle (type 1)	**None Detected**	**15% Cellulose**	**85% Other**	Black Non Fibrous Homogeneous Dissolved
RS-68 *1719311PLM_68*	Roofing shingle (type 2)	**None Detected**	**5% Cellulose** **5% Fiber Glass**	**90% Other**	Black Non Fibrous Homogeneous Dissolved
RS-69 *1719311PLM_69*	Roofing shingle (type 2) *TEM*	**Not Analyzed**			

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Philip Szabo (79)

Analyst

Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code: 200664-0

Customer: Froehling & Robertson
18 Woods Lake Rd
Greenville, SC 29607

Attn: Andrea LeCroy

Lab Order ID: 1719311
Analysis ID: 1719311_PLM
Date Received: 9/11/2017
Date Reported: 9/13/2017

Project: St. James Baptist Church Pre-Demo Asbestos Survey

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
RS-70 *1719311PLM_70*	Roofing shingle (type 2)	**None Detected**	**5% Cellulose** **5% Fiber Glass**	**90% Other**	Black Non Fibrous Homogeneous Dissolved
RS-71 *1719311PLM_71*	Roofing shingle (type 3)	**None Detected**	**5% Cellulose** **5% Fiber Glass**	**90% Other**	Black Non Fibrous Homogeneous Dissolved
RS-72 *1719311PLM_72*	Roofing shingle (type 3)	**None Detected**	**5% Cellulose** **5% Fiber Glass**	**90% Other**	Black Non Fibrous Homogeneous Dissolved
RS-73 *1719311PLM_73*	Roofing shingle (type 3) *TEM*	**Not Analyzed**			
M-74 *1719311PLM_74*	Black mastic (tar like)	**None Detected**	**10% Cellulose**	**90% Other**	Black Non Fibrous Homogeneous Dissolved
M-75 *1719311PLM_75*	Black mastic (tar like)	**None Detected**	**10% Cellulose**	**90% Other**	Black Non Fibrous Homogeneous Dissolved
M-76 *1719311PLM_76*	Black mastic (tar like) *TEM*	**Not Analyzed**			

Philip Szabo (79)

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
Lab Order ID: 179211
Client Code: _____

Company Contact Information			
Company: FROEHLING & ROBERTSON		Contact:	
Address: 18 WOODS LAKE RD. GREENVILLE SC 29607		Phone ☑: 864-271-2840	
		Fax ☑: 864-271-8124	
		Email ☐: akcroy@froehlr.com	
Billing/Invoice Information		**Turn Around Times**	
Company: FROEHLING & ROBERTSON		90 Min. ☐	48 Hours ☐
Contact: ANDREA LeCROY		3 Hours ☐	72 Hours ☑
Address: 18 WOODS LAKE RD. GREENVILLE, SC 29607		6 Hours ☐	96 Hours ☐
		12 Hours ☐	120 Hours ☐
		24 Hours ☐	144⁺Hours ☐

Asbestos Test Types	
PLM EPA 600/R-93/116 (PLM)	☑
Positive stop	☑
PLM Point Count 400 (PT4)	☐
PLM Point Count 1000 (PTM)	☐
PCM NIOSH 7400-A Rules (PCM)	☐
B Rules (PCB) ☐ TWA (PTA)	☐
TEM AHERA (AHE)	☐
TEM Level II (LII)	☐
TEM NIOSH 7402 (TNI)	☐
TEM Bulk Qualitative (TBL)	☐
TEM Bulk Chatfield (TBS)	☑
TEM Bulk Quantitative (TBQ)	☐
TEM Wipe ASTM D6480-05	☐
TEM Microvac ASTM D5755-09	☐
TEM Water EPA 100.2 (TWI)	☐
Other: _____	☐

PO Number: 65V-0090
Project Name/Number: ST. JAMES BAPTIST CHURCH PRE-DEMO ASBESTOS SURVEY

POSITIVE STOP ALL SAMPLES EXCEPT JOINT COMPOUND

Sample ID #	Description/Location	Volume/Area	Comments
	PERFORM PLM / TEM SIMULTANEOUSLY		
	ANALYZE HIGHLIGHTED NOBs by TEM		
CM-1	CREAM CARPET MASTIC	≈1625	TEST MASTIC
CM-2	↓ (RED CARPET)	↓ SF	ONLY
TEM CM-3			↓

Total # of Samples ____

Relinquished by	Date/Time	Received by	Date/Time
ANDREA LeCroy	9/8/17 5:00pm	B Shelley	9/11 930A

Accepted ☑
Rejected ☐

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
Lab Order ID: 171911
Client Code: _____

Sample ID #	Description/Location	Volume/Area	Comments
SF-4 SF-5 SF-6	BROWN RECTANGLE SHEET FLOORING/MASTIC	24SF ↓	
SF-7 SF-8 SF-9	DARK BROWN SMALL RECTANGLES SHEET FLOORING	24SF ↓	
SF-10 SF-11 SF-12	LIGHT BROWN SQUARE PATTERN SELF-STICK TILES	54SF ↓	
CM-13 CM-14 CM-15	BROWN CARPET MASTIC (GREEN OUTDOOR CARPET)	≈ 65SF ↓	PORCHES -STAIRS
MOR-16 MOR-17 MOR-18	MORTAR (CMU BLOCK)		
CMU-19 CMU-20 CMU-21	CMU BLOCKS (MASONRY)		
GR-22 GR-23 GR-24	GROUT (BLOCK FILL)		
CT-25 CT-26 CT-27	BROWN FIBER BOARD CEILING TILE (1'X2')	≈1100	UPSTAIRS CEILING
CT-28 CT-29 CT-30	GRAY FIBER BOARD CEILING TILE (1'X1')	≈350 SF	UPSTAIRS ISOLATED AREAS ≈ 15% of ceiling
CT-31 CT-32 CT-33	LIGHT GRAY FIBER BOARD CEILING TILE (2'X4')	105 SF	ISOLATED TO ONE STORAGE ROOM BEHIND STAGE

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www.sailab.com lab@sailab.com

Lab Use Only
Lab Order ID: 171931
Client Code: _____

Sample ID #	Description/Location	Volume/Area	Comments
CT-34	YELLOW FIBER	110 SF	RESTROOMS
CT-35	w/ white outer sheeting	↓	ISOLATED AREA
CT-36	CEILING TILE (2'x4')	↓	AT STAGE
CT-37	LIGHT BROWN	≈400 SF	BASEMENT
CT-38	FIBER BOARD	↓	ONLY
CT-39	CEILING TILE (1'x2')	↓	(ISOLATED AREA)
TEM SC-40	GRAY SINK COATING	≈3 SF	SINK IN
SC-41	↓	↓	BASEMENT
SC-42	↓	↓	↓
WB-43	WALLBOARD		SELECT WALLS
WB-44	↓		& CEILINGS
WB-45	↓		↓
WB-46	↓		↓
WB-47	↓		↓
JC-48	JOINT COMPOUND		ISOLATED AREAS
JC-49	↓		NOT ALL SEAMS
JC-50	↓		OR NAILS
JC-51	↓		↓
JC-52	↓		↓
CS-53	CONCRETE SLAB	≈1,700	
CS-54	↓	SF	
CS-55	↓	↓	
TEM CA-56	white CAULK		
CA-57	↓		WINDOWS
CA-58	↓		1st FLOOR
TP-59	TAR PAPER		ROOF (older)
TP-60	↓ (TYPE 1)		↓
TEM TP-61	↓		↓
TP-62	TAR PAPER		PORCH (newer)
TP-63	(Type 2)		↓
TEM TP-64			

1719311

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Lab Use Only
Lab Order ID: _____
Client Code: _____

Sample ID #	Description/Location	Volume/Area	Comments
TEM RS-65	ROOFING SHINGLE		oldest
RS-66	↓ (Type 1)		LAYER
RS-67			
TEM RS-68	ROOFING SHINGLE		middle LAYER
RS-69	(Type 2)		
RS-70			
RS-71	ROOFING SHINGLE		Newest Roof
RS-72	(Type 3)		
TEM RS-73			
M-74	BLACK MASTIC		SEAMS of ROOF
M-75	↓ (TAR Like)		FLASHING
TEM M-76			

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code: 200664-0

Customer: Froehling & Robertson
18 Woods Lake Rd
Greenville, SC 29607

Attn: Andrea LeCroy

Project: St. James Baptist Church

Lab Order ID: 1719901
Analysis ID: 1719901_PLM
Date Received: 9/19/2017
Date Reported: 9/19/2017

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
SF-7B *1719901PLM_1*	Mastic associated with dark brown small rectangles sheet flooring	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
SF-8B *1719901PLM_2*	Mastic associated with dark brown small rectangles sheet flooring *mastic/ felt*	**None Detected**	**30% Cellulose**	**70% Other**	Yellow, Black Fibrous Heterogeneous Dissolved

Megan Javonovich (2)

Analyst

Approved Signatory

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www.sailab.com lab@sailab.com

Lab Use Only
Lab Order ID: 1719901
Client Code: _____

Company Contact Information

Company: F&R	Contact: Andrea LeCroy
Address: 18 Woods Lake Rd. Greenville, SC 29607	Phone ☑: 864-704-1210
	Fax ☐: 864-271-8124
	Email ☑: alecroy@fandr.com

Billing/Invoice Information

Company: F&R	
Contact: Attn: Andrea LeCroy	
Address: 18 Woods Lake Rd. Greenville, SC 29607	

Turn Around Times

90 Min.	☐	48 Hours	☐
3 Hours	☐	72 Hours	☐
6 Hours	☐	96 Hours	☐
12 Hours	☐	120 Hours	☐
24 Hours	☑	144⁺Hours	☐

PO Number: 65V-0090
Project Name/Number: St. James Baptist Church (Additional Mastic Samples)

Asbestos Test Types

PLM EPA 600/R-93/116 (PLM)	☑
Positive stop	☑
PLM Point Count 400 (PT4)	☐
PLM Point Count 1000 (PTM)	☐
PCM NIOSH 7400-A Rules (PCM)	☐
B Rules (PCB) ☐ TWA (PTA)	☐
TEM AHERA (AHE)	☐
TEM Level II (LII)	☐
TEM NIOSH 7402 (TNI)	☐
TEM Bulk Qualitative (TBL)	☐
TEM Bulk Chatfield (TBS)	☐
TEM Bulk Quantitative (TBQ)	☐
TEM Wipe ASTM D6480-05	☐
TEM Microvac ASTM D5755-09	☐
TEM Water EPA 100.2 (TWI)	☐
Other: _____	☐

Sample ID #	Description/Location	Volume/Area	Comments
SF-7B	Mastic Assoc. with Dark Brown small rectangles sheet flooring		Test Mastic Only
SF-8B	↓		↓
			Difficult sampling majority of flooring is nailed - minimal mastic TEM already performed

Total # of Samples 2

Relinquished by	Date/Time	Received by	Date/Time
Andrea LeCroy	9/18/17 4:30	D. Hawley	9/19/17 9:30 AM

Accepted ☑
Rejected ☐

A-F-017 EXP: 12-1-13

Bulk Asbestos Analysis
by Transmission Electron Microscopy

Semi-Quantitative
Chatfield SOP 1988-02 Rev. 1

Customer: Froehling & Robertson
18 Woods Lake Rd
Greenville, SC 29607

Attn: Andrea LeCroy

Project: St. James Baptist Church Pre-Demo Asbestos Survey

Lab Order ID: 1719312
Analysis ID: 1719312_TBS
Date Received: 9/11/2017
Date Reported: 9/14/2017

Sample ID	Description	Organic	Acid Sol.	Asbestos	LCL-UCL
Lab Sample ID	*Lab Notes*	*(Wt. %)*	*(Wt. %)*	*(Wt. %)*	*(Wt. %)*
CM-3	**Cream carpet mastic (red carpet)**	**42%**	**-**	**None Detected**	
1719312TBS_1					
SF-6 - A	**Brown rectangle sheet flooring/mastic**	**48%**	**-**	**None Detected**	
1719312TBS_2	*sheet flooring*				
SF-6 - B	**Brown rectangle sheet flooring/mastic**	**49%**	**-**	**None Detected**	
1719312TBS_14	*mastic*				
SF-9 - A	**Dark brown small rectangles sheet flooring**	**31%**	**-**	**None Detected**	
1719312TBS_3	*sheet flooring*				
SF-9 - B	**Dark brown small rectangles sheet flooring**	**25%**	**-**	**None Detected**	
1719312TBS_15	*mastic*				
SF-12	**Light brown square pattern self-stick tiles**	**27%**	**-**	**None Detected**	
1719312TBS_4					

Russell Shelton (15)
Analyst

Approved Signatory

Bulk Asbestos Analysis
by Transmission Electron Microscopy

Semi-Quantitative
Chatfield SOP 1988-02 Rev. 1

Customer: Froehling & Robertson
18 Woods Lake Rd
Greenville, SC 29607

Attn: Andrea LeCroy

Project: St. James Baptist Church Pre-Demo Asbestos Survey

Lab Order ID: 1719312
Analysis ID: 1719312_TBS
Date Received: 9/11/2017
Date Reported: 9/14/2017

Sample ID / Lab Sample ID	Description / Lab Notes	Organic (Wt. %)	Acid Sol. (Wt. %)	Asbestos (Wt. %)		LCL-UCL (Wt. %)
CM-14	Brown carpet mastic (green outdoor carpet)	45%	-	None Detected		
1719312TBS_5						
SC-40	Gray sink coating	16%	-	8.4 %	Chrysotile	7.5% - 9.2%
1719312TBS_6						
CA-56	White caulk	41%	-	None Detected		
1719312TBS_7						
TP-61	Tar paper (type 1)	97%	-	None Detected		
1719312TBS_8						
TP-64	Tar paper (type 2)	94%	-	None Detected		
1719312TBS_9						
RS-65	Roofing shingle (type 1)	47%	-	None Detected		
1719312TBS_10						

Russell Shelton (15)

Analyst

Approved Signatory

Bulk Asbestos Analysis
by Transmission Electron Microscopy

Semi-Quantitative
Chatfield SOP 1988-02 Rev. 1

Customer: Froehling & Robertson
18 Woods Lake Rd
Greenville, SC 29607

Attn: Andrea LeCroy

Project: St. James Baptist Church Pre-Demo Asbestos Survey

Lab Order ID: 1719312

Analysis ID: 1719312_TBS
Date Received: 9/11/2017
Date Reported: 9/14/2017

Sample ID	Description	Organic	Acid Sol.	Asbestos	LCL-UCL
Lab Sample ID	*Lab Notes*	*(Wt. %)*	*(Wt. %)*	*(Wt. %)*	*(Wt. %)*
RS-69	**Roofing shingle (type 2)**	**20.%**	**-**	**None Detected**	
1719312TBS_11					
RS-73	**Roofing shingle (type 3)**	**21%**	**-**	**None Detected**	
1719312TBS_12					
M-76	**Black mastic (tar like)**	**52%**	**-**	**None Detected**	
1719312TBS_13					

Russell Shelton (15)

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
Lab Order ID: 179312
Client Code: _____

Company Contact Information		
Company: FROEHLING & ROBERTSON	Contact:	
Address: 18 WOODS LAKE RD. GREENVILLE SC 29607	Phone ☑: 864-271-2840	
	Fax ☑: 864-271-8124	
	Email ☐: alecroy@froehling.com	

Billing/Invoice Information	Turn Around Times	
Company: FROEHLING & ROBERTSON	90 Min. ☐	48 Hours ☐
Contact: ANDREA LeCROY	3 Hours ☐	72 Hours ☑
Address: 18 WOODS LAKE RD. GREENVILLE, SC 29607	6 Hours ☐	96 Hours ☐
	12 Hours ☐	120 Hours ☐
	24 Hours ☐	144 Hours ☐

Asbestos Test Types	
PLM EPA 600/R-93/116 (PLM)	☑
Positive stop	☑
PLM Point Count 400 (PT4)	☐
PLM Point Count 1000 (PTM)	☐
PCM NIOSH 7400-A Rules (PCM)	☐
B Rules (PCB) ☐ TWA (PTA) ☐	
TEM AHERA (AHE)	☐
TEM Level II (LII)	☐
TEM NIOSH 7402 (TNI)	☐
TEM Bulk Qualitative (TBL)	☐
TEM Bulk Chatfield (TBS)	☑
TEM Bulk Quantitative (TBQ)	☐
TEM Wipe ASTM D6480-05	☐
TEM Microvac ASTM D5755-09	☐
TEM Water EPA 100.2 (TWI)	☐
Other: _____	☐

PO Number: 65V-0090
Project Name/Number: ST. JAMES BAPTIST CHURCH PRE-DEMO ASBESTOS SURVEY

POSITIVE STOP ALL SAMPLES EXCEPT JOINT COMPOUND

Sample ID #	Description/Location	Volume/Area	Comments
	PERFORM PLM / TEM SIMULTANEOUSLY		
	ANALYZE HIGHLIGTED NOBS by TEM		
CM-1	CREAM CARPET MASTIC	≈1625	TEST MASTIC ONLY
CM-2	↓ (RED CARPET)	↓ SF	↓
TEM CM-3			

Total # of Samples ____

Relinquished by	Date/Time	Received by	Date/Time
ANDREA LeCroy	9/8/17 5:00pm	[illegible]	9/11 930A

Accepted ☑
Rejected ☐

A-F-017 EXP 12-17

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Lab Use Only
Lab Order ID: 1719312
Client Code: _____

Sample ID #	Description/Location	Volume/Area	Comments
SF-4	BROWN RECTANGLE	24SF	
SF-5	SHEET FLOORING/MASTIC	↓	
SF-6	↓		
SF-7	DARK BROWN SMALL	24SF	
SF-8	RECTANGLES	↓	
SF-9	SHEET FLOORING		
SF-10	LIGHT BROWN SQUARE	54SF	
SF-11	PATTERN SELF-STICK	↓	
SF-12	TILES		
CM-13	BROWN CARPET MASTIC	≈ 65SF	PORCHES
CM-14	(GREEN OUTDOOR)	↓	-STAIRS
CM-15	CARPET		
MOR-16	MORTAR		
MOR-17	(CMU BLOCK)		
MOR-18			
CMU-19	CMU BLOCKS		
CMU-20	(MASONRY)		
CMU-21			
GR-22	GROUT		
GR-23	(BLOCK FILL)		
GR-24			
CT-25	BROWN FIBER BOARD	≈1100	UPSTAIRS
CT-26	CEILING TILE		CEILING
CT-27	(1'X2')		
CT-28	GRAY FIBER BOARD	≈350	UPSTAIRS
CT-29	CEILING TILE	SF	ISOLATED AREAS
CT-30	(1'X1')		≈ 15% of ceiling
CT-31	LIGHT GRAY FIBER BOARD	105	ISOLATED TO ONE
CT-32	CEILING TILE	SF	STORAGE ROOM
CT-33	(2'X4')		BEHIND STAGE

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Lab Order ID: 179312
Client Code: _____

	Sample ID #	Description/Location	Volume/Area	Comments
	CT-34	YELLOW FIBER	110 SF	RESTROOMS
	CT-35	w/ white outer SHEETING	↓	ISOLATED AREA
	CT-36	CEILING TILE (2'x4')	↓	AT STAGE
	CT-37	LIGHT BROWN	≈400 SF	BASEMENT
	CT-38	FIBER BOARD	↓	ONLY
	CT-39	CEILING TILE (1'x2')	↓	(ISOLATED AREA)
TEM	SC-40	GRAY SEALCOATING	≈3 SF	SINK IN
	SC-41	↓	↓	BASEMENT
	SC-42	↓	↓	
	WB-43	WALLBOARD		SELECT WALLS
	WB-44	↓		& CEILINGS
	WB-45	↓		
	WB-46	↓		
	WB-47	↓		
	JC-48	JOINT COMPOUND		ISOLATED AREAS
	JC-49	↓		NOT ALL SEAMS
	JC-50	↓		OR NAILS
	JC-51	↓		
	JC-52	↓		
	CS-53	CONCRETE SLAB	≈1,700	
	CS-54	↓	SF	
	CS-55	↓	↓	
TEM	CA-56	white CAULK		
	CA-57	↓		WINDOWS
	CA-58	↓		1ST FLOOR
	TP-59	TAR PAPER		ROOF (older)
	TP-60	↓ (TYPE 1)		↓
TEM	TP-61	↓		↓
	TP-62	TAR PAPER		PORCH (newer)
	TP-63	(TYPE 2)		↓
TEM	TP-64			

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Lab Use Only
Lab Order ID: 171931 2
Client Code: _____

Sample ID #	Description/Location	Volume/Area	Comments
TEM RS-65 RS-66 RS-67	ROOFING SHINGLE (Type 1)		oldest layer
RS-68 TEM RS-69 RS-70	ROOFING SHINGLE (Type 2)		middle layer
RS-71 RS-72 TEM RS-73	ROOFING SHINGLE (Type 3)		newest roof
M-74 M-75 TEM M-76	BLACK MASTIC (TAR like)		SEAMS of ROOF FLASHING

Appendix D

Photographic Documentation

PRE-DEMOLITION ASBESTOS CONTAINING MATERIALS SURVEY REPORT
ST. JAMES BAPTIST CHURCH
329 NEW YORK AVENUE
SPARTANBURG, SOUTH CAROLINA

Photograph 1: View of St. James Baptist Church as seen from New York Avenue, looking southwest.

Photograph 2: View of the interior of the church as seen from the former worship area on the first floor of the building.

Photograph 3: View of gray coating located on the bottom of the kitchen sink. The sink coating contains **8% Chrysotile**.

Photograph 4: Additional view of sink with identified asbestos coating. The sink is located on the basement level of the building.

Photograph 5: View of joint compound sampling point on the ceiling of a basement room. Joint compound associated with wallboard located in isolated areas throughout the building was identified as **2% and 3% Chrysotile**.

Photograph 6: View of cream mastic sampling point associated with red carpeting located in the main worship on the first floor of the church (None Detected).

Photograph 7: View of brown rectangle sheet flooring / mastic located at the entrance to the men's and women's restrooms (None Detected)

Photograph 8: View of dark brown small rectangles sheet flooring / mastic sampling point (None Detected). Minimal mastic was observed with the sheet flooring which was observed to be nailed in-place with mastic in isolated areas.

Photograph 9: View of light brown square pattern self-stick tiles located on the men's and women's restroom floors (None Detected).

Photograph 10: View of brown carpet mastic sampling point associated with the green outdoor carpet located on the exterior porches and stairs (None Detected).

Photograph 11: View of mortar sampling point associated with CMU block walls (None Detected).

Photograph 12: View of CMU block (masonry) sampling point at the main entrance of the church (None Detected).

Photograph 13: View grout block fill associated with CMU block walls (None Detected).

Photograph 14: View of 1'X2' brown fiber board ceiling tile located on the first floor of the building (None Detected).

Photograph 15: View of 1'X1' gray fiber board ceiling tile located on approximately 15% of the first floor ceiling (None Detected).

Photograph 16: View of 2'X4' light gray fiber board ceiling tile with white outer sheeting located in an isolated office behind the stage (None Detected).

Photograph 17: View of 1'X2' light brown fiber board ceiling tile with white outer sheeting located on the ceiling on the basement level of the building (None Detected).

Photograph 18: View of 2'X4' yellow fibrous ceiling tile with white outer sheeting located on the ceiling of the restrooms on the first floor of the building (None Detected).

Photograph 19: View of concrete slab sampling point on the basement level of the building (None Detected).

Photograph 20: View of wallboard sampling point on the first floor of the building (None Detected).

Photograph 21: View of asphalt roofing shingle sampling point (None Detected).

Photograph 22: View of tar paper and asphalt shingle sampling point on the porch roof (None Detected). Two types of tar paper were observed on the roof of the building. Both tar papers were Non-Detect for asbestos.

Photograph 23: View of three types of roof shingles sampled on the roof of the building (None Detected).

Photograph 24: View black mastic (tar like) sampling point along the seam of the roof (None Detected).

Photograph 25: View of white caulk sampling point on a window on the first floor of the building (None Detected).

Photograph 26: View of attic area above the ceiling on the first floor. No thermal system insulation materials were observed in the attic area.

Photograph 27: View of crawl space. No thermal system insulation or other suspect asbestos containing materials were observed in the crawlspace.

Photograph 28: Additional view of crawlspace. No suspect asbestos containing materials were observed in the crawlspace.

Photograph 28: View of wallboard covered wall located in the kitchen area on the basement level of the building. No joint compound was observed on this wall and as such, this wall is not included in the calculated square footage for joint compound.