

**HAZARDOUS MATERIALS SURVEY REPORT FOR  
RIVERDALE PRESBYTERIAN CHURCH AND ANNEX  
6513 QUEENS CHAPEL ROAD  
UNIVERSITY PARK, MARYLAND 20782**

**PREPARED FOR:**

**TOWN OF UNIVERSITY PARK  
6724 BALTIMORE AVENUE  
UNIVERSITY PARK, MARYLAND 20782**

**PREPARED BY:**

**ARIA ENVIRONMENTAL, INC.  
PO BOX 286  
WOODBINE, MD 21797**

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RIVERDALE PRESBYTERIAN CHURCH AND ANNEX  
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Reviewed by:   
Michele M. Twilley, DrPH, CIH  
Aria Environmental, Inc.



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**I. EXECUTIVE SUMMARY**

Aria Environmental, Inc. (AEI) was contracted by the Town of University Park to perform a hazardous materials survey of the Riverdale Presbyterian Church and Annex Buildings located at 6513 Queens Chapel Road, University Park, Maryland 20782. The Scope of Work for the project calls for the proposed renovation of both buildings. This report presents our methodologies; results of sampling and analysis activities; and our conclusions and recommendations for abatement as of the schematic design phase of the project.

The Riverdale Presbyterian Church Building is a three-story brick and block building originally constructed in 1948. The Church Building's foundation is composed of concrete slab on grade. The exterior of the building consists of wood doors, windows and trim in addition to a slate roof. Interior finishes included painted block wall, wall board, plaster and wood panel. Flooring consisted of several styles and colors of 9" x 9" and 12" x 12" floor tile, sheet flooring and carpet. Several styles of ceiling systems were present including 2' x 2' divot and dot suspended ceiling tile and 2' x 4' woven suspended ceiling tile, in addition to several styles of 1' x 1' and 1' x 2' spline ceiling tile. No insulating materials were observed on accessible mechanical systems.

The Annex Building is a three-story brick and block building originally constructed in 1952. The Annex Building's foundation is composed of concrete slab on grade. The exterior of the building consists of wood doors, windows and trim. The building's roof is primarily slate with approximately 3,600 square feet of built-up roof. Interior finishes included painted block wall, wall board, plaster and wood panel. Flooring consisted of several styles and colors of 9" x 9" and 12" x 12" floor tile, sheet flooring and carpet. Several styles of ceiling systems were present including and 2' x 4' fissure and dot suspended ceiling tile, in addition to several styles of 1' x 1' and 1' x 2' spline ceiling tile. No insulating materials were observed on accessible mechanical systems. Based upon the findings of the survey and the scope of work, the following recommendations for hazardous and regulated materials removal and disposal are presented:

1. The removal and disposal of all asbestos-containing materials to be impacted by the proposed renovation activities throughout the Church and Annex Buildings.
2. The removal and disposal of all assumed asbestos-containing fire doors located in the Church and Annex Buildings.
3. The collection of a TCLP sample to characterize building demolition waste as hazardous or non-hazardous lead waste.
4. The removal and recycling and/or disposal of three (3) window air conditioning units that contain refrigerants in the Church Building and sixteen (16) window air conditioning units in the Annex Building.
5. The recovery or proper disposal of refrigerants from the pieces of equipment in both buildings that contain refrigerants; including water fountains and air handling units.
6. The removal of universal wastes including the mercury-containing fluorescent light tubes, batteries and certain electrical system components (e.g., capacitors, switches, thermostats, meters) that commonly contain mercury in accordance with OSHA 29 CFR 1926.850 (e).
7. The intact removal and disposal of low level radioactive material in smoke detectors.



## II. INTRODUCTION

Aria Environmental, Inc. (AEI) was contracted by the Town of University Park to perform a hazardous materials survey of the Riverdale Presbyterian Church and Annex Building located at 6513 Queens Chapel Road, University Park, Maryland 20782. The Scope of Work for the project calls for the proposed renovations of both buildings. This report presents our methodologies; results of sampling and analysis activities; and our conclusions and recommendations for abatement as of the schematic design phase of the project.

The Riverdale Presbyterian Church Building is a three-story brick and block building originally constructed in 1948. The Church Building's foundation is composed of concrete slab on grade. The exterior of the building consists of wood doors, windows and trim in addition to a slate roof. Interior finishes included painted block wall, wall board, plaster and wood panel. Flooring consisted of several styles and colors of 9" x 9" and 12" x 12" floor tile, sheet flooring and carpet. Several styles of ceiling systems were present including 2' x 2' divot and dot suspended ceiling tile and 2' x 4' woven suspended ceiling tile, in addition to several styles of 1' x 1' and 1' x 2' spline ceiling tile. No insulating materials were observed on accessible mechanical systems.

The Annex Building is a three-story brick and block building originally constructed in 1952. The Annex Building's foundation is composed of concrete slab on grade. The exterior of the building consists of wood doors, windows and trim. The building's roof is primarily slate with approximately 3,600 square feet of built-up roof. Interior finishes included painted block wall, wall board, plaster and wood panel. Flooring consisted of several styles and colors of 9" x 9" and 12" x 12" floor tile, sheet flooring and carpet. Several styles of ceiling systems were present including 2' x 4' fissure and dot suspended ceiling tile, in addition to several styles of 1' x 1' and 1' x 2' spline ceiling tile. No insulating materials were observed on accessible mechanical systems.

## III. METHODOLOGY

### A. Asbestos

Representatives of AEI conducted an asbestos survey of the interior and exterior of the buildings on November 4, 5 and 15, 2013. Work was by Daniel Twilley (Maryland Asbestos Inspector/Management Planner No. MD-115750, exp. 7/12/14) with assistance from Taylor Kingston. A visual inspection for suspected asbestos-containing materials was performed followed by asbestos sample collection and laboratory analysis. Copies of the inspector's credentials are located in Attachment A.

Bulk samples of each suspect asbestos-containing material encountered by the inspector were collected in randomly located areas. A clean sampling tool was used to obtain a "thumbnail" sized bulk sample. This sample was placed in a single-use 4-mil plastic bag, sealed and labeled. The sampling tool was cleaned with an amended water solution before and between uses. Samples were submitted to AMA Analytical Services, Inc. of Lanham, MD 20706 (NVLAP Accreditation No. 101143-0) for analysis by Polarized Light Microscopy (PLM) using EPA method 600/R-93/116. A material is considered to be asbestos-containing if it contains one percent or more asbestos by polarized light microscopy.

Suspect asbestos-containing materials were not sampled if they were located behind solid walls and ceilings, or in enclosed pipe chases that would have to be damaged to access the suspect building materials. The flat roof of the Annex building was assumed to be asbestos-



containing. All doors are considered fire doors and all fire doors are assumed to be asbestos-containing.

## **B. Lead**

Daniel Twilley with Aria Environmental supervised the lead-based paint survey, which was conducted on November 15, 2013. X-Ray Fluorescence Analysis (XRF) was performed on-site by Blaine Owens, Maryland-accredited Lead-Based Paint Inspector Technician. The information contained within this report is intended to address the presence of lead-based paint or lead-containing paints to ensure that worker protection requirements are met under the Occupational Safety and Health Administration's (OSHA) "Lead Exposure in Construction Rule (29 CFR 1926.62)." The presence of lead-containing substances is presumed in any residential building construction before 1978 and in all commercial, industrial, and public structures unless it is determined that all painted surfaces are lead-free.

XRF readings were taken and recorded using a spectrum analyzer following operational protocols set forth in HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazard in Housing (1995)*. The RMD LPA-1 XRF was calibrated prior to and after each use and at least every four (4) hours. Three (3) calibration readings are collected at each interval to monitor the quality and performance of the XRF. Once an XRF scan of a surface was performed, the measurement was compared with the appropriate regulatory value for lead-based paint. The RMD LPA-1 XRF does not require substrate correction readings. However, the instrument cannot be used for collecting readings on severely curved surfaces, such as molding or small diameter pipes. In these situations, a paint chip sample was collected and submitted to a laboratory for analysis.

MDE defines "Lead-containing substance" as "any paint, plaster or other surface coating material containing more than 0.50 percent lead by weight calculated as lead metal in the dried solid, or more than 0.7 milligrams per square centimeter by the X-ray fluorescence analyzer." [[COMAR 26.02.07.02](#)]. EPA states "Lead-based paint is present:(i) On any surface that is tested and found to contain lead equal to or in excess of 1.0 milligrams per square centimeter or equal to or in excess of 0.5% by weight; and (ii) On any surface like a surface tested in the same room equivalent that has a similar painting history and that is found to be lead-based paint." [Title 40 CFR [745.227\(h\)](#)].

## **C. Polychlorinated Biphenyls**

Polychlorinated biphenyls (PCB's) are a class of chemicals that was used in a wide variety of applications. PCBs are often found in dielectric fluids, cooling fluids, transformers, capacitors and caulks. PCB-containing equipment must often be disposed of as part of renovation projects. The EPA definition of PCB-containing materials is 50 part per million (ppm) or milligrams per kilogram (mg/kg). A representative number of fluorescent light ballasts were inspected for the presence or absence of the "No PCBs" label. If the "No PCBs" label is absent then the ballast is considered to contain PCBs. The number of ballasts was estimated based upon the type of light fixture observed in the building. Light ballasts were counted as follows: one ballast for every two four-foot fluorescent light tube observed in a multi-tube fixture and one ballast for every one four-foot or eight-foot fluorescent light tube observed in a single fluorescent light tube fixture that is not joined to a second light fixture with a shared ballast. Representative composite bulk samples of exterior caulk were collected for PCB analysis. A clean sampling tool was used to obtain an approximately 5 gram sized bulk sample. This sample was placed in a single-use 4 ounce sampling jar, sealed and labeled. PCB bulk samples were placed on ice and



submitted to Phase Separation Sciences of Baltimore, Maryland for PCB analysis by method SW-846 8082 A.

#### **D. Mercury**

Mercury within fluorescent lamps, thermostats and other mechanical equipment often must be disposed of during renovation and demolition activities. Each area was surveyed for the presence of thermostats and/or equipment that may contain liquid mercury. Fluorescent light tubes may contain small amounts of mercury vapor and lead. Because disposal of fluorescent light tubes is regulated under the EPA Universal Waste rule, a count of fluorescent lamps is presented in this report.

#### **E. Refrigerants**

Refrigerant-containing equipment including refrigerators, freezers, and air conditioning units were identified for the purpose of recycling chlorofluorocarbon (CFC) and hydrochlorofluorocarbon (HCFC) refrigerants that are known to deplete ozone. Under EPA's Refrigerant Recycling Rule, equipment that is typically dismantled on-site before disposal (e.g., retail food refrigeration, central residential air conditioning, chillers, and industrial process refrigeration) requires refrigerant recovery in accordance with EPA's requirements for servicing.

#### **F. Mold**

Evidence of prior water intrusion was observed in restrooms 19 and 20 adjacent to the kitchen. No indication of mold growth was present. However, additional investigation during renovation is recommended.

### **IV. RESULTS**

#### **A. Asbestos**

Seventy-five (75) bulk samples of suspect asbestos-containing materials were collected and submitted to AMA Analytical Services, Inc. for asbestos analysis by PLM. Twenty-three (23) samples were split into distinct layers yielding ninety-nine (99) analyses. Forty (40) of the samples collected from the Riverdale Presbyterian Church and Annex Buildings contained asbestos at concentrations of one percent or more. Materials containing asbestos greater than 1% in the Church Building include: 1' x 1' fissure and dot spline ceiling tile (10% amosite), 12" x 12" medium beige floor tile (2% chrysotile), 9" x 9" black floor tile (4% chrysotile), 9" x 9" green floor tile (5% chrysotile), 9" x 9" Maroon floor tile (4% chrysotile), 9" x 9" olive floor tile (5% chrysotile), black mastic (2% chrysotile), and plaster (2% chrysotile). All doors were assumed to be asbestos-containing fire doors.

Materials containing asbestos greater than 1% in the Annex Building include: 9" x 9" brown with streaks floor tile (3% chrysotile), 9" x 9" light brown floor tile (2% chrysotile), 9" x 9" light brown with streaks floor tile (3% chrysotile), 9" x 9" maroon floor tile (4% chrysotile), 9" x 9" tan with streaks floor tile (2% chrysotile) black mastic (2% chrysotile) and leveling compound (4% Chrysotile). The approximately 3,600 square feet of built-up roof was assumed to be asbestos-containing. All doors were assumed to be asbestos-containing fire doors.

Results of the asbestos sample analysis are presented in Table 1 below. The Certificate of Analysis and Chain-of-Custody forms are provided in Attachment B.



**Table 1 - Asbestos Bulk Sampling Results for Riverdale Presbyterian Church and Annex**

<b>Sample Number</b>	<b>Material Description</b>	<b>Functional Area</b>	<b>Asbestos (%)</b>
RPC-01	2' x 4' Woven Suspended Ceiling Tile	23, Fellowship Hall, 16' West of East Wall, 14' South of North Wall	NAD
RPC-02	2' x 4' Woven Suspended Ceiling Tile	23, Fellowship Hall, 48' West of East Wall, 14' South of North Wall	NAD
RPC-03	2' x 4' Woven Suspended Ceiling Tile	23, Fellowship Hall, 10' East of West Wall, 16' South of North Wall	NAD
RPC-04	White Leveling Compound	23, Fellowship Hall, 34' West of East Wall, 1' South of North Wall	NAD
RPC-04	White Leveling Compound Mastic	23, Fellowship Hall, 34' West of East Wall, 1' South of North Wall	NAD
RPC-05	9" x 9" Black Floor Tile	18, Hallway, at Northeast Corner	4% Chrysotile
RPC-05	9" x 9" Black Floor Tile Black Mastic	18, Hallway, at Northeast Corner	NAD
RPC-06	Black Floor Tile Mastic	18, Hallway, at Northeast Corner	5% Chrysotile
RPC-07	Blue Covebase Yellow Mastic	18, Hallway, at Northeast Corner	NAD
RPC-08	9" x 9" Black Floor Tile	18, Hallway, at Southwest Corner	4% Chrysotile
RPC-08	9" x 9" Black Floor Tile Mastic	18, Hallway, at Southwest Corner	NAD
RPC-09	1' x 1' Pinhole Spline Ceiling Tile	18, Hallway, 1' East of West Wall, 8' South of North Wall	NAD
RPC-10	Drywall	20, Women's Restroom, 5' East of West Wall, on South Wall	NAD
RPC-10	Drywall Basecoat	20, Women's Restroom, 5' East of West Wall, on South Wall	NAD
RPC-11	12" x 12" Light Beige Floor Tile	20, Women's Restroom, 5' East of West Wall, on North Wall	NAD



**Table 1 - Asbestos Bulk Sampling Results for Riverdale Presbyterian Church and Annex**

<b>Sample Number</b>	<b>Material Description</b>	<b>Functional Area</b>	<b>Asbestos (%)</b>
RPC-11	12" x 12" Light Beige Floor Tile Mastic	20, Women's Restroom, 5' East of West Wall, on North Wall	NAD
RPC-12	Black Floor Tile Mastic	20, Women's Restroom, 5' East of West Wall, on North Wall	NAD
RPC-13	1' x 1' Pinhole Spline Ceiling Tile	20, Women's Restroom, 2' North of South Wall, at West Wall	NAD
RPC-14	Plaster	20, Women's Restroom, 3' South of North Wall, on West Wall	NAD
RPC-15	12" x 12" Light Beige Floor Tile	19, Men's Restroom, 2' East of West Wall, at North Wall	NAD
RPC-16	Black Floor Tile Mastic	19, Men's Restroom, 2' East of West Wall, at North Wall	NAD
RPC-17	1' x 1' Metal Pan Pinhole Spline Ceiling Tile Backing	16, Kitchen, 2' North of South Wall, At West Wall	NAD
RPC-18	Gray Covebase Yellow Mastic	16, Kitchen, 3' East of West Wall, on South Wall	NAD
RPC-19	12" x 12" Medium Beige Floor Tile	17, Kitchen Storage, 3' East of West Wall, at North Wall	2% Chrysotile
RPC-19	12" x 12" Medium Beige Floor Tile Mastic	17, Kitchen Storage, 3' East of West Wall, at North Wall	2% Chrysotile
RPC-20	Black Floor Tile Mastic	17, Kitchen Storage, 3' East of West Wall, at North Wall	3% Chrysotile
RPC-21	Black Covebase Yellow Mastic	17, Kitchen Storage, 4' West of East Wall, at North Wall	NAD
RPC-22	12" x 12" Medium Beige Floor Tile	17, Kitchen Storage, 2' West of East Wall, 2' North of South Wall	2% Chrysotile
RPC-23	Black Floor Tile Mastic	17, Kitchen Storage, 2' West of East Wall, 2' North of South Wall	5% Chrysotile



**Table 1 - Asbestos Bulk Sampling Results for Riverdale Presbyterian Church and Annex**

<b>Sample Number</b>	<b>Material Description</b>	<b>Functional Area</b>	<b>Asbestos (%)</b>
RPC-24	9" x 9" Light Brown with Streaks Floor Tile	2, Pre-School Room, 6' North of South Wall, at East Wall	3% Chrysotile
RPC-24	9" x 9" Light Brown with Streaks Floor Tile Mastic	2, Pre-School Room, 6' North of South Wall, at East Wall	2% Chrysotile
RPC-25	9" x 9" Light Brown with Streaks Floor Tile	2, Pre-School Room, 10' North of South Wall, at West Wall	4% Chrysotile
RPC-26	1' x 2' Deep Fissure Spline Ceiling tile	2, Pre-School Room, 6' East of West Wall, 11' South of North Wall	NAD
RPC-27	1' x 2' Divot and Dot Spline Ceiling Tile	2, Pre-School Room, 5' East of West Wall, 11' South of North Wall	NAD
RPC-28	Brown Leveling Compound	1, SE Classroom, at Door Transition	4% Chrysotile
RPC-29	Brown Leveling Compound	1, SE Classroom, at Southwest Corner	3% Chrysotile
RPC-30	9" x 9" Light Brown Floor Tile	10, Rumpus Room, 9' North of South Wall, at East Wall	2% Chrysotile
RPC-30	9" x 9" Light Brown Floor Tile Black Mastic	10, Rumpus Room, 9' North of South Wall, at East Wall	3% Chrysotile
RPC-31	9" x 9" Tan with Streaks Floor Tile	10, Rumpus Room, 3' West of East Wall, 2' North of South Wall	2% Chrysotile
RPC-31	9" x 9" Tan with Streaks Floor Tile Black Mastic	10, Rumpus Room, 3' West of East Wall, 2' North of South Wall	Trace Chrysotile
RPC-32	2' x 4' Fissure and Dot Suspended Ceiling Tile	10, Rumpus Room, 10' West of East Wall, 16' South of North Wall	NAD
RPC-33	1' x 2' Deep Fissure Spline Ceiling Tile	3, Shelter, 6' East of West Wall, 7' South of North Wall	NAD
RPC-34	1' x 2' Divot and Dot Spline Ceiling Tile	3, Shelter, 6' East of West Wall, 6' South of North Wall	NAD
RPC-35	Plaster White Coat	4, Boiler Room, 5' West of East Wall, 4' North of South Wall	NAD



**Table 1 - Asbestos Bulk Sampling Results for Riverdale Presbyterian Church and Annex**

<b>Sample Number</b>	<b>Material Description</b>	<b>Functional Area</b>	<b>Asbestos (%)</b>
RPC-36	Plaster Brown Coat	4, Boiler Room, 5' West of East Wall, 4' North of South Wall	NAD
RPC-37	Gray Linoleum Sheet Flooring	13, Nursery, at Door	NAD
RPC-38	9" x 9" Brown Floor Tile	5, Entry Vestibule, at Door	4% Chrysotile
RPC-38	9" x 9" Brown Floor Tile Black Mastic	5, Entry Vestibule, at Door	2% Chrysotile
RPC-39	Black Mastic	7, Hallway, 8' North of South Wall, at West Wall	2% Chrysotile
RPC-40	Plaster White Coat	7, Hallway, on Column	NAD
RPC-40	Plaster White Coat Basecoat	7, Hallway, on Column	NAD
RPC-41	Plaster Brown Coat	7, Hallway, on Column	NAD
RPC-41	Plaster Brown Coat Basecoat	7, Hallway, on Column	NAD
RPC-42	Beige Square Pattern Linoleum Sheet Flooring	14, Closet, 4' East of West Wall, 2' North of South Wall	NAD
RPC-43	9" x 9" Maroon Floor Tile with Tan Streaks	32, Stairwell, Landing Between Ground and First Floor at Door	4% Chrysotile
RPC-43	9" x 9" Maroon Floor Tile with Tan Streaks Black Mastic	32, Stairwell, Landing Between Ground and First Floor at Door	Trace Chrysotile
RPC-44	9" x 9" Maroon Floor Tile with Tan Streaks	32, Stairwell, First floor Landing at Double Door	4% Chrysotile
RPC-44	9" x 9" Maroon Floor Tile with Tan Streaks Black Mastic	32, Stairwell, First Floor Landing at Double Door	4% Chrysotile
RPC-44	9" x 9" Maroon Floor Tile with Tan Streaks Carpet Mastic	32, Stairwell, First Floor Landing at Double Door	NAD



**Table 1 - Asbestos Bulk Sampling Results for Riverdale Presbyterian Church and Annex**

<b>Sample Number</b>	<b>Material Description</b>	<b>Functional Area</b>	<b>Asbestos (%)</b>
RPC-45	9" x 9" Maroon Floor Tile with Tan Streaks and Black Mastic	44, Church Library, at Closet Door	4% Chrysotile
RPC-46	9" x 9" Green Floor Tile	15, Storage, 4' South of North Wall, at Door	5% Chrysotile
RPC-46	9" x 9" Green Floor Tile Black Mastic	15, Storage, 4' South of North Wall, at Door	3% Chrysotile
RPC-47	9" x 9" Black Floor Tile	15, Storage, 4' South of North Wall, at Door	5% Chrysotile
RPC-47	9" x 9" Black Floor Tile Black Mastic	15, Storage, 4' South of North Wall, at Door	5% Chrysotile
RPC-48	1' x 1' Pinhole Spline Ceiling Tile	24, Storage, 1' West of East Wall, 4' North of South Wall	NAD
RPC-49	White Leveling Compound	26/27, Storage, 3' West of East Wall, at Door	NAD
RPC-49	9" x 9" Black Floor Tile Mastic	26/27, Storage, 3' West of East Wall, at Door	5% Chrysotile
RPC-50	Brown Covebase Yellow Mastic	28, Hallway, 5' East of West Wall, on North Wall	NAD
RPC-51	2' x 2' Divot and Dot Suspended Ceiling Tile	31, Women's Restroom, 2' West of East Wall, 4' South of North Wall	NAD
RPC-52	2' x 2' Divot and Dot Suspended Ceiling Tile	30, Men's Restroom, 2' West of East Wall, 4' North of South Wall	NAD
RPC-53	Drywall	30, Men's Restroom, at Northeast Corner	NAD
RPC-54	Drywall	31, Women's Restroom, at Southwest Corner	NAD
RPC-55	9" x 9" Tan with Streaks Floor Tile with Black Mastic	39, Church Parlor, at Closet Door	3% Chrysotile
RPC-56	9" x 9" Brown with Streaks Floor Tile	38, Kitchen, 1' East of West Wall, 1' North of South Wall	3% Chrysotile



**Table 1 - Asbestos Bulk Sampling Results for Riverdale Presbyterian Church and Annex**

<b>Sample Number</b>	<b>Material Description</b>	<b>Functional Area</b>	<b>Asbestos (%)</b>
RPC-56	9" x 9" Brown with Streaks Floor Tile Mastic	38, Kitchen, 1' East of West Wall, 1' North of South Wall	4% Chrysotile
RPC-57	Plaster	68, Landing, at Southwest Corner	NAD
RPC-57	Plaster Basecoat	68, Landing, at Southwest Corner	NAD
RPC-58	Plaster White Coat	71, Loft, at Northeast Corner	NAD
RPC-58	Plaster White Coat Basecoat	71, Loft, at Northeast Corner	NAD
RPC-59	Plaster Brown Coat	71, Loft, at Northeast Corner	NAD
RPC-60	12" x 12" Dark Brown with Specs Floor Tile	North Stairs, First Floor Landing, at Northwest Corner	NAD
RPC-60	12" x 12" Dark Brown with Specs Floor Tile Black Mastic	North Stairs, First Floor Landing, at Northwest Corner	5% Chrysotile
RPC-61	1' x 1' Fissure and Dot Spline Ceiling Tile	52, Hallway, 20' East of West Wall, on South Wall	10% Amosite
RPC-62	1' x 1' Fissure and Dot Spline Ceiling Tile	52, Hallway, 17' West of East Wall, on South Wall	10% Amosite
RPC-63	Plaster	55, Sanctuary, Ceiling at Northwest Corner	2% Chrysotile
RPC-64	Plaster	55, Sanctuary, Ceiling, 18' East of West Wall, at South Wall	2% Chrysotile
RPC-65	9" x 9" Olive with Streaks Floor Tile	55, Sanctuary, 1' East of West Wall, 4' North of South Wall	5% Chrysotile
RPC-65	9" x 9" Olive with Streaks Floor Tile Black Mastic	55, Sanctuary, 1' East of West Wall, 4' North of South Wall	5% Chrysotile
RPC-66	9" x 9" Olive with Streaks Floor Tile with Black Mastic	55, Sanctuary, 12' East of West Wall, 15' South of North Wall	5% Chrysotile



**Table 1 - Asbestos Bulk Sampling Results for Riverdale Presbyterian Church and Annex**

Sample Number	Material Description	Functional Area	Asbestos (%)
RPC-67	Plaster	55, Sanctuary, 13' East of West Wall, on North Wall	3% Chrysotile
RPC-67	Plaster Basecoat	55, Sanctuary, 13' East of West Wall, on North Wall	NAD
RPC-68	Exterior Caulk	Exterior, South Side Annex Building, Window by Stairs	NAD
RPC-69	Exterior Caulk	Exterior, West Side Annex Building, Third Window from South Side of Building	NAD
RPC-70	Exterior Caulk	Exterior, Church Building, West Side, Window South of Door	NAD
RPC-71	Exterior Caulk	Exterior, Church Building, West Side, Window North of Door	NAD
RPC-72	1' x 2' Spline Ceiling Tile Mastic Patty	5 Vestibule, 2' East of West Wall, 1' South of North Wall	Trace Chrysotile
RPC-73	12" x 12" Dark Brown with Spec Floor Tile	53 Landing, 8' East of West Wall, 5' North of South Wall	NAD
RPC-74	1' x 2' Spline Ceiling Tile Mastic Patty	Central Stairs, 2' East of West Wall, 2' North of South Wall	NAD
RPC-75	1' x 2' Spline Ceiling Tile Mastic Patty	68 Vestibule, at Southwest Corner	NAD

All doors were assumed to be asbestos containing fire doors and were not sampled. Sixty-five (65) fire doors were identified in the Annex Building and sixty-nine (69) in the Church Building. The flat built-up roof on the Annex Building was not sampled as directed by the Town of University Park and was assumed to be asbestos-containing.

Suspect asbestos-containing materials were not sampled if they were located behind solid walls and ceilings, or in enclosed pipe chases that would have to be damaged to access the suspect building materials.

**B. Lead**

On November 15, 2013 five hundred twenty-six (526) XRF readings were collected throughout the interior and exterior areas of the Riverdale Presbyterian Church and Annex Buildings. Ninety eight (98) of the 526 surfaces tested were above the residential Lead-Based Paint definition of 0.7 mg/cm<sup>2</sup>. The lead-based paint survey and report is located in Attachment C. Lead-containing materials in the building included:



- Exterior: all door systems (excluding room 5 entry)
- Exterior: all window systems
- Exterior: all porch railings and hand rails
- Exterior: protective steel grates
- Exterior: main church entry wall columns
- Exterior: soffits/cornices
- Interior: Annex north stairs stringers, skirts, newel posts, balusters and hand rails
- Interior: Central stairs skirts, newel posts, balusters and hand rails
- Interior: Church south stairs newel posts, balusters and hand rails
- Interior: Church west stairs hand rails
- Interior: ceramic tile glazing in all bathrooms
- Interior: Church Building various door and window components
- Interior: Church Building radiators
- Interior: Church Building various wall trim components
- Interior: Church Building wall panels in room 55
- Interior: Church Building room 71 A-wall plaster

**C. Polychlorinated Biphenyls**

Where fluorescent light fixtures were observed, a representative number of ballasts were inspected for the presence or absence of the “No PCBs” label. No inspected light ballasts contained a label stating “No PCBs”. A total of one hundred fifty (150) assumed PCB containing fluorescent light ballasts were identified in the Annex Building. One hundred fifty-five (155) assumed PCB containing light ballasts were identified in the Church building. Additionally, thirty-three (33) automatic door closers which contain hydraulic fluid were identified on doors in the Annex Building. Thirty-seven (37) automatic door closers were identified in the Church Building.

Two composite bulk samples of exterior caulk were collected from the buildings. Samples were analyzed for PCB congeners: 1016, 1221, 1232, 1242, 1248, 1254, and 1260. All bulk samples were reported to be below the EPA definition of PCB-containing materials of 50 part per million (ppm) or milligrams per kilogram (mg/kg). None of the samples had detectable PCBs. Results of the submitted PCB samples are in Table 2 below. The Certificate of Analysis and Chain-of-Custody forms are provided in Attachment D.

**Table 2 – PCB Sampling Results for Riverdale Presbyterian Church and Annex**

Sample Number	Sample Type	Sample Material	Sample Location	Result
RPC-PCB-01	Bulk	Exterior Caulk	Annex Building, South Side, Window by Stairs	None Detected
RPC-PCB-02	Bulk	Exterior Caulk	Church Building, West Side, Window South of Door	None Detected

**D. Mercury**

Three hundred (300) fluorescent light tubes and sixteen (16) compact fluorescent lights were counted in the Annex Building. Three hundred nine (309) fluorescent light tubes and eight (8) compact fluorescent lights were counted in the Church Building. High Intensity Discharge (HID) lamps and incandescent lights were observed in the buildings but were not counted.



Additionally, nine (9) mercury-containing thermostats were located in the Annex Building and seven (7) in the Church Building. Other thermostats and thermometers are present in the buildings but are not suspected of containing mercury.

**E. Refrigerants**

Sixteen (16) window air conditioning units, two (2) refrigerators and three (3) water fountains were observed at the Annex Building. Three (3) window air conditioning units, one refrigerator (1) and exterior air handler units were observed at the Church Building. Table 3 presents an inventory of refrigerant-containing equipment by location in the building. The refrigerant type and factory charge are presented if known.

**Table 3 – Refrigerant Containing Equipment Inventory**

<b>Equipment Description</b>	<b>Location</b>	<b>Refrigerant</b>	<b>Factory Charge</b>
Window Air Conditioner	Annex Building, 1 SE Classroom	R-410A	9.0 oz.
Window Air Conditioner	Annex Building, 2 Pre-School	No label	No label
Refrigerator	Annex Building, 3 Shelter	R-12	9.1 oz.
Water Fountain	Annex Building, 6 Corridor	R-134A	3.6 oz.
Window Air Conditioner	Annex Building, 8 NE Classroom	R-22	16.9 oz.
Window Air Conditioner	Annex Building, 10 Rumpus Room	No label	No label
Window Air Conditioner	Annex Building, 13 Nursery	R-22	12.75 oz.
Refrigerator	Church Building, 16 Kitchen	R-134A	17.0 oz.
Window Air Conditioner	Annex Building, 33 Office	R-22	10.6 oz.
Refrigerator	Annex building, 38 Kitchen	No label	No label
Window Air Conditioner	Annex Building, 39 Church Parlor	R-22	25.0 oz.
Window Air Conditioner	Annex Building, 40 Bell Choir	No label	No label
Window Air Conditioner	Annex Building, 41 Music	R-22	30.0 oz.
Window Air Conditioner	Annex Building, 42 Choir	R-22	22.2 oz.
Water Fountain	Annex Building, 46 Corridor	R-12	3.25 oz.
Window Air Conditioner	Church Building, 48 Office	R-22	16.9 oz.
Window Air Conditioner	Church Building, 49 Pastor	R-22	6.9 oz.
Window Air Conditioner	Church Building, 51 Office	R-22	7.2 oz.
Window Air Conditioner	Annex Building, 56 Classroom	R-22	11.8 oz.
Window Air Conditioner	Annex Building, 56 Classroom	R-22	17.3 oz.
Window Air Conditioner	Annex Building, 57 Office	R-22	17.3 oz.
Window Air Conditioner	Annex Building, 58 Classroom	R-22	16.9 oz.
Water Fountain	Annex Building, 61 Corridor	No label	No label
Window Air Conditioner	Annex Building, 64 Office	R-22	17.3 oz.
Window Air Conditioner	Annex Building, 65 Radio	R-410A	10.6 oz.
Trane Air Handler Unit	Church Building, Exterior East Side	R-22	No label
Trane Air Handler Unit	Church Building, Exterior East Side	R-22	No label
Carrier Air Handler Unit	Church Building, Exterior East Side	R-22	6.25 lbs.

The refrigerant quantities identified as Factory Charge in the table under-represents the amount of refrigerant in the HVAC unit. An allowance for additional refrigerants should be considered prior to refrigerant recovery.



## F. Other

Smoke detectors contain a small low-level radioactive source. The most common types of ionizing smoke detectors contain Americium 241 which emits both alpha and gamma rays that are shielded by the detector. As per 10 CFR 32.27, the Nuclear Regulatory Commission requires manufacturers to dispose of returned intact smoke detectors for disposal at a radioactive waste disposal site. Three (3) smoke detectors are located in the Annex Building and six (6) in the Church Building.

Emergency lights and exit signs both contain batteries that are considered universal waste and must be disposed of properly. Five (5) emergency lights were observed in the Annex Building. Six (6) emergency lights and twelve (12) exit signs were observed in the Church Building.

## V. CONCLUSIONS AND RECOMMENDATIONS

The survey for hazardous materials in the Riverdale Presbyterian Church and Annex Buildings located at 6513 Queens Chapel Road, University Park, Maryland 20782 indicated the presence of hazardous or regulated materials that will require proper packaging and disposal prior to renovation. Our conclusions and recommendations are presented below.

**Asbestos:** Asbestos-containing materials were identified during the survey of the Church and Annex Buildings. Assumed asbestos-containing materials in the Church Building included:

- All doors were assumed to be asbestos-containing fire doors (69 doors)

Asbestos-containing materials identified during the survey for the Church Building included:

- 1' x 1' fissure and dot spline ceiling tile (1,254 square feet)
- 12" x 12" medium beige floor tile (143 square feet)
- 9" x 9" black floor tile (460 square feet)
- 9" x 9" green floor tile (110 square feet)
- 9" x 9" maroon floor tile (2,906 square feet)
- 9" x 9" olive with streaks floor tile (2,600 square feet)
- Black mastic (7,928 square feet)
- Plaster (7,760 square feet)

Assumed asbestos-containing materials in the Annex Building included:

- All doors were assumed to be asbestos-containing fire doors (65 doors)
- Built-up flat roof (3,600 square feet)

Asbestos-containing materials identified during the survey for the Annex Building included:

- 9" x 9" brown with streaks floor tile (56 square feet)
- 9" x 9" light brown floor tile (70 square feet)
- 9" x 9" light brown with streaks floor tile (1,364)
- 9" x 9" maroon floor tile (5,914 square feet)
- 9" x 9" tan with streaks floor tile (654 square feet)
- Black mastic (8,248 square feet)
- Leveling compound (627 square feet)



Suspect asbestos-containing materials were not sampled if they were located behind solid walls and ceilings, or in enclosed pipe chases that would have to be damaged to access the suspect building materials. Asbestos-containing pipe insulation, duct insulation, mudded elbows, fittings and valves are expected on all concealed mechanical systems, including those in chases and behind solid ceilings and walls or located underground.

According to the Maryland and USEPA National Emission Standard for Hazardous Air Pollutants (NESHAP) regulations, all friable asbestos-containing materials and those materials likely to become friable during renovation must be removed by a Maryland licensed asbestos abatement contractor. The NESHAP regulation expressly prohibits cutting, sanding or sawing asbestos-containing materials.

**Lead:** Five hundred twenty-six (526) XRF readings were collected throughout the interior and exterior areas of the Riverdale Presbyterian Church and Annex Buildings. Ninety-eight (98) of the 526 surfaces tested were above the residential Lead-Based Paint definition of 0.7 mg/cm<sup>2</sup>. The lead-based paint survey and report is located in Attachment D. Lead-containing materials in the building included:

- Exterior: all door systems (excluding room 5 entry)
- Exterior: all window systems
- Exterior: all porch railings and hand rails
- Exterior: protective steel grates
- Exterior: main church entry wall columns
- Exterior: soffits/cornices
- Interior: Annex north stairs stringers, skirts, newel posts, balusters and hand rails
- Interior: Central stairs skirts, newel posts, balusters and hand rails
- Interior: Church south stairs newel posts, balusters and hand rails
- Interior: Church west stairs hand rails
- Interior: ceramic tile glazing in all bathrooms
- Interior: Church Building various door and window components
- Interior: Church Building radiators
- Interior: Church Building various wall trim components
- Interior: Church Building wall panels in room 55
- Interior: Church Building room 71 A-wall plaster

Waste derived from the removal of lead-based paint or painted components must be tested to determine if the waste is a characteristic hazardous waste by performing a Toxicity Characteristic Leaching Procedure extraction and analysis for lead. Any hazardous waste generated in the project must be managed in accordance with the Resource Conservation and Recovery Act.

**Polychlorinated Biphenyls/Oil Filled Devices:** All light ballasts were assumed to be PCB containing. A total of one hundred fifty (150) PCB containing fluorescent light ballasts were located in the Annex Building. One hundred fifty-five (155) PCB containing fluorescent light ballasts were located in the Church Building. Additionally, a total of thirty-three (33) automatic door closers which contain hydraulic fluid were identified on doors in the Annex Building. Thirty-seven (37) automatic door closers were identified at the Church Building. All of the closers were intact and not leaking fluid and are therefore considered to be an oil filled device



Two composite bulk samples of exterior caulk were collected from the buildings. None of the PCB the samples had detectable PCBs and, therefore, are below the EPA definition of PCB-containing materials of 50 part per million (ppm) or milligrams per kilogram (mg/kg).

**Mercury:** Three hundred (300) fluorescent light tubes and sixteen (16) compact fluorescent lights were counted in the Annex Building. Three hundred and nine (309) fluorescent light tubes and eight (8) compact fluorescent lights were counted in the Church Building. High Intensity Discharge (HID) lamps and incandescent lights were observed in the buildings but were not counted. Additionally, nine (9) mercury-containing thermostats were located in the Annex Building and seven (7) in the Church Building. Other thermostats and thermometers are present in the buildings but are not suspected of containing mercury. Disposal of fluorescent light tubes and thermostats are regulated under the EPA Universal Hazardous Waste Rule because they may contain mercury and/or small quantities of lead. Light tubes should be packaged and disposed of in accordance with 40 CFR 273.9 and COMAR 26.13.

**Refrigerants:** Sixteen (16) window air conditioning units, two (2) refrigerators and three (3) water fountains were observed at the Annex Building. Three (3) window air conditioning units, one refrigerator (1) and exterior air handler units were observed at the Church Building.

Under EPA's Refrigerant Recycling Rule, equipment that is typically dismantled on-site before disposal (e.g., retail food refrigeration, central residential air conditioning, chillers, and industrial process refrigeration) has to have the refrigerant recovered in accordance with EPA's requirements for servicing. However, equipment that typically enters the waste stream with the charge intact (e.g., motor vehicle air conditioners, household refrigerators and freezers, and room air conditioners) is subject to special safe disposal requirements.

Under EPA requirements, the final person in the disposal chain (e.g., a scrap metal recycler or landfill owner) is responsible for ensuring that refrigerant is recovered from equipment before the final disposal of the equipment. However, persons "upstream" can remove the refrigerant and provide documentation of its removal to the final person if this is more cost-effective. If the final person in the disposal chain (e.g., a scrap metal recycler or landfill owner) accepts appliances that no longer hold a refrigerant charge, that person is responsible for maintaining a signed statement from whom the appliances is being accepted. The signed statement must include the name and address of the person who recovered the refrigerant, and the date that the refrigerant was recovered, or a copy of a contract stating that the refrigerant will be removed prior to delivery. The EPA does not mandate a sticker as a form of verification that the refrigerant has been removed prior to disposal of the appliance. Such stickers do not relieve the final disposer of their responsibility to recover any remaining refrigerant in the appliance, unless the sticker contains a signed statement that includes the name and address of the person who recovered the refrigerant, and the date that the refrigerant was recovered.

**Other:** Three (3) smoke detectors are located in the Annex Building and six (6) in the Church Building. All smoke detectors should be removed and returned to the manufacturer or disposed of as radioactive waste when replaced with a new fire detection system.

Emergency lights and exit signs both contain batteries that are considered universal waste and must be disposed of properly. Five (5) emergency lights were observed in the Annex Building. Six (6) emergency lights and twelve (12) exit signs were observed in the Church Building.



**Recommendations:** The scope of work calls for calls for the proposed renovation of the Riverdale Presbyterian Church and Annex Building located at 6513 Queens Chapel Road, University Park, Maryland 20782. Hazardous materials located in both buildings have to be considered in the scope of the project. We recommend a licensed abatement contractor perform all demolition and removal activities. Recommendations for further consideration are presented below.

1. The removal and disposal of all asbestos-containing materials to be impacted by the proposed renovation activities throughout the Church and Annex Buildings.
2. The removal and disposal of all assumed asbestos-containing fire doors located in the Church and Annex Buildings.
3. The collection of a TCLP sample to characterize building demolition waste as hazardous or non-hazardous lead waste.
4. The removal and recycling and/or disposal of three (3) window air conditioning units that contain refrigerants in the Church Building and sixteen (16) window air conditioning units in the Annex Building.
5. The recovery or proper disposal of refrigerants from the pieces of equipment in both buildings that contain refrigerants; including water fountains and air handling units.
6. The removal of universal wastes including the mercury-containing fluorescent light tubes, batteries and certain electrical system components (e.g., capacitors, switches, thermostats, meters) that commonly contain mercury in accordance with OSHA 29 CFR 1926.850 (e).
7. The intact removal and disposal of low level radioactive material in smoke detectors.

Abatement budgetary cost estimates are presented in appendix F.

## VI. LIMITATIONS

This report has been prepared for the exclusive use of the Town of University Park and/or their agents. This service has been 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 to us 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. Destructive sampling was not performed as part of this survey. No observations were made behind solid walls, ceilings or in pipe chases. The report presents assumptions for the existence of hazardous materials in these locations.

By virtue of providing the services described in this report, the preparer 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. It is the Client's responsibility 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. Under this scope of services, the preparer assumes no responsibility regarding response actions (e.g. O&M plan, encapsulation, abatement, removal, etc.) initiated as a result of these findings. 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 licensed personnel as warranted.



**Attachment A:**  
**Inspector's Credentials**



THIS IS TO CERTIFY THAT

**Daniel Twilley**

HAS MET THE ATTENDANCE REQUIREMENTS AND SUCCESSFULLY COMPLETED  
THE COURSE ENTITLED

**AHERA INSPECTOR/MANAGEMENT PLANNER REVIEW**  
**For Accreditation Under TSCA Title II**

7/12/2013

Course Date

7/12/2013

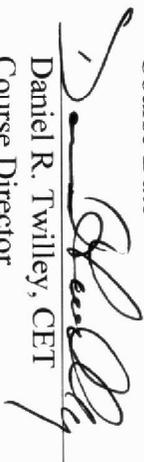
Exam Date

7/12/2014

Expiration Date

115750

Certificate Number

  
Daniel R. Twilley, CET  
Course Director

PO Box 286

• Woodbine, MD 21797

• 410-549-5774

**THIS IS TO CERTIFY THAT**

***Blaine David Owens***

**HAS MET THE LEAD PAINT SERVICES  
ACCREDITATION REQUIREMENTS FOR**

**Risk Assessor**

**05 24 2014**

**EXPIRATION DATE**

**TRAINING PROVIDER** **Aerosol Monitoring & Analysis,  
Inc.**

  
**ADMINISTRATOR, LEAD PAINT ACCREDITATION  
MARYLAND DEPARTMENT OF THE ENVIRONMENT**

**5/31/12**  
**DATE**

**04 22 2011**

**COURSE DATE**

**STATE OF MARYLAND**

**Certificate #** **4494**

Application for reaccreditation shall be submitted to MDE 30 days prior to accreditation expiration indicated on this certificate.

**Attachment B:**

**Asbestos Certificates of Analysis and Chain-of-Custody Forms**



## CERTIFICATE OF ANALYSIS

<b>Client:</b>	Aria Environmental, Inc.	<b>Job Name:</b>	Riverdale Presbyterian Church	<b>Chain Of Custody:</b>	211832
<b>Address:</b>	PO Box 286	<b>Job Location:</b>	Not Provided	<b>Date Analyzed:</b>	11/12/2013
	Woodbine, Maryland 21797	<b>Job Number:</b>	13-760	<b>Person Submitting:</b>	Taylor Kingston
		<b>P.O. Number:</b>	Not Provided		
<b>Attention:</b>	Dan Twilley				

### Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
14008335	RPC-01	NAD	--	--	--	--	--	--	20	--	--	80	NP	White	Homogeneous	PCSW	
14008336	RPC-02	NAD	--	--	--	--	--	--	20	--	--	80	NP	White	Homogeneous	PC	
14008337	RPC-03	NAD	--	--	--	--	--	--	20	--	--	80	NP	White	Homogeneous	PC	
14008338	RPC-04 CMT	NAD	--	--	--	--	--	--	TR	--	--	100	Cement	Off-White	Homogeneous	PC	
14008339	RPC-05 FT	4	4	--	--	--	--	--	--	--	--	96	FT	Black	Homogeneous	PC	
14008340	RPC-06	5	5	--	--	--	--	--	--	--	--	95	MS	Black	Homogeneous	PC	
14008341	RPC-07	NAD	--	--	--	--	--	--	TR	--	--	100	MS	Cream	Homogeneous	PC	
14008342	RPC-08 FT	4	4	--	--	--	--	--	--	--	--	96	FT	Black	Homogeneous	PC	
14008343	RPC-09	NAD	--	--	--	--	--	--	70	--	--	30	Fiber B.	Multi	Layered	PC	
14008344	RPC-10 PL	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	PC	
14008345	RPC-11 FT	NAD	--	--	--	--	--	--	--	--	--	100	FT	Multi	Homogeneous	PC	
14008346	RPC-12	NAD	--	--	--	--	--	--	TR	--	--	100	MS	Black	Homogeneous	PC	
14008347	RPC-13	NAD	--	--	--	--	--	--	70	--	--	30	Fiber B.	Multi	Layered	PC	
14008348	RPC-14	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	PC	
14008349	RPC-15	NAD	--	--	--	--	--	--	--	--	--	100	FT	Multi	Homogeneous	PC	

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.



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<b>Address:</b>	PO Box 286	<b>Job Location:</b>	Not Provided	<b>Date Analyzed:</b>	11/12/2013
	Woodbine, Maryland 21797	<b>Job Number:</b>	13-760	<b>Person Submitting:</b>	Taylor Kingston
		<b>P.O. Number:</b>	Not Provided		
<b>Attention:</b>	Dan Twilley				

Page 2 of 8

### Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
14008350	RPC-16	NAD	--	--	--	--	--	--	TR	--	--	100	MS	Black	Homogeneous	PC	
14008351	RPC-17	NAD	--	--	--	--	--	--	50	--	--	50	NP	Brown	Homogeneous	PC	
14008352	RPC-18	NAD	--	--	--	--	--	--	TR	--	--	100	MS	Brown	Homogeneous	PC	
14008353	RPC-19 FT	2	2	--	--	--	--	--	--	--	--	98	FT	Beige	Homogeneous	PC	
14008354	RPC-20	3	3	--	--	--	--	--	--	--	--	97	MS	Black	Homogeneous	PC	
14008355	RPC-21	NAD	--	--	--	--	--	--	TR	--	--	100	MS	Brown	Homogeneous	PC	
14008356	RPC-22	2	2	--	--	--	--	--	--	--	--	98	FT	Multi	Homogeneous	PC	
14008357	RPC-23	5	5	--	--	--	--	--	--	--	--	95	MS	Black	Homogeneous	PC	
14008358	RPC-24 FT	3	3	--	--	--	--	--	--	--	--	97	FT	Brown	Homogeneous	PC	
14008359	RPC-25	4	4	--	--	--	--	--	--	--	--	96	FT	Multi	Homogeneous	PC	
14008360	RPC-26	NAD	--	--	--	--	60	--	--	--	--	40	CT	Multi	Layered	PC	
14008361	RPC-27	NAD	--	--	--	--	60	--	--	--	--	40	CT	Multi	Layered	PC	
14008362	RPC-28	4	4	--	--	--	--	--	--	--	--	96	FT	Tan	Homogeneous	PC	
14008363	RPC-29	3	3	--	--	--	--	--	--	--	--	97	FT	Tan	Homogeneous	PC	
14008364	RPC-30 FT	2	2	--	--	--	--	--	--	--	--	98	FT	Tan	Homogeneous	PC	

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.



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<b>Address:</b>	PO Box 286	<b>Job Location:</b>	Not Provided	<b>Date Analyzed:</b>	11/12/2013
	Woodbine, Maryland 21797	<b>Job Number:</b>	13-760	<b>Person Submitting:</b>	Taylor Kingston
		<b>P.O. Number:</b>	Not Provided		
<b>Attention:</b>	Dan Twilley				

### Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
14008365	RPC-31 FT	2	2	--	--	--	--	--	--	--	--	98	FT	Brown	Homogeneous	PC	
14008366	RPC-32	NAD	--	--	--	--	15	--	40	--	--	45	CT	Multi	Layered	PC	
14008367	RPC-33	NAD	--	--	--	--	60	--	--	--	--	40	CT	Multi	Layered	PC	
14008368	RPC-34	NAD	--	--	--	--	60	--	--	--	--	40	CT	Multi	Layered	PC	
14008369	RPC-35	NAD	--	--	--	--	--	--	--	--	--	100	PL	Beige	Homogeneous	PC	
14008370	RPC-36	NAD	--	--	--	--	--	--	--	--	--	100	PL	Brown	Homogeneous	PC	
14008371	RPC-37	NAD	--	--	--	--	--	--	10	TR	--	90	VFT	Multi	Layered	PC	
14008372	RPC-38 FT	4	4	--	--	--	--	--	--	--	--	96	FT	Brown	Homogeneous	PC	
14008373	RPC-39	2	2	--	--	--	--	--	TR	--	--	98	MS	Multi	Homogeneous	PC	
14008374	RPC-40 PL	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	PC	
14008375	RPC-41 PL	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	PC	
14008376	RPC-42	NAD	--	--	--	--	--	TR	20	--	--	80	LN	Multi	Layered	PC	
14008377	RPC-43 FT	4	4	--	--	--	--	--	--	--	--	96	FT	Dk Brown	Homogeneous	PC	
14008378	RPC-44 FT	4	4	--	--	--	--	--	--	--	--	96	FT	Dk Brown	Homogeneous	PC	
14008379	RPC-45	4	4	--	--	--	--	--	--	--	--	96	FT	Dk Brown	Homogeneous	PC	

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<b>Address:</b>	PO Box 286	<b>Job Location:</b>	Not Provided	<b>Date Analyzed:</b>	11/12/2013
	Woodbine, Maryland 21797	<b>Job Number:</b>	13-760	<b>Person Submitting:</b>	Taylor Kingston
		<b>P.O. Number:</b>	Not Provided		
<b>Attention:</b>	Dan Twilley				

### Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
14008380	RPC-46 FT	5	5	--	--	--	--	--	--	--	--	95	FT	Green	Homogeneous	PC	
14008381	RPC-47 FT	5	5	--	--	--	--	--	--	--	--	95	FT	Multi	Homogeneous	PC	
14008382	RPC-48	NAD	--	--	--	--	--	--	70	--	--	30	Fiber B.	Multi	Layered	PC	
14008383	RPC-49 LC	NAD	--	--	--	--	--	--	--	--	--	100	LC	Gray	Homogeneous	PC	
14008384	RPC-50	NAD	--	--	--	--	--	--	--	--	--	100	MS	Beige	Homogeneous	PC	
14008385	RPC-51	NAD	--	--	--	--	20	--	35	--	--	45	CT	Multi	Layered	PC	
14008386	RPC-52	NAD	--	--	--	--	25	--	30	--	--	45	CT	Multi	Layered	PC	
14008387	RPC-53	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	PC	
14008388	RPC-54	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	PC	
14008389	RPC-55	3	3	--	--	--	--	--	--	--	--	97	FT	Brown	Homogeneous	PC	
14008390	RPC-56 FT	3	3	--	--	--	--	--	--	--	--	97	FT	Brown	Homogeneous	PC	
14008391	RPC-57 PL	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	PC	
14008392	RPC-58 PL	NAD	--	--	--	--	--	--	--	--	--	100	PL	White	Homogeneous	PC	
14008393	RPC-59	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Brown	Homogeneous	PC	
14008394	RPC-60 FT	NAD	--	--	--	--	--	--	--	--	--	100	FT	Brown	Homogeneous	PC	

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## CERTIFICATE OF ANALYSIS

<b>Client:</b>	Aria Environmental, Inc.	<b>Job Name:</b>	Riverdale Presbyterian Church	<b>Chain Of Custody:</b>	211832
<b>Address:</b>	PO Box 286	<b>Job Location:</b>	Not Provided	<b>Date Analyzed:</b>	11/12/2013
	Woodbine, Maryland 21797	<b>Job Number:</b>	13-760	<b>Person Submitting:</b>	Taylor Kingston
		<b>P.O. Number:</b>	Not Provided		
<b>Attention:</b>	Dan Twilley				

### Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
14008395	RPC-61	10	--	10	--	--	50	--	--	--	--	40	CT	Multi	Layered	PC	
14008396	RPC-62	10	--	10	--	--	50	--	--	--	--	40	CT	Multi	Layered	PC	
14008397	RPC-63	2	2	--	--	--	--	--	20	--	--	78	CT	Multi	Layered	PC	
14008398	RPC-64	2	2	--	--	--	--	--	20	--	--	78	CT	Multi	Layered	PC	
14008399	RPC-65 FT	5	5	--	--	--	--	--	--	--	--	95	FT	Tan	Homogeneous	PC	
14008400	RPC-66	5	5	--	--	--	--	--	--	--	--	95	FT	Tan	Homogeneous	PC	
14008401	RPC-67 PL	3	3	--	--	--	--	--	--	--	--	97	PL	White	Homogeneous	PC	
14008402	RPC-68	NAD	--	--	--	--	--	--	--	--	--	100	CK	Off-White	Homogeneous	PC	
14008403	RPC-69	NAD	--	--	--	--	--	--	--	--	--	100	CK	White	Homogeneous	PC	
14008404	RPC-70	NAD	--	--	--	--	--	--	--	--	--	100	CK	White	Homogeneous	PC	
14008405	RPC-71	NAD	--	--	--	--	--	--	--	--	--	100	CK	White	Homogeneous	PC	
14008644	RPC-04 M	NAD	--	--	--	--	--	--	--	--	--	100	MS	Brown	Homogeneous	PC	
14008645	RPC-05 M	NAD	--	--	--	--	--	--	TR	--	--	100	MS	Tan	Homogeneous	PC	
14008646	RPC-08 M	NAD	--	--	--	--	--	--	TR	--	--	100	MS	Tan	Homogeneous	PC	
14008647	RPC-10 BC	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Brown	Homogeneous	SW	

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## CERTIFICATE OF ANALYSIS

<b>Client:</b>	Aria Environmental, Inc.	<b>Job Name:</b>	Riverdale Presbyterian Church	<b>Chain Of Custody:</b>	211832
<b>Address:</b>	PO Box 286	<b>Job Location:</b>	Not Provided	<b>Date Analyzed:</b>	11/12/2013
	Woodbine, Maryland 21797	<b>Job Number:</b>	13-760	<b>Person Submitting:</b>	Taylor Kingston
		<b>P.O. Number:</b>	Not Provided		
<b>Attention:</b>	Dan Twilley				

### Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
14008648	RPC-11 M	NAD	--	--	--	--	--	--	TR	--	--	100	MS	Black	Homogeneous	SW	
14008649	RPC-19 M	2	2	--	--	--	--	--	TR	--	--	98	MS	Black	Homogeneous	SW	
14008650	RPC-24 M	2	2	--	--	--	--	--	--	--	--	98	MS	Black	Homogeneous	SW	
14008651	RPC-30 M	3	3	--	--	--	--	--	TR	--	--	97	MS	Black	Homogeneous	SW	
14008652	RPC-31 M	TR <sup>1</sup>	TR	--	--	--	--	--	TR	TR	--	100	MS	Black	Homogeneous	SW	
14008653	RPC-38 M	2	2	--	--	--	--	--	--	--	--	98	MS	Black	Homogeneous	SW	
14008654	RPC-40 BC	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Brown	Homogeneous	SW	
14008655	RPC-41 BC	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Brown	Homogeneous	SW	
14008656	RPC-43 M	3	3	--	--	--	--	--	--	--	--	97	MS	Black	Homogeneous	SW	
14008657	RPC-43 CM	TR	TR	--	--	--	--	--	--	--	--	100	CM	Tan	Homogeneous	SW	Chrysotile present is possible contamination from associated positive black mastic.
14008658	RPC-44 M	4	4	--	--	--	--	--	--	--	--	96	MS	Black	Homogeneous	SW	
14008659	RPC-44 CM	NAD	--	--	--	--	--	--	--	TR	--	100	CM	Yellow	Homogeneous	SW	
14008660	RPC-46 M	3	3	--	--	--	--	--	TR	--	--	97	MS	Brown	Homogeneous	SW	

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## CERTIFICATE OF ANALYSIS

<b>Client:</b>	Aria Environmental, Inc.	<b>Job Name:</b>	Riverdale Presbyterian Church	<b>Chain Of Custody:</b>	211832
<b>Address:</b>	PO Box 286	<b>Job Location:</b>	Not Provided	<b>Date Analyzed:</b>	11/12/2013
	Woodbine, Maryland 21797	<b>Job Number:</b>	13-760	<b>Person Submitting:</b>	Taylor Kingston
		<b>P.O. Number:</b>	Not Provided		
<b>Attention:</b>	Dan Twilley				

### Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
14008661	RPC-47 M	5	5	--	--	--	--	--	--	--	--	95	MS	Black	Homogeneous	SW	
14008662	RPC-49 M	5	5	--	--	--	--	--	TR	--	--	95	MS	Black	Homogeneous	SW	
14008663	RPC-56 M	4	4	--	--	--	--	--	--	--	--	96	MS	Black	Homogeneous	SW	
14008664	RPC-57 BC	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Brown	Homogeneous	SW	
14008665	RPC-58 BC	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Gray	Homogeneous	SW	
14008666	RPC-60 M	5	5	--	--	--	--	--	--	--	--	95	MS	Black	Homogeneous	SW	
14008667	RPC-65 M	5	5	--	--	--	--	--	--	--	--	95	MS	Black	Homogeneous	SW	
14008668	RPC-67 BC	NAD	--	--	--	--	--	--	TR	--	--	100	BC	Brown	Homogeneous	SW	

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<b>Address:</b>	PO Box 286	<b>Job Location:</b>	Not Provided	<b>Date Analyzed:</b>	11/12/2013
	Woodbine, Maryland 21797	<b>Job Number:</b>	13-760	<b>Person Submitting:</b>	Taylor Kingston
		<b>P.O. Number:</b>	Not Provided		
<b>Attention:</b>	Dan Twilley				

### Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
-------------------	-----------------	----------------	--------------------	-----------------	---------------------	------------------------	----------------------	--------------------	-----------------	-------------------	---------------	---------------------	-------------	--------------	-------------	------------	----------

The following footnotes only apply to those samples which the total asbestos result is flagged with a note number.

- 1 TEM RECOMMENDATION - Please note, due to resolution limitations with optical microscopy and/or interference from matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos. It is recommended that the additional analytical technique of TEM be used to check for asbestos fibers below the resolution limits of optical microscopy.
- 2 MATRIX REDUCTION RECOMMENDATION - Please note, due to interference from the matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos which is obscured from view. It is recommended that the additional preparation technique of gravimetric reduction be performed on this sample to minimize the obscuring effects of matrix components, followed by reanalysis by PLM and/or TEM.

Analysis Method - EPA/600/R-93/116 dated July 1993

NAD = "No Asbestos Detected" TR = "Trace equals less than 1% of this component"

Uncertainty: For samples containing asbestos in range of 1-10%  
the CV is 0.43, 11-35% CV=0.55, >35 CV=0.23

All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

Technical Director

Peerawut Chaiceence

Analyst(s)

P. Chaiceence / S. Watson

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# AMA Analytical Services, Inc.

Focused on Results www.amalab.com  
AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)  
4475 Forbes Blvd. • Lanham, MD 20706  
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

## CHAIN OF CUSTODY

(Please Refer To This Number For Inquires)

211832

Pg. 1 of 6

### Mailing/Billing Information:

1. Client Name: Aria Environmental Inc  
2. Address 1: PO Box 286  
3. Address 2: Woodbine, MD 21797  
4. Address 3: \_\_\_\_\_  
5. Phone #: 410-549-5774 Fax #: 410-549-4488

### Submittal Information:

1. Job Name: Riverdale Presbyterian Church  
2. Job Location: \_\_\_\_\_  
3. Job #: 13-760 P.O. #: \_\_\_\_\_  
4. Contact Person: Dan Twilley @ phone # \_\_\_\_\_  
5. Submitted by: Taylor Kingston Signature: [Signature]

Reporting Info (Results provided as soon as technically feasible). If no TAT/Reporting Info is provided, AMA will assign defaults of 5-Day and email/fax to contacts on file.

<b>AFTER HOURS (must be pre-scheduled)</b> <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		<b>NORMAL BUSINESS HOURS</b> <input type="checkbox"/> Immediate <input type="checkbox"/> 3 Day <input type="checkbox"/> Results Required By Noon <input type="checkbox"/> Next Day <input checked="" type="checkbox"/> 5 Day + <u>11/12/13</u> <input type="checkbox"/> 2 Day Date Due: _____		<b>REPORT TO:</b> <input type="checkbox"/> Include COC/Field Data Sheets with Report <input checked="" type="checkbox"/> Email: <u>Dtwilley</u> @ <u>ariaenviro.com</u> <input type="checkbox"/> Fax: _____ <input type="checkbox"/> Verbals: _____
--	--	--	--	---

### Asbestos Analysis

\*PCM Air - Please Indicate Filter Type:  
 NIOSH 7400 (QTY)  
 Fiberglass (QTY)  
 TEM Air\* - Please Indicate Filter Type:  
 AHERA (QTY)  
 NIOSH 7402 (QTY)  
 Other (specify \_\_\_\_\_) (QTY)  
 PLM Bulk  
 EPA 600 - Visual Estimate (QTY)  
 EPA Point Count (QTY)  
 NY State Friable 198.1 (QTY)  
 Grav. Reduction ELAP 198.6 (QTY)  
 Other (specify \_\_\_\_\_) (QTY)  
 MISC  
 Vermiculite  
 Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)  
 \*It is recommended that blank samples be submitted with all air and surface samples

### TEM Bulk

ELAP 198.4/Chatfield (QTY)  
 NY State PLM/TEM (QTY)  
 Residual Ash (QTY)

### TEM Dust\*

Qual. (pres/abs) Vacuum/Dust (QTY)  
 Quan. (s/area) Vacuum D5755-95 (QTY)  
 Quan. (s/area) Dust D6480-99 (QTY)

### TEM Water

Qual. (pres/abs) (QTY)  
 ELAP 198.2/EPA 100.2 (QTY)  
 EPA 100.1 (QTY)

All samples received in good condition unless otherwise noted.  
(TEM Water samples \_\_\_\_\_ °C)

### Metals Analysis

Pb Paint Chip (QTY)  
 \*Pb Dust Wipe (wipe type \_\_\_\_\_) (QTY)  
 \*Pb Air (QTY)  
 Pb Soil/Solid (QTY)  
 Pb TCLP (QTY)  
 Drinking Water  Pb (QTY)  Cu (QTY)  As (QTY)  
 Waste Water  Pb (QTY)  Cu (QTY)  As (QTY)  
 Pb Furnace (Media \_\_\_\_\_) (QTY)

### Fungal Analysis

Collection Apparatus for Spore Traps/Air Samples: \_\_\_\_\_  
Collection Media \_\_\_\_\_  
 \*Spore-Trap (QTY)  Surface Vacuum Dust (QTY)  
 \*Surface Swab (QTY)  Culturable ID Genus (Media \_\_\_\_\_) (QTY)  
 \*Surface Tape (QTY)  Culturable ID Species (Media \_\_\_\_\_) (QTY)  
 Other (Specify \_\_\_\_\_) (QTY)

CLIENT ID #	SAMPLE INFORMATION SAMPLE LOCATION/ID	DATE/ TIME	VOL (L)/ Wipe Area	ANALYSIS										CLIENT CONTACT						
				TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB	(LABORATORY STAFF ONLY)				
RPC-01																		Date/Time:	Contact:	By:
02																				
03																				
04	Cement/mastic																			
05	FT/M																			
06	BB MEM																			
07	BB/M																			
08	FT/M																			
09																				
10	DYBC																			
11	FT/M																			
12																				

LABORATORY STAFF ONLY: (CUSTODY)

1. Date/Time RCVD: 11/5/13 @ 1450 Via 000 By (Print): [Signature]  
2. Date/Time Analyzed: 11/12/13 @ \_\_\_\_\_ By (Print): P. Charkeene / S. Watson Sign: P. Charkeene / S. Watson  
3. Results Reported To: \_\_\_\_\_ Via: Email Date: 11/12/13 Time: \_\_\_\_\_ Initials: PSL  
4. Comments: \_\_\_\_\_





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## CHAIN OF CUSTODY

(Please Refer To This Number For Inquires)

~~211834~~

Pg. 3 of 6 211832

### Mailing/Billing Information:

- Client Name: Aria Environmental, Inc.
- Address 1: Po Box 286
- Address 2: Woodbine, MD 21797
- Address 3: \_\_\_\_\_
- Phone #: 410-549-5774 Fax #: 410-549-4488

### Submittal Information:

- Job Name: Riverdale Presbyterian Church
- Job Location: \_\_\_\_\_
- Job #: 13-760 P.O. #: \_\_\_\_\_
- Contact Person: Dan Twilley @ phone # \_\_\_\_\_
- Submitted by: Taylor Kingston Signature: [Signature]

Reporting Info (Results provided as soon as technically feasible). If no TAT/Reporting Info is provided, AMA will assign defaults of 5-Day and email/fax to contacts on file.

<b>AFTER HOURS (must be pre-scheduled)</b>		<b>NORMAL BUSINESS HOURS</b>		<b>REPORT TO:</b>	
<input type="checkbox"/> Immediate	Date Due: _____	<input type="checkbox"/> Immediate	<input type="checkbox"/> 3 Day	<input type="checkbox"/> Include COC/Field Data Sheets with Report	
<input type="checkbox"/> 24 Hours	Time Due: _____	<input type="checkbox"/> Next Day	<input checked="" type="checkbox"/> 5 Day +	<input type="checkbox"/> Email: _____ @ _____	
Comments: _____		<input type="checkbox"/> 2 Day	Date Due: _____	<input type="checkbox"/> Fax: _____	
		<input type="checkbox"/> Results Required By Noon		<input type="checkbox"/> Verbal: _____	

### Asbestos Analysis

- \*PCM Air - Please Indicate Filter Type:
- NIOSH 7400 (QTY)
  - Fiberglass (QTY)
- TEM Air\* - Please Indicate Filter Type:
- AHERA (QTY)
  - NIOSH 7402 (QTY)
  - Other (specify) (QTY)
- PLM Bulk
- EPA 600 - Visual Estimate (QTY)
  - EPA Point Count (QTY)
  - NY State Friable 198.1 (QTY)
  - Grav. Reduction ELAP 198.6 (QTY)
  - Other (specify) (QTY)

### TEM Bulk

- ELAP 198.4/Chatfield (QTY)
- NY State PLM/TEM (QTY)
- Residual Ash (QTY)

### TEM Dust\*

- Qual. (pres/abs) Vacuum/Dust (QTY)
- Quan. (s/area) Vacuum D5755-95 (QTY)
- Quan. (s/area) Dust D6480-99 (QTY)

### TEM Water

- Qual. (pres/abs) (QTY)
- ELAP 198.2/EPA 100.2 (QTY)
- EPA 100.1 (QTY)

All samples received in good condition unless otherwise noted. (TEM Water samples \_\_\_\_\_ °C)

### Metals Analysis

- Pb Paint Chip (QTY)
- \*Pb Dust Wipe (wipe type \_\_\_\_\_) (QTY)
- \*Pb Air (QTY)
- Pb Soil/Solid (QTY)
- Pb TCLP (QTY)
- Drinking Water  Pb (QTY)  Cu (QTY)  As (QTY)
- Waste Water  Pb (QTY)  Cu (QTY)  As (QTY)
- Pb Furnace (Media \_\_\_\_\_) (QTY)

### Fungal Analysis

- Collection Apparatus for Spore Traps/Air Samples: \_\_\_\_\_
- Collection Media \_\_\_\_\_
- \*Spore-Trap (QTY)
  - \*Surface Swab (QTY)
  - \*Surface Tape (QTY)
  - Other (Specify) (QTY)
  - Surface Vacuum Dust (QTY)
  - Culturable ID Genus (Media \_\_\_\_\_) (QTY)
  - Culturable ID Species (Media \_\_\_\_\_) (QTY)

### MISC

- Vermiculite
  - Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)
- If field data sheets are submitted, there is no need to complete bottom section.

CLIENT ID #      SAMPLE INFORMATION      DATE/TIME      VOL (L)/ Wipe Area      ANALYSIS      MATRIX      CLIENT CONTACT (LABORATORY STAFF ONLY)

CLIENT ID #	SAMPLE INFORMATION	DATE/TIME	VOL (L)/ Wipe Area	TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER AND OTHER	SPORE TRAP	TAPE	SWAB	CLIENT CONTACT (LABORATORY STAFF ONLY)
RPC-25	FT/M															Date/Time: _____ Contact: _____ By: _____
26																
27																
28	FT/M															Date/Time: _____ Contact: _____ By: _____
29	FT/M															
30	FT/M															
31	FT/M															
32																
33																
34																
35																
36																

LABORATORY STAFF ONLY: (CUSTODY)

- Date/Time RCVD: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ @ \_\_\_\_\_ Via: \_\_\_\_\_ By (Print): \_\_\_\_\_ Sign: [Signature]
- Date/Time Analyzed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ @ \_\_\_\_\_ By (Print): \_\_\_\_\_ Sign: \_\_\_\_\_
- Results Reported To: \_\_\_\_\_ Via: \_\_\_\_\_ Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Time: \_\_\_\_\_ Initials: \_\_\_\_\_
- Comments: \_\_\_\_\_



# AMA Analytical Services, Inc.

Focused on Results www.amalab.com  
AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)  
4475 Forbes Blvd. • Lanham, MD 20706  
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

## CHAIN OF CUSTODY

(Please Refer To This Number For Inquires)

~~211835~~

Pg. 4 of 6 211832

### Mailing/Billing Information:

1. Client Name: Aria Environmental, Inc.  
2. Address 1: PO Box 286  
3. Address 2: Woodbine, MD 21797  
4. Address 3: \_\_\_\_\_  
5. Phone #: 410-549-5774 Fax #: 410-549-4488

### Submittal Information:

1. Job Name: Riverdale Presbyterian Church  
2. Job Location: \_\_\_\_\_  
3. Job #: 13-760 P.O. #: \_\_\_\_\_  
4. Contact Person: Dan Twilley @ phone # \_\_\_\_\_  
5. Submitted by: Taylor Kingston Signature: Taylor Kingston

Reporting Info (Results provided as soon as technically feasible). If no TAT/Reporting Info is provided, AMA will assign defaults of 5-Day and email/fax to contacts on file.

AFTER HOURS (must be pre-scheduled)		NORMAL BUSINESS HOURS		REPORT TO:
<input type="checkbox"/> Immediate Date Due: _____	<input type="checkbox"/> 24 Hours Time Due: _____	<input type="checkbox"/> Immediate	<input type="checkbox"/> 3 Day	<input type="checkbox"/> Include COC/Field Data Sheets with Report
Comments: _____		<input type="checkbox"/> Next Day	<input checked="" type="checkbox"/> 5 Day +	<input type="checkbox"/> Email: _____ @ _____
		<input type="checkbox"/> 2 Day	Date Due: _____	<input type="checkbox"/> Fax: _____
			<input type="checkbox"/> Results Required By Noon	<input type="checkbox"/> Verbal: _____

### Asbestos Analysis

\*PCM Air - Please Indicate Filter Type:  
 NIOSH 7400 (QTY)  
 Fiberglass (QTY)  
TEM Air\* - Please Indicate Filter Type:  
 AHERA (QTY)  
 NIOSH 7402 (QTY)  
 Other (specify) (QTY)

### PLM Bulk

EPA 600 - Visual Estimate (QTY)  
 EPA Point Count (QTY)  
 NY State Friable 198.1 (QTY)  
 Grav. Reduction ELAP 198.6 (QTY)  
 Other (specify) (QTY)

### MISC

Vermiculite  
 Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

\*It is recommended that blank samples be submitted with all air and surface samples

### TEM Bulk

ELAP 198.4/Chatfield (QTY)  
 NY State PLM/TEM (QTY)  
 Residual Ash (QTY)

### TEM Dust\*

Qual. (pres/abs) Vacuum/Dust (QTY)  
 Quan. (s/area) Vacuum D5755-95 (QTY)  
 Quan. (s/area) Dust D6480-99 (QTY)

### TEM Water

Qual. (pres/abs) (QTY)  
 ELAP 198.2/EPA 100.2 (QTY)  
 EPA 100.1 (QTY)

All samples received in good condition unless otherwise noted.  
(TEM Water samples \_\_\_\_\_ °C)

If field data sheets are submitted, there is no need to complete bottom section.

### Metals Analysis

Pb Paint Chip (QTY)  
 \*Pb Dust Wipe (wipe type \_\_\_\_\_) (QTY)  
 \*Pb Air (QTY)  
 Pb Soil/Solid (QTY)  
 Pb TCLP (QTY)  
 Drinking Water  Pb (QTY)  Cu (QTY)  As (QTY)  
 Waste Water  Pb (QTY)  Cu (QTY)  As (QTY)  
 Pb Furnace (Media \_\_\_\_\_) (QTY)

### Fungal Analysis

Collection Apparatus for Spore Traps/Air Samples: \_\_\_\_\_  
Collection Media \_\_\_\_\_  
 \*Spore-Trap (QTY)  Surface Vacuum Dust (QTY)  
 \*Surface Swab (QTY)  Culturable ID Genus (Media \_\_\_\_\_) (QTY)  
 \*Surface Tape (QTY)  Culturable ID Species (Media \_\_\_\_\_) (QTY)  
 Other (Specify \_\_\_\_\_) (QTY)

CLIENT ID #	SAMPLE INFORMATION SAMPLE LOCATION/ID	DATE/ TIME	VOL (L)/ Wipe Area	ANALYSIS											CLIENT CONTACT					
				TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	MATRIX WATER AND OTHER	SPORE TRAP	TAPE	SWAB	(LABORATORY STAFF ONLY)				
RPC-37																		Date/Time:	Contact:	By:
38	FT/M																			
39																				
40	PL/BC																			
41	PL/BC																	Date/Time:	Contact:	By:
42																				
43	FT/M Carpet M																			
44	FT/M Carpet M																			
45	FT/M																	Date/Time:	Contact:	By:
46	FT/M																			
47	FT/M																			
48																				

LABORATORY STAFF ONLY: (CUSTODY)

1. Date/Time RCVD: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ @ \_\_\_\_\_ Via: \_\_\_\_\_ By (Print): \_\_\_\_\_ Sign: \_\_\_\_\_  
2. Date/Time Analyzed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ @ \_\_\_\_\_ By (Print): \_\_\_\_\_ Sign: \_\_\_\_\_  
3. Results Reported To: \_\_\_\_\_ Via: \_\_\_\_\_ Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Time: \_\_\_\_\_ Initials: \_\_\_\_\_  
4. Comments: \_\_\_\_\_





# AMA Analytical Services, Inc.

Focused on Results www.amalab.com  
AIHA (#100470) NVLAP (#101143-0) NY ELAP (10920)  
4475 Forbes Blvd. • Lanham, MD 20706  
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

## CHAIN OF CUSTODY

(Please Refer To This Number For Inquires)

241497

211832

PG 6 of 6

### Mailing/Billing Information:

- Client Name: ARIA ENVIRONMENTAL
- Address 1: \_\_\_\_\_
- Address 2: PO BOX 250
- Address 3: WOODS BIRCH, MD 21791
- Phone #: 410 544 5774 Fax #: \_\_\_\_\_

### Submittal Information:

- Job Name: RIVERDALE
- Job Location: \_\_\_\_\_
- Job #: 13-700 P.O. #: \_\_\_\_\_
- Contact Person: DAN TWINE @ phone #: \_\_\_\_\_
- Submitted by: \_\_\_\_\_ Signature: [Signature]

Reporting Info (Results provided as soon as technically feasible). If no TAT/Reporting Info is provided, AMA will assign defaults of 5-Day and email/fax to contacts on file.

<b>AFTER HOURS (must be pre-scheduled)</b> <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		<b>NORMAL BUSINESS HOURS</b> <input type="checkbox"/> Immediate <input type="checkbox"/> 3 Day <input type="checkbox"/> Next Day <input checked="" type="checkbox"/> 5 Day + <input type="checkbox"/> 2 Day Date Due: _____ <input type="checkbox"/> Results Required By Noon		<b>REPORT TO:</b> <input type="checkbox"/> Include COC/Field Data Sheets with Report <input checked="" type="checkbox"/> Email: _____ @ _____ <input type="checkbox"/> Fax: _____ <input type="checkbox"/> Verbals: _____
--	--	---	--	---

### Asbestos Analysis

- \*PCM Air - Please Indicate Filter Type:
- NIOSH 7400 (QTY)
  - Fiberglass (QTY)
- TEM Air\* - Please Indicate Filter Type:
- AHERA (QTY)
  - NIOSH 7402 (QTY)
  - Other (specify \_\_\_\_\_) (QTY)
- PLM Bulk
- EPA 600 - Visual Estimate (QTY)
  - EPA Point Count (QTY)
  - NY State Friable 198.1 (QTY)
  - Grav. Reduction ELAP 198.6 (QTY)
  - Other (specify \_\_\_\_\_) (QTY)

### TEM Bulk

- ELAP 198.4/Chatfield (QTY)
- NY State PLM/TEM (QTY)
- Residual Ash (QTY)

### TEM Dust\*

- Qual. (pres/abs) Vacuum/Dust (QTY)
- Quan. (s/area) Vacuum D5755-95 (QTY)
- Quan. (s/area) Dust D6480-99 (QTY)

### TEM Water

- Qual. (pres/abs) (QTY)
- ELAP 198.2/EPA 100.2 (QTY)
- EPA 100.1 (QTY)

All samples received in good condition unless otherwise noted. (TEM Water samples \_\_\_\_\_ °C)

### Metals Analysis

- Pb Paint Chip (QTY)
- \*Pb Dust Wipe (wipe type \_\_\_\_\_) (QTY)
- \*Pb Air (QTY)
- Pb Soil/Solid (QTY)
- Pb TCLP (QTY)
- Drinking Water  Pb (QTY)  Cu (QTY)  As (QTY)
- Waste Water  Pb (QTY)  Cu (QTY)  As (QTY)
- Pb Furnace (Media \_\_\_\_\_) (QTY)

### Fungal Analysis

- Collection Apparatus for Spore Traps/Air Samples: \_\_\_\_\_  
Collection Media \_\_\_\_\_
- \*Spore-Trap (QTY)  Surface Vacuum Dust (QTY)
  - \*Surface Swab (QTY)  Culturable ID Genus (Media \_\_\_\_\_) (QTY)
  - \*Surface Tape (QTY)  Culturable ID Species (Media \_\_\_\_\_) (QTY)
  - Other (Specify \_\_\_\_\_) (QTY)

### MISC

- Vermiculite
  - Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)
- \*It is recommended that blank samples be submitted with all air and surface samples  
If field data sheets are submitted, there is no need to complete bottom section.

CLIENT ID #	SAMPLE INFORMATION SAMPLE LOCATION/ID	DATE/ TIME	VOL (L)/ Wipe Area	ANALYSIS													CLIENT CONTACT					
				TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	MATRIX	WATER AND OTHER	SPORE TRAP	TAPE	SWAB	(LABORATORY STAFF ONLY)					
<u>TRPC-41</u>																				Date/Time:	Contact:	By:
<u>-42</u>																						
<u>-43</u>																						
<u>-44</u>																						
<u>-45</u>	<u>FT/M</u>																					
<u>-46</u>	<u>FT/M</u>																					
<u>-47</u>	<u>PL/BC</u>																					
<u>-48</u>																						
<u>-49</u>																						
<u>-70</u>																						
<u>-71</u>																						

LABORATORY STAFF ONLY: (CUSTODY)

- Date/Time RCVD: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ @ \_\_\_\_\_ Via: \_\_\_\_\_ By (Print): \_\_\_\_\_ Sign: [Signature]
- Date/Time Analyzed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ @ \_\_\_\_\_ By (Print): \_\_\_\_\_ Sign: \_\_\_\_\_
- Results Reported To: \_\_\_\_\_ Via: \_\_\_\_\_ Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Time: \_\_\_\_\_ Initials: \_\_\_\_\_
- Comments: \_\_\_\_\_



## CERTIFICATE OF ANALYSIS

<b>Client:</b>	Aria Environmental, Inc.	<b>Job Name:</b>	Riverdale Presbyterian Church	<b>Chain Of Custody:</b>	211837
<b>Address:</b>	PO Box 286	<b>Job Location:</b>	Not Provided	<b>Date Analyzed:</b>	11/22/2013
	Woodbine, Maryland 21797	<b>Job Number:</b>	13-760	<b>Person Submitting:</b>	Dan Twilley
		<b>P.O. Number:</b>	Not Provided		
<b>Attention:</b>	Dan Twilley				

Page 1 of 2

### Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
14011382	RPC-72	TR <sup>1</sup>	TR	--	--	--	3	--	2	--	--	95	MS	DK.Brown	Homogeneous	LBP	
14011383	RPC-73	NAD	--	--	--	--	--	--	--	--	--	100	FT	Beige	Homogeneous	LBP	
14011384	RPC-74	NAD	--	--	--	--	--	--	TR	--	2	98	MS	Brown	Homogeneous	LBP	
14011385	RPC-75	NAD	--	--	--	--	--	--	TR	--	2	98	MS	Brown	Homogeneous	LBP	

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.



## CERTIFICATE OF ANALYSIS

<b>Client:</b>	Aria Environmental, Inc.	<b>Job Name:</b>	Riverdale Presbyterian Church	<b>Chain Of Custody:</b>	211837
<b>Address:</b>	PO Box 286	<b>Job Location:</b>	Not Provided	<b>Date Analyzed:</b>	11/22/2013
	Woodbine, Maryland 21797	<b>Job Number:</b>	13-760	<b>Person Submitting:</b>	Dan Twilley
		<b>P.O. Number:</b>	Not Provided		
<b>Attention:</b>	Dan Twilley				

Page 2 of 2

### Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Type	Sample Color	Homogeneity	Analyst ID	Comments
-------------------	-----------------	----------------	--------------------	-----------------	---------------------	------------------------	----------------------	--------------------	-----------------	-------------------	---------------	---------------------	-------------	--------------	-------------	------------	----------

The following footnotes only apply to those samples which the total asbestos result is flagged with a note number.

- 1 TEM RECOMMENDATION - Please note, due to resolution limitations with optical microscopy and/or interference from matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos. It is recommended that the additional analytical technique of TEM be used to check for asbestos fibers below the resolution limits of optical microscopy.
- 2 MATRIX REDUCTION RECOMMENDATION - Please note, due to interference from the matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos which is obscured from view. It is recommended that the additional preparation technique of gravimetric reduction be performed on this sample to minimize the obscuring effects of matrix components, followed by reanalysis by PLM and/or TEM.

Analysis Method - EPA/600/R-93/116 dated July 1993

NAD = "No Asbestos Detected" TR = "Trace equals less than 1% of this component"

Uncertainty: For samples containing asbestos in range of 1-10% the CV is 0.43, 11-35% CV=0.55, >35 CV=0.23

All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

Technical Director

Peerawut Chaiceene

Analyst(s)

Lom Butruk

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

NVLAP (101143-0) Accredited Laboratory

4475 Forbes Blvd. · Lanham, MD, 20706 · (301) 459-2640 · Toll Free (800) 346-0961 · Fax (301) 459-2643



**Attachment C:**  
**Lead-Based Paint Survey Report**



# FROEHLING & ROBERTSON, INC.

Engineering • Environmental • Geotechnical

10626 York Road, Suite C-D  
Cockeysville, MD 21030 | USA  
T 410.825.4131 | F 410.321.7384

November 20<sup>th</sup>, 2013

Mr. Dan Twilley  
Aria Environmental Inc.  
P.O. Box 286  
Woodbine, Maryland 21797

RE: Lead-Based Paint Inspection of Riverdale Presbyterian Church; University Park, MD

Dear Mr. Twilley,

On November 15<sup>th</sup>, 2013, Froehling & Robertson, Inc. conducted a lead-based paint inspection of the above referenced property located at 6513 Queens Chapel Road in University Park, Maryland. The scope of work included the testing of accessible interior and exterior building components for a property transfer. Blaine Owens, a State of Maryland Lead Paint Risk Assessor, performed the inspection.

The inspection was conducted in accordance with Federal regulations and guidelines and followed protocols on file with the Maryland Department of the Environment as a condition of accreditation as a lead paint inspection contractor in the State of Maryland. The Maryland definition of lead-based paint, which includes concentrations of lead of greater than 0.7 milligrams per square centimeter, was observed. Paint testing was conducted with a portable x-ray fluorescence analyzer (XRF), RMD model LPA-1.

The following painted building components were tested during the XRF inspection: door and window systems, wall and ceiling systems, stair systems, and other miscellaneous components. Lead-based paint was identified on the following building components (for a detailed room by room account of tested components, refer to the enclosed data sheets):

- Exterior: all door systems (excluding Rm. 5 entry); all window systems; all porch railings and hand rails; protective steel grates; main church entry wall columns; soffits/cornices.
- Stairs: north annex stringers, skirts, newel posts balusters and hand rails; central stair skirts, newel posts, balusters and hand rails; church south newel posts; balusters and hand rails; church west hand rails.
- Interior: ceramic tile glazing in all bathrooms; various door and window components in the original church section; radiators and various wall trim components in the original church section; ornate wall panels in Room 55; Room 71 A-wall plaster.



## FROEHLING & ROBERTSON, INC.

Engineering • Environmental • Geotechnical

10626 York Road, Suite C-D  
Cockeysville, MD 21030 | USA  
T 410.825.4131 | F 410.321.7384

Included with this submittal is an information sheet titled "XRF Data Sheet Interpretations" as well as a report of all XRF readings collected during the inspection. Also included are detailed room diagrams with room identification numbers to use as reference. Should you have any questions concerning this report, please do not hesitate to call me at 410-825-4131.

Sincerely,  
Froehling and Robertson, Inc.

A handwritten signature in black ink, appearing to read 'B O', is positioned above the typed name of the sender.

Blaine Owens  
Project Manager

Encl.



# FROEHLING & ROBERTSON, INC.

Engineering • Environmental • Geotechnical

10626 York Road, Suite C-D  
Cockeysville, MD 21030 | USA  
T 410.825.4131 | F 410.321.7384

## XRF Data Sheet Interpretations

The following definitions will aid in interpreting the specific columns of information located in the XRF Lead-Based Paint Inspection Data sheets:

Column #1 - "Wall": Each component tested is reported by a wall code of A, B, C, D, or N/A. A component is described with a wall code of "A" if it is located on the closest wall with the same orientation as the wall containing the front door of the property. Components are assigned a letter B, C, or D in a clockwise manner based on the location of wall A. The code "N/A" is assigned to ceiling or floors. When multiple components of the same type within a room, common area or exterior site are tested, testing shall proceed from left to right, when facing the component, with each unit assigned a replicate number, such as 1, 2, 3, etc...(e.g. A<sup>1</sup> window is the first window on the left side on the A wall. B<sup>2</sup> window sill is the second window sill from the left on the B wall.) If only one item is present, no additional numbering is required.

Column #2 - "XRF Reading": This is the XRF reading column given in units of milligrams per square centimeter (mg/cm<sup>2</sup>) and is recorded onto the data sheets directly from the XRF analyzer after each test. A negative number sometimes exists because of the nature of the algorithmic substrate correction features of the spectrum analyzer. This is not meant to be interpreted as a "negative" amount of lead, but rather an effect from the density of the substrate on the detectable amount of excited lead electron particles, if any, that can be associated with the components reading.

### Column #3 - Classification of Readings

Each XRF test is classified as positive, negative, or inconclusive based on the following ranges according to the Performance Characteristic sheet for an RMD LPA-1 using the "quick" mode and in accordance with the Maryland standard of >0.7 mg/cm<sup>2</sup>.

For brick, concrete, drywall, plaster, and wood substrates:

<b>Negative (N)</b>	<b>Positive (P)</b>
≤ 0.7 mg/cm <sup>2</sup>	≥ 0.8 mg/cm <sup>2</sup>

For metal substrates:

<b>Negative (N)</b>	<b>Positive (P)</b>	<b>Inconclusive (I)</b>
≤ 0.7 mg/cm <sup>2</sup>	≥ 1.1 mg/cm <sup>2</sup>	0.8-1.0 mg/cm <sup>2</sup>



# FROEHLING & ROBERTSON, INC.

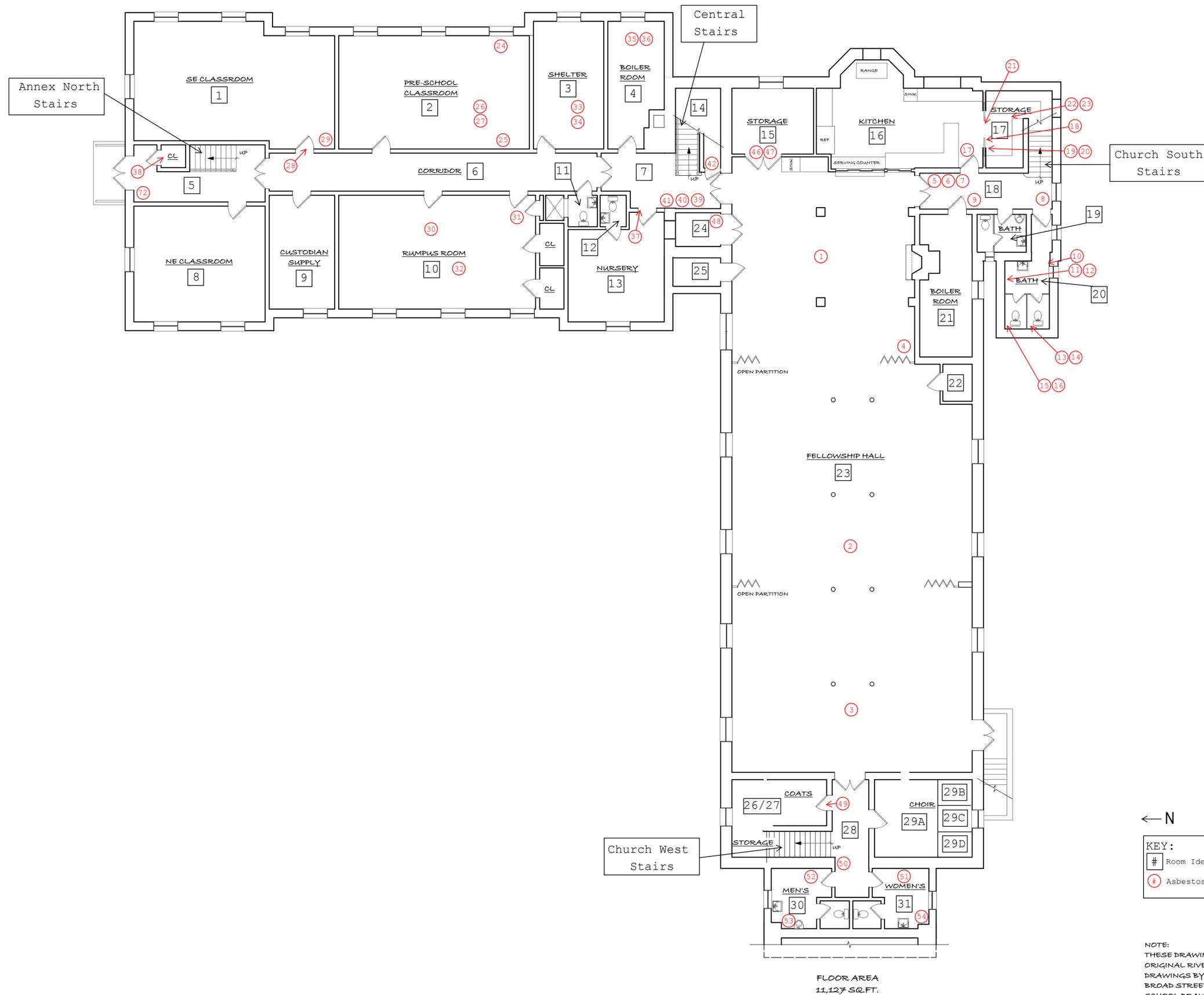
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 Cockeysville, MD 21030 | USA  
 T 410.825.4131 | F 410.321.7384

## XRF Data Sheet Interpretations continued

*Column #4 - "Paint Condition":* The paint condition for each corresponding building structure/component (if applicable).

Type of Building Component	Total Area of Deteriorated Paint on Each Component		
	I = Intact	F = Fair <sup>2</sup>	P = Poor <sup>3</sup>
Exterior components with large surface areas.	Entire surface is intact.	Less than or equal to 10 square feet.	More than 10 square feet.
Interior components with large surface areas (walls, ceilings, floors, doors).	Entire surface is intact.	Less than or equal to 2 square feet.	More than 2 square feet.
Interior and exterior components with small surface areas (window sills, baseboards, soffits, trim).	Entire surface is intact.	Less than or equal to 10 percent of the total surface area of the component.	More than 10 percent of the total surface area of the component.



**1** EXISTING GROUND FLOOR  
Scale: 1/8" = 1'-0"

**KEY:**  
 # Room Identification Number  
 # Asbestos Sample Locations

**NOTE:**  
 THESE DRAWINGS WERE TRACED FROM THE ORIGINAL RIVERDALE PRESBYTERIAN CHURCH DRAWINGS BY CHARLES M. TALLEY, 314 WEST BROAD STREET TELFORD, PA. & ORIGINAL SUNDAY SCHOOL DRAWINGS BY CHARLES M. TALLEY, 314 WEST BROAD STREET TELFORD, PA. SQUARE FOOTAGE AMOUNTS ARE APPROXIMATED BASED ON THESE DRAWINGS.



FLOOR AREA  
10,486 SQ.FT.

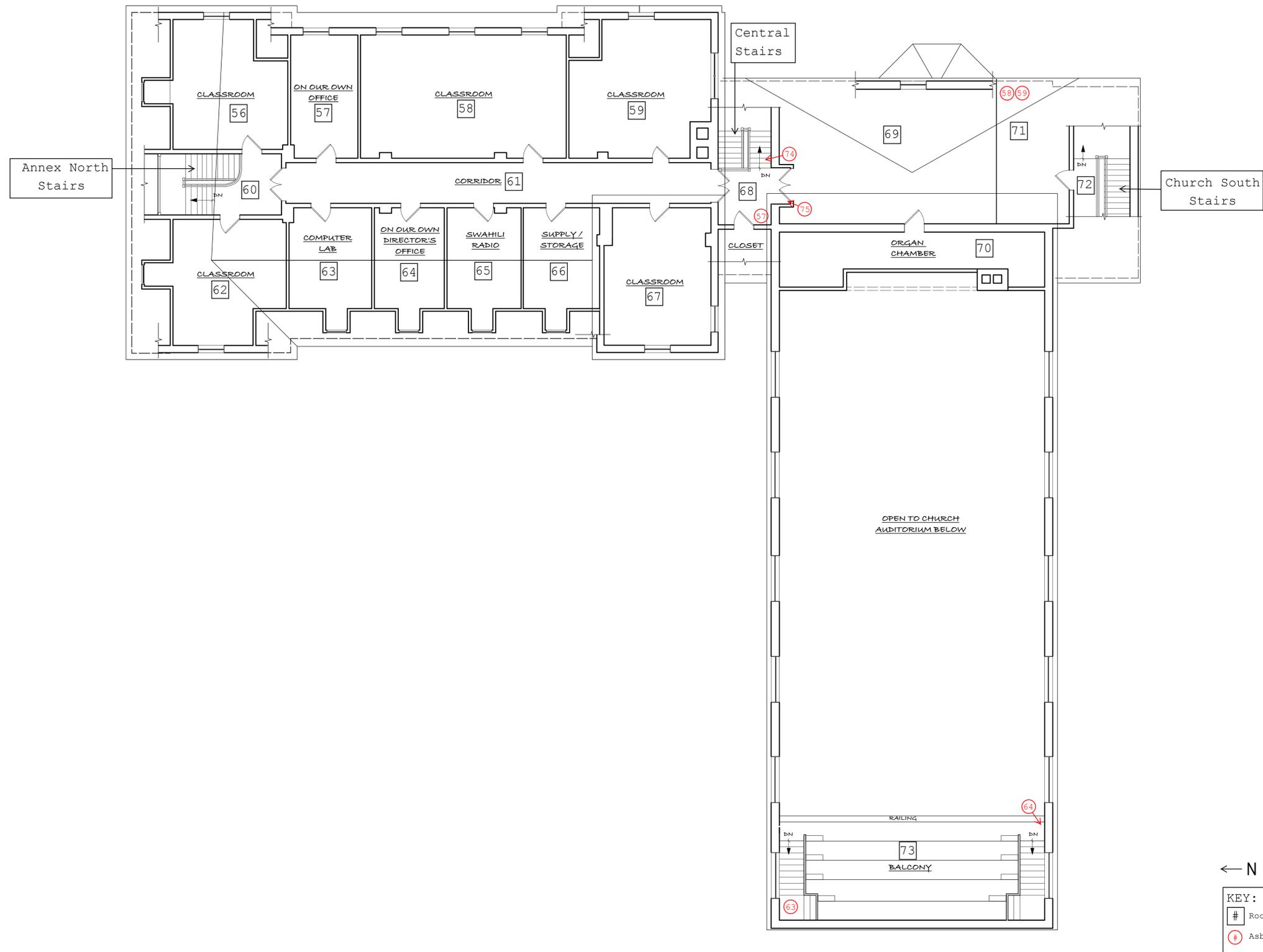
**1** EXISTING FIRST FLOOR  
Scale: 1/8" = 1'-0"

← N

**KEY:**

#	Room Identification Number
⊘	Asbestos Sample Locations
⊙	Lead Sample Locations

**NOTE:**  
THESE DRAWINGS WERE TRACED FROM THE ORIGINAL RIVERDALE PRESBYTERIAN CHURCH DRAWINGS BY CHARLES M. TALLEY, 314 WEST BROAD STREET TELFORD, PA. & ORIGINAL SUNDAY SCHOOL DRAWINGS BY CHARLES M. TALLEY, 314 WEST BROAD STREET TELFORD, PA. SQUARE FOOTAGE AMOUNTS ARE APPROXIMATED BASED ON THESE DRAWINGS.



FLOOR AREA  
5,365 SQ.FT.

**1** EXISTING SECOND FLOOR  
Scale: 1/8" = 1'-0"

← N

KEY:

#	Room Identification Number
Ⓜ	Asbestos Sample Locations

NOTE:  
THESE DRAWINGS WERE TRACED FROM THE ORIGINAL RIVERDALE PRESBYTERIAN CHURCH DRAWINGS BY CHARLES M. TALLEY, 314 WEST BROAD STREET TELFORD, PA. & ORIGINAL SUNDAY SCHOOL DRAWINGS BY CHARLES M. TALLEY, 314 WEST BROAD STREET TELFORD, PA. SQUARE FOOTAGE AMOUNTS ARE APPROXIMATED BASED ON THESE DRAWINGS.



FROEHLING & ROBERTSON, INC.  
Engineering Stability Since 1881

10626 York Road, Suites C-D  
York Ridge Center North  
Cockeysville, MD 21030  
T 410-825-4131 | F 321-7384

**CALIBRATION SHEET**

Address: 6513 QUEENS CHAPEL ROAD ; UNIVERSITY PARK, MD

Date: 11 / 15 / 2013

XRF Equipment: RMD LPA-1 serial #01414    RMD LPA-1 serial #1211

Technician: Blaine Owens #4494

Initial Calibration Check (NIST #3: 1.0)

1) 1.0    2) 1.2    3) 1.1    Average \_\_\_\_\_

Pass or Fail

Final Calibration Check:

1) 0.9    2) 0.9    3) 1.1    Average \_\_\_\_\_

Pass or Fail

Inspection Notes:

RIVERDALE PRESBYTERIAN CHURCH



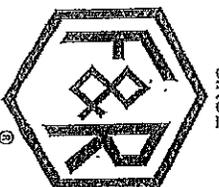
# XRF Lead-Based Paint Inspection Data Sheet - Exterior

Client: AKVA

Address: 6513 QUEENS CHARLE ROAD

A-wall: QUEENS CHARLE

Date: 11/15/2013



	C (3)	C (4)	O (5)																
door	C (3)	2.9	P																
door jamb		3.6	P																
door casing		7.1	P																
door transom																			
door threshold																			
A wall																			
B wall																			
C wall																			
D wall																			
foundation																			
fence																			
porch ceiling																			
porch post																			
porch railing																			
porch header																			
porch floor																			
downspout																			
gutter																			
handrail																			
soffit																			
stair system																			
WINDOW SASH	C (3)	29.5	P																
WINDOW CASING		79.9	P																
GRATE																			

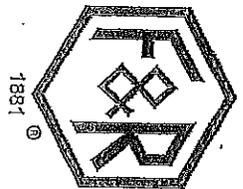
The columns of data within each room are organized as follows: 1st column = wall code; 2nd column = XRF reading; 3rd column = classification of reading; 4th column = paint condition (I = intact; F = fair; P = poor)

# XRF Lead-Based Paint Inspection Data Sheet - Stairs

Client: *Ania*

Address: *6513 Owens Chapel Road*

Date: *11-15-13*



	ANNEX STAIR	CENTRAL STAIR	CHURCH SOUTH STAIR	CHURCH WEST					
door									
door jamb									
door casing		0.3	1.9						
door transom		0.4		2.6					
door threshold									
A wall	A 0.1	N							
B wall	B 0.0				A 0.1	N			
C wall	C 0.2								
D wall	D 0.1				C 0.0				
ceiling					D 0.2				
thread	N Carpet								
riser	N Carpet				N 0.1				
stringer	C 3.9				N 0.2				
newel post	N 4.1				N 0.3				
baluster	N 4.6				N 3.2				
handrail	A 1.7				N 2.5				
baseboard					N 2.0				
floor joist									
shelf									
shelf support									
landing									
Skier	N 3.9	P	D 2.3	P	D 0.2	N	A 0.1	N	

The columns of data within each room are organized as follows: 1st column = wall code; 2nd column = XRF reading; 3rd column = classification of reading; 4th column = paint condition (I = intact; F = fair; P = poor)

# XRF Lead-Based Paint Inspection Data Sheet - Interior Rooms

Client: **A214**

Address: **6513 QUEENS CHAPEL ROAD**

Page: **1**

Date: **11/15/2013**



**4 WALLS QUEENS CHAPEL**

	Room 6	Room 2	Room 11	Room 4	Room 13
door	D 0.2	A 0.1	C 0.0	A 0.0	C 0.1
door jamb	0.1	0.0	0.1	0.1	0.0
door casing	0.2	0.2	0.0	0.1	0.2
door transom	0.1				
door threshold					
window sash		C 0.2			
window sill		0.1			A 0.1
window casing		0.1			0.0
baseboard		0.1			0.1
chair rail					
crow molding					
floor					
A wall	A 0.4	A 0.0	A 0.0	A v/o	A 0.0
B wall		B 0.1	B 0.2	B	A' 0.0
C wall	C 0.2	C 0.1	C 0.1	C	C 0.1
D wall		D 0.1	D 0.1	D	D 0.1
ceiling			N 0.1	N	
closet door					
closet door jamb					
closet door casing					
closet shelf					
closet shelf support					
cabinet					
radiator					
pipe					
duct					
Ceramic Tile					
Laundry Area			A 8.5	P	

The columns of data within each room are organized as follows: 1st column = wall code; 2nd column = XRF reading; 3rd column = classification of reading; 4th column = paint condition (I = intact; F = fair; P = poor)

# XRF Lead-Based Paint Inspection Data Sheet - Interior Rooms

Client: AR14

Address: 6513 QUEENS CHAPEL ROAD

Page: 2

Date: 11/15/2013



A WALL: QUEENS CHAPEL

	Rm 8		Rm 5		Rm 1		Rm 10	
	C	D	B	D	D	A	C2	N
door	0.1					0.0	0.2	
door jamb	0.0					0.2	0.0	
door casing	0.2					0.1	0.2	
door transom								
door threshold								
window sash	0.1					0.3	0.3	
window sill	0.3					0.3	0.2	
window casing	0.1					0.2	0.5	
baseboard								
chair rail								
crown molding								
floor								
A wall	0.0		A 0.0			A 0.0	A 0.1	
B wall	0.2		B 0.2			B 0.2	B 0.0	
C wall	0.1		C 0.1			C 0.1	C 0.2	
D wall	0.1		D 0.1			D 0.1	D 0.1	
ceiling								
closet door	0.1		D 0.3				D 0.2	
closet door jamb	0.0		0.1				0.3	
closet door casing	0.1							
closet shelf								
closet shelf support								
cabinet								
radiator pipe	0.2					C 0.1		
pipe								
duct								

The columns of data within each room are organized as follows: 1st column = wall code; 2nd column = XRF reading; 3rd column = classification of reading; 4th column = paint condition (I = intact; F = fair; P = poor)

# XRF Lead-Based Paint Inspection Data Sheet - Interior Rooms

Client: A214

Address: 6513 QUEENS CHAPEL ROAD

Page 3

Date: 11/15/2013



A WALL: QUEENS CHAPEL

	Rm 12	Rm 7	Rm 23	Rm 18
door	.A 0.1 N	D 0.1 N	D 0.1 N	D 0.3 N
door jamb	0.0	0.3	1.6 D	2.1
door casing	0.2	0.3	1.3 P	0.1
door transom			1.4 P	
door threshold				
window sash			B5 0.5 N	
window sill			0.4	
window casing			0.4	
baseboard	D 3.5 P		0.4	0.2
chair rail			0.1	1.0 P
chair rail				
floor				
A wall	A 0.0 N	A 0.1	A 0.0	A 0.1 N
B wall	B 0.1	B 0.1	B 0.7	B 0.0
C wall	C 0.0	C 0.0	C 0.1	C 0.2
D wall	D 0.1	D 0.2	D 0.1	D 0.2
ceiling				
closet door		C 0.2		
closet door jamb				
closet door casing				
closet shelf		0.3		
closet shelf support				
cabinet	C 0.1			
radiator				
pipe wood studs				
pipe wood studs				
horizontal beam			D 0.2	
horizontal beam			N 0.3	
horizontal beam			N 0.4	

The columns of data within each room are organized as follows: 1st column = wall code; 2nd column = XRF reading; 3rd column = classification of reading; 4th column = paint condition (I = intact; F = fair; P = poor)

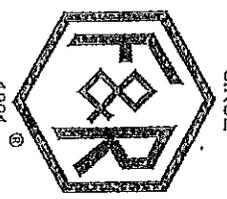
# XRF Lead-Based Paint Inspection Data Sheet - Interior Rooms

Client: **A214**

Address: **6513 QUEENS CHAPEL ROAD**

Pages: **4**

Date: **11/15/2013**



A WALLS QUEENS CHAPEL

	Rm 19	Rm 16	Rm 17	Rm 31	Rm 30
door	C 0.2 N	A 0.1 N	D 0.1 N	B 0.1 N	D 0.0 N
door jamb	1.4 P	1.4 P	0.0	0.1	0.2
door casing	1.4 P	0.9 P	0.1	0.0	0.1
door transom					
door threshold					
window sash	A 1.4 P				
window sill	0.2 N				
window casing	1.4 P				
baseboard					
chair rail					
crown molding					
floor					
A wall	A 0.0 N	A 0.0 N	A 0.1	A 0.1	A 0.0
B wall	B 0.1	B 0.1	B 0.0	B 0.0	B 0.1
C wall	C 0.0	C 0.1	C 0.2	C 0.1	C 0.1
D wall	D 0.1				
ceiling					
closet door					
closet door jamb					
closet door casing					
closet shelf					
closet shelf support					
cabinet					
radiator					
pipe					
duct	N 0.3 N			N 0.1	N 0.1
CEILING TILE	A 3.9 P			D 4.6 P	B 3.9 P

The columns of data within each room are organized as follows: 1st column = wall code; 2nd column = XRF reading; 3rd column = classification of reading; 4th column = paint condition (I = intact; F = fair; P = poor)



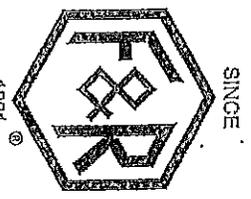
# XRF Lead-Based Paint Inspection Data Sheet - Interior Rooms

Client: **A214**

Address: **6513 QUEENS CHAPEL ROAD**

Page **6**

Date: **11/15/2013**



A Wall: **QUEENS CHAPEL**

	RM 48	RM 44	RM 34	RM 46	RM 39
door	A 0.1 N	C 0.1 N	A 0.1 N	D 0.1 N	A 0.1 N
door jamb	1.2 P	0.0	0.0	0.0	0.2
door casing	1.2 P	0.1	0.2	0.2	0.1
door transom					
door threshold					
window sash	C 0.2 N	D 0.2	C 0.2		
window sill	0.3 N	0.1	0.2		
window casing	1.4 P	0.1	0.1		
baseboard	B 1.1 P		A 1.4 P		
chair rail	D 0.1 N				
crown molding					
floor					
A wall	A 0.1 N	A 0.0	A 0.1 N	A 0.0	A 0.1
B wall	B 0.1	B 0.2	B 0.1	B 0.2	B 0.1
C wall	C 0.0	C 0.1	C 0.0	C 0.1	C 0.0
D wall	D 0.2	D 0.1	D 0.2	D 0.1	D 0.2
ceiling					
closet door					
closet door jamb					
closet door casing					
closet shelf					
closet shelf support					
cabinet					
radiator					
pipe		D 0.4	C 0.1		C 2 0.3
duct					
SWall			N 0.1		

The columns of data within each room are organized as follows: 1st column = wall code; 2nd column = XRF reading; 3rd column = classification of reading; 4th column = paint condition (I = intact; F = fair; P = poor)

# XRF Lead-Based Paint Inspection Data Sheet - Interior Rooms

Client: **A214**

Address: **6513 QUEENS CHAPEL ROAD**

Page: **7**

Date: **11/15/2013**



A Wall: **QUEENS**  
 CHAPEL

Item	Rm 43		Rm 42		Rm 40		Rm 41		Rm 5C	
	Code	Reading								
door	C	0.1	C1	0.0	R	0.1	E	0.1	A	0.0
door jamb		0.0		0.1		0.0		0.1		0.2
door casing		0.2		0.0		0.2		0.2		0.1
door transom										
door threshold										
window sash	A	0.2	A2	0.1	B	0.1	A2	0.1		
window sill		0.1		0.0		0.2		0.0		0.0
window casing		0.1		0.1		0.1		0.2		0.1
baseboard										
chair rail										
crown molding										
floor										
A wall	A	0.0	A	0.1	A	0.1	A	0.0	A	0.0
B wall	A	0.0	B	0.1	A	0.1	B	0.1	A	0.0
C wall	C	0.2	C	0.0	C	0.1	C	0.1	A	0.2
D wall	D	0.1	D	0.0	D	0.1	D	0.1	C	0.1
ceiling									D	0.1
closet door										
closet door jamb										
closet door casing										
closet shelf										
closet shelf support										
cabinet										
radiator	A	0.1	A1	0.4			A	0.4		
pipe										
duct										
wooden Awning			A	0.2						

The columns of data within each room are organized as follows: 1st column = wall code; 2nd column = XRF reading; 3rd column = classification of reading; 4th column = paint condition (I = intact; F = fair; P = poor)

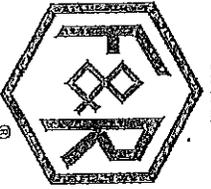
# XRF Lead-Based Paint Inspection Data Sheet - Interior Rooms

Client: **A214**

Address: **6513 QUEENS CHAPEL ROAD**

Project: **B**

Date: **11/15/2013**



Above: **QUEENS**  
 CHAPEL

	Rm 58	Rm 67	Rm 65	Rm 60	Rm 61
door	A 0.2	C 0.1	C 0.0	D 0.1	D 0.0
door jamb	0.2	0.0	0.2	0.0	0.0
door casing	0.0	0.2	0.1	0.1	0.1
door transom					
door threshold					
window sash	C 0.1	A 0.3	A 0.2	B 0.1	
window sill	0.1	0.3	0.1	0.0	
window casing	0.0	0.2	0.1	0.1	
baseboard				A 2.9	
chair rail					
crown molding					
floor					
A wall	A 0.0				
B wall	B 0.1	B 0.2	B 0.2	B 0.2	B 0.2
C wall	C 0.1				
D wall	D 0.1				
ceiling					D 0.1
closet door					N 0.1
closet door jamb					
closet door casing					
closet shelf					
closet shelf support					
cabinet					
radiator	C 0.2	A 0.1	A 0.1		
pipe					
duct					

The columns of data within each room are organized as follows: 1st column = wall code; 2nd column = XRF reading; 3rd column = classification of reading; 4th column = paint condition (I = Intact; F = fair; P = poor)

# XRF Lead-Based Paint Inspection Data Sheet - Interior Rooms

Client: A214

Address: 6513 QUEENS CHAPEL ROAD

Page 9

Date: 11/15/2013



A Walk 2 QUEENS  
CHAPEL

	Room 69	Room 71																	
door	D	0.1	N																
door jamb		0.0		D	0.1	N													
door casing		0.1			0.0														
door transom																			
door threshold																			
window sash	C	0.0																	
window sill		0.1																	
window casing		0.0																	
baseboard	C	0.1		A	0.1	J													
chair rail																			
crown molding																			
floor																			
A wall	A	0.0		A	2.4	P													
B wall	B	0.2		B	0.0														
C wall	C	0.1		C	0.1														
D wall	D	0.1		D	0.1														
ceiling	N	0.1		N	0.1														
closet door																			
closet door jamb																			
closet door casing																			
closet shelf																			
closet shelf support																			
cabinet																			
radiator	C	1.9	P																
pipe																			
duct																			
Column	N	0.1	N																

The columns of data within each room are organized as follows: 1st column = wall code; 2nd column = XRF readings; 3rd column = classification of reading; 4th column = paint condition (I = intact; F = fair; P = poor)

**Attachment D:**

**PCB Certificates of Analysis and Chain-of-Custody Forms**

# **Analytical Report for**

**Aria Environmental**

**Certificate of Analysis No.: 13110607**

**Project Manager: Dan Twilley**

**Project Name : Riverdale Presb. Church**

**Project Location: University Park**

**Project ID : 13-760**



**November 13, 2013**

**Phase Separation Science, Inc.**

**6630 Baltimore National Pike**

**Baltimore, MD 21228**

**Phone: (410) 747-8770**

**Fax: (410) 788-8723**

OFFICES:  
6630 BALTIMORE NATIONAL PIKE  
ROUTE 40 WEST  
BALTIMORE, MD 21228  
410-747-8770  
800-932-9047  
FAX 410-788-8723

# PHASE SEPARATION SCIENCE, INC.



November 13, 2013

**Dan Twilley**  
**Aria Environmental**  
1610 Regal Drive  
Sykesville, MD 21784

Reference: PSS Work Order(s) No: **13110607**  
Project Name: Riverdale Presb. Church  
Project Location: University Park  
Project ID.: 13-760

Dear Dan Twilley :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **13110607**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on December 11, 2013. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or [info@phaseonline.com](mailto:info@phaseonline.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'John Richardson', is written over a horizontal line.

**John Richardson**  
Laboratory Director



# Sample Summary

**Client Name: Aria Environmental**  
**Project Name: Riverdale Presb. Church**

**Work Order Number(s): 13110607**

**Project ID: 13-760**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 11/06/2013 at 10:15 am

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
13110607-001	RPC-PCB-01	SOLID	11/05/13 14:00
13110607-002	RPC-PCB-02	SOLID	11/05/13 14:00

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

**Notes:**

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. The following analytical results are never reported on a dry weight basis: pH, flashpoint, moisture and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for non-potable water samples tested for compliance for Virginia Pollution Discharge Elimination System (VDPES) permits and Virginia Pollutant Abatement (VPA) permits, have a maximum holding time of 15 minutes established by 40CFR136.3.
6. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.

**Standard Flags/Abbreviations:**

- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C Results Pending Final Confirmation.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- Fail The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
- J The target analyte was positively identified below the reporting limit but greater than the LOD.
- LOD Limit of Detection. An estimate of the minimum amount of a substance that an analytical process can reliably detect.  
An LOD is analyte and matrix specific.
- ND Not Detected at or above the reporting limit.
- RL PSS Reporting Limit.
- U Not detected.

**Certifications:**

NELAP Certifications: PA 68-03330, VA 2200  
 State Certifications: MD 179, WV 303  
 Regulated Soil Permit: P330-12-00268  
 NSWC USCG Accepted Laboratory  
 LDBA MWAA LD1997-0041-2015

OFFICES:  
 6630 BALTIMORE NATIONAL PIKE  
 ROUTE 40 WEST  
 BALTIMORE, MD 21228  
 410-747-8770  
 800-932-9047  
 FAX 410-788-8723

# PHASE SEPARATION SCIENCE, INC.



## CERTIFICATE OF ANALYSIS

No: 13110607

Aria Environmental, Sykesville, MD

November 13, 2013

Project Name: Riverdale Presb. Church

Project Location: University Park

Project ID: 13-760

**Sample ID: RPC-PCB-01**      **Date/Time Sampled: 11/05/2013 14:00**      **PSS Sample ID: 13110607-001**

**Matrix: SOLID**      **Date/Time Received: 11/06/2013 10:15**

Polychlorinated Biphenyls

Analytical Method: SW-846 8082 A

Preparation Method: 3550

Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.11		1	11/06/13	11/07/13 11:38	1029
PCB-1221	ND	mg/kg	0.11		1	11/06/13	11/07/13 11:38	1029
PCB-1232	ND	mg/kg	0.11		1	11/06/13	11/07/13 11:38	1029
PCB-1242	ND	mg/kg	0.11		1	11/06/13	11/07/13 11:38	1029
PCB-1248	ND	mg/kg	0.11		1	11/06/13	11/07/13 11:38	1029
PCB-1254	ND	mg/kg	0.11		1	11/06/13	11/07/13 11:38	1029
PCB-1260	ND	mg/kg	0.11		1	11/06/13	11/07/13 11:38	1029

**Sample ID: RPC-PCB-02**      **Date/Time Sampled: 11/05/2013 14:00**      **PSS Sample ID: 13110607-002**

**Matrix: SOLID**      **Date/Time Received: 11/06/2013 10:15**

Polychlorinated Biphenyls

Analytical Method: SW-846 8082 A

Preparation Method: 3550

Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.10		1	11/06/13	11/07/13 12:07	1029
PCB-1221	ND	mg/kg	0.10		1	11/06/13	11/07/13 12:07	1029
PCB-1232	ND	mg/kg	0.10		1	11/06/13	11/07/13 12:07	1029
PCB-1242	ND	mg/kg	0.10		1	11/06/13	11/07/13 12:07	1029
PCB-1248	ND	mg/kg	0.10		1	11/06/13	11/07/13 12:07	1029
PCB-1254	ND	mg/kg	0.10		1	11/06/13	11/07/13 12:07	1029
PCB-1260	ND	mg/kg	0.10		1	11/06/13	11/07/13 12:07	1029



# Case Narrative Summary

Client Name: Aria Environmental

Project Name: Riverdale Presb. Church

Work Order Number(s): 13110607

Project ID: 13-760

---

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

**Sample Receipt:**

All sample receipt conditions were acceptable.

**General Comments:**

Results reported on an as received basis.

**Analytical:**

**Polychlorinated Biphenyls**

**Batch: 109881**

Surrogate recoveries affected by sample matrix.

**NELAP accreditation was held for all analyses performed unless noted below. See [www.phaseonline.com](http://www.phaseonline.com) for complete PSS scope of accreditation.**



## Analytical Data Package Information Summary

**Work Order(s): 13110607**

Report Prepared For: Aria Environmental, Sykesville, MD

Project Name: Riverdale Presb. Church

Project Manager: Dan Twilley

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
<b>SW-846 8082 A</b>	RPC-PCB-01	Initial	13110607-001	1029	S	48065	109881	11/05/2013	11/06/2013 19:22	11/07/2013 11:38
	RPC-PCB-02	Initial	13110607-002	1029	S	48065	109881	11/05/2013	11/06/2013 19:22	11/07/2013 12:07
	48065-1-BKS	BKS	48065-1-BKS	1029	S	48065	109881	-----	11/06/2013 19:22	11/07/2013 10:41
	48065-1-BLK	BLK	48065-1-BLK	1029	S	48065	109881	-----	11/06/2013 19:22	11/07/2013 10:12
	48065-1-BSD	BSD	48065-1-BSD	1029	S	48065	109881	-----	11/06/2013 19:22	11/07/2013 11:09
	C-1 S	MS	13110520-001 S	1029	S	48065	109881	11/04/2013	11/06/2013 19:22	11/07/2013 11:38
	C-1 SD	MSD	13110520-001 SD	1029	S	48065	109881	11/04/2013	11/06/2013 19:22	11/07/2013 12:07

# Form 2 - Surrogate Recoveries

Project Name: Riverdale Presb. Church

11/13/2013

Work Order #: 13110607

Project ID: 13-760

Lab Batch #: 109881

Sample: 48065-1-BLK / BLK

Matrix: Solid

Units: ug/kg

Date Analyzed: 11/07/2013 10:12

SURROGATE RECOVERY STUDY					
Polychlorinated Biphenyls Analytes	Amount Found [A]	True Amount [B]	Recovery %R [C]	Control Limits %R	Flags
Decachlorobiphenyl	26.2	25.00	105	44-157	
Tetrachloro-m-xylene	22.3	25.00	89	41-153	

Lab Batch #: 109881

Sample: 48065-1-BKS / BKS

Matrix: Solid

Units: ug/kg

Date Analyzed: 11/07/2013 10:41

SURROGATE RECOVERY STUDY					
Polychlorinated Biphenyls Analytes	Amount Found [A]	True Amount [B]	Recovery %R [C]	Control Limits %R	Flags
Decachlorobiphenyl	31.6	25.00	126	44-157	
Tetrachloro-m-xylene	27.1	25.00	108	41-153	

Lab Batch #: 109881

Sample: 48065-1-BSD / BSD

Matrix: Solid

Units: ug/kg

Date Analyzed: 11/07/2013 11:09

SURROGATE RECOVERY STUDY					
Polychlorinated Biphenyls Analytes	Amount Found [A]	True Amount [B]	Recovery %R [C]	Control Limits %R	Flags
Decachlorobiphenyl	32.9	25.00	131	44-157	
Tetrachloro-m-xylene	29.2	25.00	117	41-153	

Lab Batch #: 109881

Sample: 13110520-001 S / MS

Matrix: Soil

Units: ug/kg

Date Analyzed: 11/07/2013 11:38

SURROGATE RECOVERY STUDY					
Polychlorinated Biphenyls Analytes	Amount Found [A]	True Amount [B]	Recovery %R [C]	Control Limits %R	Flags
Decachlorobiphenyl	35.7	25.00	143	44-157	
Tetrachloro-m-xylene	28.5	25.00	114	41-153	

\* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 \* A / B

Phase Separation Science, Inc.  
6630 Baltimore National Pike  
Baltimore, MD 21228

# Form 2 - Surrogate Recoveries

Project Name: Riverdale Presb. Church

11/13/2013

Work Order #: 13110607

Project ID: 13-760

Lab Batch #: 109881

Sample: 13110607-001 / SMP

Matrix: Solid

Units: ug/kg

Date Analyzed: 11/07/2013 11:38

SURROGATE RECOVERY STUDY					
Polychlorinated Biphenyls Analytes	Amount Found [A]	True Amount [B]	Recovery %R [C]	Control Limits %R	Flags
Decachlorobiphenyl	1000	25.00	4112	44-157	*
Tetrachloro-m-xylene	27.0	25.00	108	41-153	

Lab Batch #: 109881

Sample: 13110520-001 SD / MSD

Matrix: Soil

Units: ug/kg

Date Analyzed: 11/07/2013 12:07

SURROGATE RECOVERY STUDY					
Polychlorinated Biphenyls Analytes	Amount Found [A]	True Amount [B]	Recovery %R [C]	Control Limits %R	Flags
Decachlorobiphenyl	34.6	25.00	138	44-157	
Tetrachloro-m-xylene	27.7	25.00	111	41-153	

Lab Batch #: 109881

Sample: 13110607-002 / SMP

Matrix: Solid

Units: ug/kg

Date Analyzed: 11/07/2013 12:07

SURROGATE RECOVERY STUDY					
Polychlorinated Biphenyls Analytes	Amount Found [A]	True Amount [B]	Recovery %R [C]	Control Limits %R	Flags
Decachlorobiphenyl	1800	25.00	7316	44-157	*
Tetrachloro-m-xylene	31.0	25.00	124	41-153	

\* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 \* A / B

Phase Separation Science, Inc.  
6630 Baltimore National Pike  
Baltimore, MD 21228

# Blank Summary 13110607

Aria Environmental, Sykesville, MD

Riverdale Presb. Church

Analytical Method: SW-846 8082 A

Prep Method: SW3550

Matrix: SOLID

Sample Id: 48065-1-BLK

Lab Sample Id: 48065-1-BLK

Date Analyzed: Nov-07-13 10:12

Analyst: 1029

Date Prep: Nov-06-13 19:22

Tech: 1050

Seq Number: 109881

Parameter	Cas Number	Result	RL	LOD	Units	Flag	Dil
PCB-1016	12674-11-2	ND	0.09681	0.04840	mg/kg	U	1
PCB-1221	11104-28-2	ND	0.09681	0.04840	mg/kg	U	1
PCB-1232	11141-16-5	ND	0.09681	0.04840	mg/kg	U	1
PCB-1242	53469-21-9	ND	0.09681	0.04840	mg/kg	U	1
PCB-1248	12672-29-6	ND	0.09681	0.04840	mg/kg	U	1
PCB-1254	11097-69-1	ND	0.09681	0.04840	mg/kg	U	1
PCB-1260	11096-82-5	ND	0.09681	0.04840	mg/kg	U	1

# LCS/LCSD Recoveries

**Project Name: Riverdale Presb. Church**

**Work Order #:** 13110607

**Prep Batch #:** 48065

**Lab Batch ID:** 109881

**Units:** mg/kg

**Date Prepared:** 11/06/2013 19:22

**Date Analyzed:** 11/07/2013 10:41

**Sample:** 48065-1-BKS

**Method:** SW3550 / SW8082

**Project ID:** 13-760

**Analyst:** 1029

**Matrix:** Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Polychlorinated Biphenyls	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
PCB-1016	<0.09728	0.4864	0.4854	100	0.4946	0.4910	99	1	70-108	25	
PCB-1260	<0.09728	0.4864	0.4636	95	0.4946	0.4633	94	0	63-104	25	

Relative Percent Difference RPD =  $200 * |(D-G)/(D+G)|$   
 Laboratory Control Sample (LCS) Percent Recovery [D] =  $100 * (C)/[B]$   
 Laboratory Control Sample Duplicate (LCSD) Percent Recovery [G] =  $100 * (F)/[E]$

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**6630 Baltimore National Pike**  
**Baltimore, MD 21228**

H= Recovery of BS,BSD or both exceeded the laboratory control limits  
 F = RPD exceeded the laboratory control limits  
 L = Recovery of BS,BSD or both below the laboratory control limits



# SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com  
email: info@phaseonline.com

<b>1</b> CLIENT: <i>Aria Environmental</i> OFFICE LOC. _____ PROJECT MGR: <i>Dan Twilley</i> PHONE NO.: <i>(410) 549-5774</i> EMAIL: <i>Dtwilley@ariaenviro.com</i> FAX NO.: <i>(410) 549-4488</i> PROJECT NAME: <i>Riverdale Presb. Church</i> PROJECT NO.: <i>13-760</i> SITE LOCATION: <i>University Park</i> P.O. NO.: _____ SAMPLERS: <i>Dan Twilley</i>					PSS Work Order #: <i>13110607</i>			PAGE <u>1</u> OF <u>1</u>			
					Matrix Codes: <b>SW</b> =Surface Wtr <b>DW</b> =Drinking Wtr <b>GW</b> =Ground Wtr <b>WW</b> =Waste Wtr <b>O</b> =Oil <b>S</b> =Soil <b>WL</b> =Waste Liquid <b>WS</b> =Waste Solid <b>W</b> = Wipe						
					No. C O N T A I N E R S	SAMPLE TYPE  C = COMP  G = GRAB	Preservatives Used <i>Hexamine</i>				Analysis/ Method Required  <b>3</b>
							<i>PCB'S</i>				
							(Diagonal lines)				
(Diagonal lines)											
<b>2</b>	LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX (See Codes)	REMARKS					
		<i>RPC-PCB-01</i>	<i>11/5/13</i>	<i>1400</i>	<i>WS</i>	<i>1 G ✓</i>	<i>Caulk</i>				
		<i>RPC-PCB-02</i>	<i>11/5/13</i>	<i>1400</i>	<i>WS</i>	<i>1 G ✓</i>	<i>"</i>				
<b>5</b> Relinquished By: (1) <i>[Signature]</i>		Date	Time	Received By:		<b>4</b> Requested Turnaround Time <input checked="" type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input type="checkbox"/> Other  # of Coolers: <i>1</i> Custody Seal: <i>Abs</i> Ice Present: <i>Ice Packs</i> Temp: <i>6°C</i> Shipping Carrier: <i>Client</i>					
Relinquished By: (2) <i>[Signature]</i>		Date	Time	Received By:							
Relinquished By: (3)		Date	Time	Received By:							
Relinquished By: (4)		Date	Time	Received By:							
Special Instructions:											

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.



# Phase Separation Science, Inc

## Sample Receipt Checklist

<b>Work Order #</b>	13110607	<b>Received By</b>	Robyn Rhudy
<b>Client Name</b>	Aria Environmental	<b>Date Received</b>	11/06/2013 10:15:00 AM
<b>Project Name</b>	Riverdale Presb. Church	<b>Delivered By</b>	Client
<b>Project Number</b>	13-760	<b>Tracking No</b>	Not Applicable
<b>Disposal Date</b>	12/11/2013	<b>Logged In By</b>	Robyn Rhudy

### Shipping Container(s)

No. of Coolers	1	Ice	Ice Packs Used
Custody Seal(s) Intact?	N/A	Temp (deg C)	6
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

### Documentation

COC agrees with sample labels?	Yes
Chain of Custody	Yes

Sampler Name	<u>Dan Twilley</u>
MD DW Cert. No.	<u>N/A</u>

### Sample Container

Appropriate for Specified Analysis?	Yes
Intact?	Yes
Labeled and Labels Legible?	Yes

Custody Seal(s) Intact?	Not Applicable
Seal(s) Signed / Dated	Not Applicable

Total No. of Samples Received 2

Total No. of Containers Received 2

### Preservation

Metals	(pH<2)	N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	N/A
Do VOA vials have zero headspace?		N/A

### Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Samples Inspected/Checklist Completed By:

Date: 11/06/2013

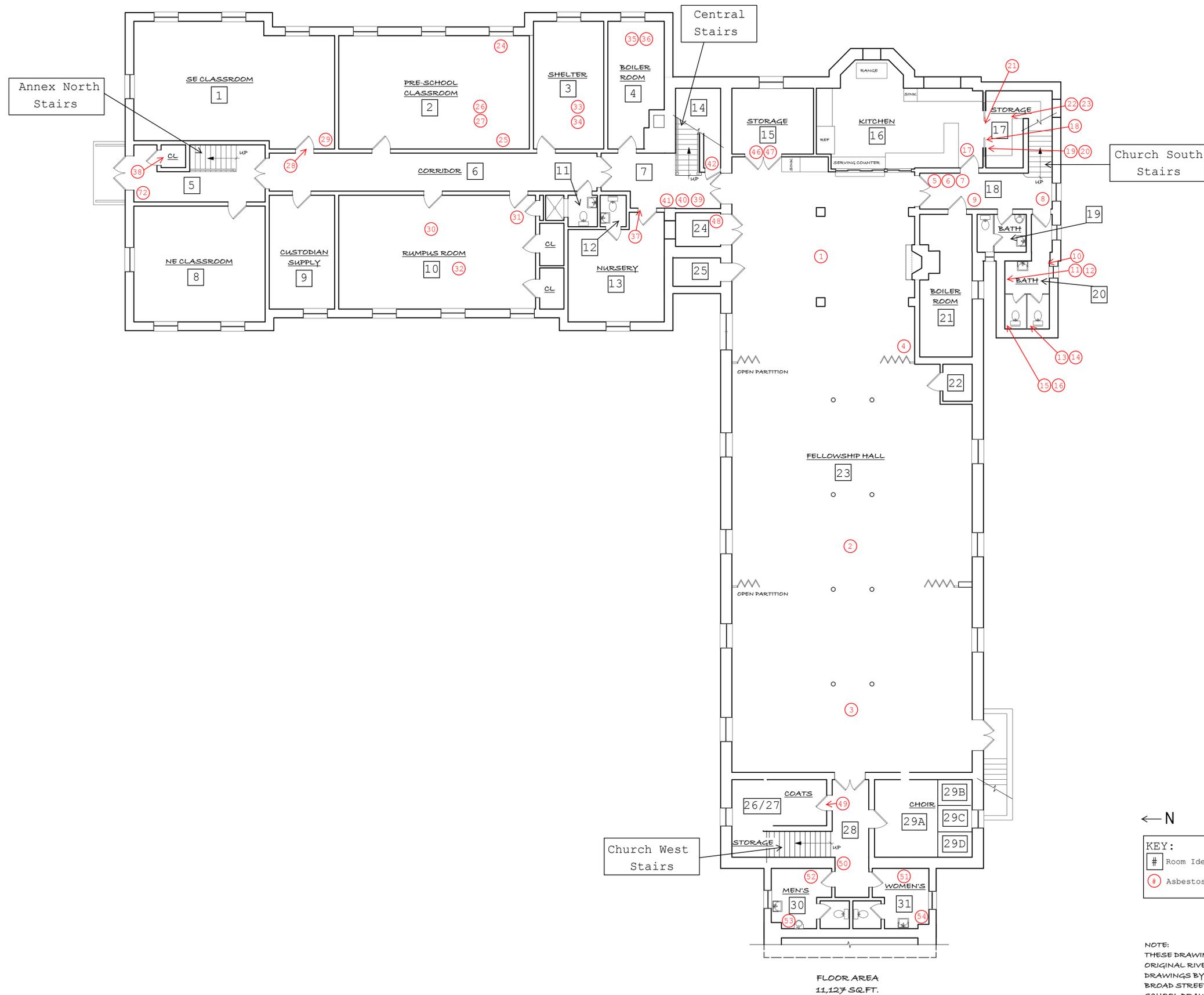
Robyn Rhudy

PM Review and Approval:

Date: 11/06/2013

Lynn Moran

**Attachment E:**  
**Floor Plans with Sample Locations**



FLOOR AREA  
11,127 SQ.FT.

1 EXISTING GROUND FLOOR  
Scale: 1/8" = 1'-0"

← N

KEY:	
#	Room Identification Number
⊕	Asbestos Sample Locations

NOTE:  
THESE DRAWINGS WERE TRACED FROM THE ORIGINAL RIVERDALE PRESBYTERIAN CHURCH DRAWINGS BY CHARLES M. TALLEY, 314 WEST BROAD STREET TELFORD, PA. & ORIGINAL SUNDAY SCHOOL DRAWINGS BY CHARLES M. TALLEY, 314 WEST BROAD STREET TELFORD, PA. SQUARE FOOTAGE AMOUNTS ARE APPROXIMATED BASED ON THESE DRAWINGS.



FLOOR AREA  
10,486 SQ.FT.

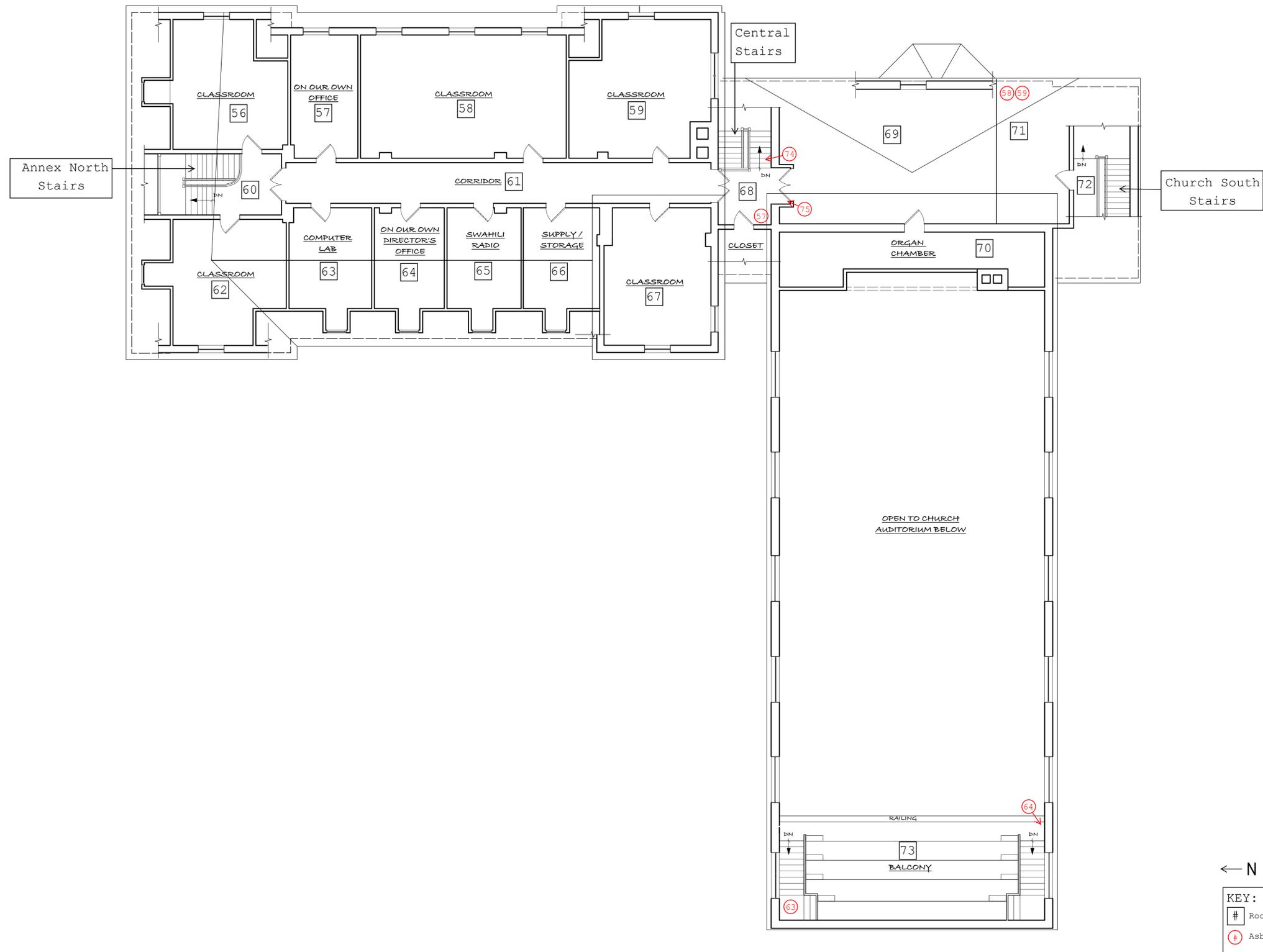
**1** EXISTING FIRST FLOOR  
Scale: 1/8" = 1'-0"

← N

**KEY:**

#	Room Identification Number
⊘	Asbestos Sample Locations
⊙	Lead Sample Locations

**NOTE:**  
THESE DRAWINGS WERE TRACED FROM THE ORIGINAL RIVERDALE PRESBYTERIAN CHURCH DRAWINGS BY CHARLES M. TALLEY, 314 WEST BROAD STREET TELFORD, PA. & ORIGINAL SUNDAY SCHOOL DRAWINGS BY CHARLES M. TALLEY, 314 WEST BROAD STREET TELFORD, PA. SQUARE FOOTAGE AMOUNTS ARE APPROXIMATED BASED ON THESE DRAWINGS.



FLOOR AREA  
5,365 SQ.FT.

**1** EXISTING SECOND FLOOR  
Scale: 1/8" = 1'-0"

← N

KEY:

#	Room Identification Number
Ⓜ	Asbestos Sample Locations

NOTE:  
THESE DRAWINGS WERE TRACED FROM THE ORIGINAL RIVERDALE PRESBYTERIAN CHURCH DRAWINGS BY CHARLES M. TALLEY, 314 WEST BROAD STREET TELFORD, PA. & ORIGINAL SUNDAY SCHOOL DRAWINGS BY CHARLES M. TALLEY, 314 WEST BROAD STREET TELFORD, PA. SQUARE FOOTAGE AMOUNTS ARE APPROXIMATED BASED ON THESE DRAWINGS.

**Attachment F:**  
**Cost Estimate**

## Church Building Cost Estimation<sup>2, 3, 4</sup>

Material	Quantity	Unit Price	Total Cost
1' x 1' Fissure and Dot Spline Ceiling Tile	1,254 square feet	\$3.00	\$3,762.00
12" x 12" Medium Beige Floor Tile <sup>1</sup>	143 square feet	\$2.00	\$286.00
9" x 9" Black Floor Tile <sup>1</sup>	460 square feet	\$2.00	\$920.00
9" x 9" Green Floor Tile <sup>1</sup>	110 square feet	\$2.00	\$220.00
9" x 9" Maroon Floor Tile <sup>1</sup>	2,906 square feet	\$2.00	\$5,812.00
9" x 9" Olive with Streaks Floor Tile <sup>1</sup>	2,600 square feet	\$2.00	\$5,200.00
Black Mastic	9,728 square feet	\$1.50	\$14,592.00
Firedoor	69 each	\$75.00	\$5,175.00
Plaster <sup>2</sup>	7,760 square feet	\$5.00	\$38,800.00
Automatic Door Closer	37 each	\$25.00	\$925.00
Compact Fluorescent Light	8 each	\$2.00	\$16.00
Emergency Light	6 each	\$15.00	\$90.00
Exit Sign	12 each	\$15.00	\$180.00
Fluorescent Light Ballast	155 each	\$12.00	\$1,860.00
Fluorescent Light Tube	309 each	\$2.00	\$618.00
Refrigerator	1 each	\$100.00	\$100.00
Smoke Detector	6 each	\$125.00	\$750.00
Mercury Thermostat	7 each	\$25.00	\$175.00
Window Air Conditioner	3 each	\$25.00	\$75.00

<sup>1</sup> Floor with carpet add \$1.00 per square foot

<sup>2</sup> Mobilization: \$1,500.00 each

<sup>3</sup> Scaffolding erection of church ceiling abatement \$25,000.00

<sup>4</sup> Lead-based paint: windows \$150.00 each; doors \$300.00 each; spot removal \$25.00 per square foot

## Annex Building Cost Estimation<sup>2, 4</sup>

<b>Material</b>	<b>Quantity</b>	<b>Unit Price</b>	<b>Total Cost</b>
9" x 9" Brown with Streaks Floor Tile <sup>1</sup>	56 square feet	\$2.00	\$112.00
9" x 9" Light Brown Floor Tile <sup>1</sup>	70 square feet	\$2.00	\$140.00
9" x 9" Light Brown with Streaks Floor Tile <sup>1</sup>	1,364 square feet	\$2.00	\$2,728.00
9" x 9" Maroon Floor Tile <sup>1</sup>	5,914 square feet	\$2.00	\$11,828.00
9" x 9" Tan with Streaks Floor Tile <sup>1</sup>	654 square feet	\$2.00	\$1,308.00
Black Mastic	8,248 square feet	\$1.50	\$12,372.00
Firedoor	65 each	\$75.00	\$4,875.00
Leveling Compound	627 square feet	\$2.00	\$1,254.00
Automatic Door Closer	33 each	\$25.00	\$825.00
Compact Fluorescent Light	16 each	\$2.00	\$32.00
Emergency Light	5 each	\$15.00	\$75.00
Fluorescent Light Ballast	150 each	\$12.00	\$1,800.00
Fluorescent Light Tube	300 each	\$2.00	\$600.00
Refrigerator	2 each	\$100.00	\$200.00
Smoke Detector	3 each	\$125.00	\$375.00
Mercury Thermostat	9 each	\$25.00	\$225.00
Water Fountain	3 each	\$25.00	\$75.00
Window Air Conditioner	16 each	\$25.00	\$400.00

<sup>1</sup> Floor with carpet add \$1.00 per square foot

<sup>2</sup> Mobilization: \$1,500.00 each

<sup>3</sup> Scaffolding erection of church ceiling abatement \$25,000.00

<sup>4</sup> Lead-based paint: windows \$150.00 each; doors \$300.00 each; spot removal \$25.00 per square foot