



**HAZARDOUS MATERIALS SURVEY
COMMERCIAL BUILDING
14 SOUTH BROADWAY
SALEM, NEW HAMPSHIRE**

January 2020

Project 19039



HAZARDOUS MATERIALS SURVEY

Commercial Property
14 South Broadway
Salem, New Hampshire

January 9, 2020

Project 19039

Prepared for:

Vanasse Hangen Brustlin
101 Walnut Street
Watertown, MA 02472
ATTN: Katherine Kudzma

Prepared by:

Green Environmental, Inc.
296 Weymouth Street, Unit C
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GREEN 
ENVIRONMENTAL

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1.0 INTRODUCTION

Green Environmental, Inc. (GREEN) was retained by Vanasse Hangen Brustlin (VHB) to conduct a hazardous materials survey of the commercial building located at 14 South Broadway in Salem, New Hampshire. GREEN understands the surrounding area is scheduled to be redeveloped and that the existing structure will be demolished. GREEN completed this Hazardous Materials Survey to support the planned redevelopment.

1.1 Building Description

According to the Town of Salem Assessor field card and GREEN's site inspection, the building located at 14 South Broadway is an approximately 1,865 square-foot, single-story, commercial building constructed in 1960.

The building has a concrete slab foundation, with a concrete block construction and a flat rubber roof. Representative site photographs for the building are included in **Appendix A**. A Site Plan is provided for reference included as **Figure 1**.

1.2 Scope of Work

GREEN was retained to conduct a Hazardous Materials Survey to document the presence of oil or hazardous materials at the subject building that may require abatement and/or special handling and disposal prior to building demolition. The Survey included assessment for the presence of asbestos and lead-based paint, and the cataloging of oils and/or hazardous materials located within the building. Bulk samples of suspect building materials were collected using destructive measures, and submitted for laboratory analysis as appropriate. The presence of lead-based paint was evaluated using an X-Ray fluorescence (XRF) field instrument.

2.0 ASBESTOS SURVEY

2.1 Regulatory Background

Regulations for asbestos exposure and/or asbestos release have been promulgated by the United States Environmental Protection Agency (EPA), U.S. Occupational Safety and Health Administration (OSHA), and New Hampshire Department of Environmental Services (NHDES).

OSHA regulates asbestos in the workplace through the Asbestos for General Industry Standard (29 Code of Federal Regulations [CFR] 1910.1001) and the removal of regulated asbestos-containing material (RACM) through the Asbestos Standard for Construction (29 CFR 1926.1101). OSHA regulations are created for the protection of the health of workers who may be occupationally exposed to asbestos. These occupations include asbestos abatement, construction activities, building maintenance, and others. OSHA requires that asbestos ACM be removed or appropriately abated prior to any work which will disturb the material, including demolition and renovation. Additionally, OSHA stipulates that thermal system insulation (TSI), surfacing materials and floor tile installed before 1980 must be presumed to be ACM unless appropriate sampling and analysis prove otherwise.

EPA and NHDES regulate ACM associated with building demolition, renovation, and abatement projects. The regulations are promulgated via the National Emission Standards for Hazardous Air Pollutants (NESHAP 40 CFR part 61) and the New Hampshire Cod of Administrative Rules (Env-A 1800). The regulations are developed to protect public health and the environment and require that buildings be inspected for asbestos prior to any demolition or renovation. Further, the regulations require that all affected friable and non-friable ACM which is damaged or will be damaged as a result of the demolition or renovation activities be properly removed or abated prior to disturbance by the work.

NESHAP defines three types of ACM:

- Friable ACM: ACM that can be reduced to powder by hand pressure requiring removal prior to renovation or demolition (e.g., thermal system insulation (TSI), plaster, joint compound, ceiling tiles).
- Category I non-friable ACM: ACM that is not friable and does not require removal prior to demolition, unless these materials have become friable, will become friable if disturbed, or are in poor condition; must be removed prior to renovation (e.g., resilient floor covering, packings, gaskets, asphalt roofing).
- Category II non-friable ACM: ACM that is not friable and does not require removal prior to demolition, unless these materials have become friable, will become friable if disturbed, or are in poor condition; must be removed prior to renovation (all other non-friable ACM).

RACM is friable ACM and non-friable ACM that may become friable during demolition or renovation activities. Practically speaking, both Category I non-friable ACM and Category II non-friable ACM will become friable in a typical commercial demolition or renovation scenario and must be abated prior to the work.

2.2 Sample Collection and Analysis

Bulk samples were collected based on type and quantity of each suspect material following the sampling guidelines set forth in the Asbestos Hazard Emergency Response Act (AHERA 40 CFR 763.86). Green inspected for materials among those defined as suspect ACM by EPA's AHERA regulation which include:

- Thermal system insulation (TSI) (e.g., pipe/boiler lagging, duct insulation);
- Surfacing materials (e.g., spray-on insulation, texturing materials, plaster), and;
- Miscellaneous materials (e.g., ceiling tiles, transite panels, flooring, vibration joints, drywall).

Fiberglass, foam glass, rubber, wood products, plastic products, glass and steel were not sampled since they are not considered suspect ACM.

The asbestos survey was conducted by Mr. Luke Krzyzewski, New Hampshire Accredited Asbestos Inspector AI100882. A copy of personnel accreditation is included as **Appendix B**. A total of 35 bulk samples were collected from the 14 South Broadway building on December 12, 2019. The samples were collected using hand tools, and sampling equipment was cleaned between the collection of each sample. Each sample location was wet with water prior to sampling to avoid creating dust during sampling. Bulk samples were placed in individual air tight plastic bags and transferred to Asbestos Identification Laboratory of Woburn, Massachusetts for analysis via EPA 600/R-93/116 and/or EPA Interim Method 600/M4-82-020 methods using Polarized Light Microscopy (PLM). Asbestos Identification Laboratory is licensed by the National Voluntary Laboratory Accreditation Program (NVLAP) (#200919-00) for bulk asbestos analysis. The field survey, chain of custody documentation and laboratory certificates of analysis are included in **Appendix C**. In accordance with NESHAP and NHDES regulations, materials are considered asbestos-containing if they contain greater than 1% asbestos as determined by PLM.

The following is a list of materials that were determined to be **non-asbestos-containing**:

Interior:

- 12" Gray Multi-Speck Floor Tile and Mastic	- 12" Gray-Speck Floor Tile and Mastic
- 12" Brown Floor Tile and Mastic	- 9" Tan Floor Tile Mastic
- Residual Black Mastic	- Drywall
- Joint Compound	- 1' x 1' Smooth Ceiling Tile

Exterior:

- Door Caulking	- Black Coating on CMU
- Field Flash Material	

The following is a list of materials that were determined to be **asbestos-containing**:

- 9" Tan Floor Tile	- Exterior Window Glaze
---------------------	-------------------------

Based on the review of analytical data associated with the above bulk sample collection, asbestos was **positively** identified at the 14 South Broadway building. Please refer to **Appendix E** which summarizes the materials, locations, and estimated quantities that tested positive for asbestos at the 14 South Broadway building. Site photographs are included in **Appendix A**.

3.0 LEAD BASED PAINT SURVEY

3.1 Regulatory Background

The Occupational Safety and Health Administration (OSHA) worker protection rule has established a permissible exposure limit (PEL) of 0.050 milligrams per cubic meter for airborne lead. OSHA worker protection rules are applicable for any amount of lead. The Resource Conservation and Recovery Act (RCRA) regulates wastes containing lead as hazardous wastes if the leachable lead in the waste exceeds 5 parts per million (ppm) by Toxicity Characteristic Leachate Procedure (TCLP).

The United States Department of Housing and Urban Development (HUD) has established a threshold for in-lace paint of 1 mg/cm² lead as measured by X-ray fluorescence (XRF), above which paint is considered lead-containing. Although HUD guidelines are only directly applicable to residential buildings, the threshold is useful as a guideline for identifying exposure and waste disposal issues in non-residential buildings.

3.2 Sample Analysis

A Lead Based Paint (LBP) Survey was conducted on December 12 and 13, 2020 by Mr. David Pesce, New Hampshire Lead Inspector and Risk Assessor No. RA-00059, utilizing an XRF. This is a non-destructive analytical technique used to determine the elemental composition of materials. XRF analyzers determine the chemistry of a sample by measuring the fluorescent (or secondary) X-ray emitted from a sample when it is excited by a primary X-ray source. This release of energy is then registered by the detector in the XRF instrument, which in turn categorizes the energies by element.

The investigation included a survey of painted surfaces for the presence of lead-based paint (LBP) throughout the building. Painted surfaces containing elevated levels of lead were identified during the survey. Please refer to the field inspection log sheets, included as **Appendix F**, which identifies the locations of elevated lead painted surfaces.

The purpose of the LBP survey was to assist the owner and/or contractor in OSHA compliance for worker protection during the planned renovation of the subject building. Survey results may also assist with characterization of construction debris/waste prior to disposal.

4.0 OTHER HAZARDOUS MATERIALS

4.1 Oil, Paints & Cleaners

No cleaning, maintenance supplies, or paints were noted within the property building.

4.2 Mercury Containing Devices

No mercury containing thermostats were identified within the building. Each individual tilt switch contains approximately three grams of mercury. The mercury-containing ampoules should be removed from each applicable thermostat by an environmental professional, prior to building demolition. The removed ampoules are classified as a Universal Waste and must be contained/packaged and labeled in accordance with the Federal Universal Waste Rule, and transported off-site for recycling.

4.3 Fluorescent Lights & Ballasts

Fluorescent light fixtures were noted throughout the building. Fluorescent lighting tubes can contain both mercury and lead, and have special handling and disposal requirements. Under federal regulations used fluorescent lamp becomes a waste on the day that it is discarded. The disposal of fluorescent lighting tubes is regulated under the Resource Conservation and Recovery Act (RCRA).

Additionally, fluorescent light ballasts manufactured prior to 1979 may contain polychlorinated biphenyls (PCBs). PCB-based oils were used as insulating oil in many types of ballast to provide cooling and electrical isolation. PCBs are regulated by the EPA and also have special handling and disposal requirements, depending on the concentration.

Each light fixture should be inspected for "No PCBs" labeling, prior to removal. Lighting ballasts which contain PCBs should be segregated from non-PCB containing ballasts and properly disposed. Ballasts with no labeling should be considered PCB. The fluorescent tubes should be transported off-site for recycling. Please refer to **Appendix G**, for approximate quantities and locations of fluorescent lights and ballasts.

4.4 Refrigerants

No refrigerants were noted within the building.

4.5 Emergency Equipment

Emergency lights/exit signs were observed within the subject building. Batteries associated with these units are an alkaline, NiMH and NiCAD source. The batteries should be either recycled or properly disposed, prior to being disturbed. Emergency exit signs can also contain radioactive components requiring proper disposal. Please refer to **Appendix G**, for approximate quantities and locations of emergency equipment.

5.0 RESULTS AND RECOMMENDATIONS

GREEN has completed a Hazardous Materials Survey of the building located at 14 South Broadway in Salem, New Hampshire. The property building consists of an approximately 1,865 square-foot, single-story, commercial building constructed in 1960. GREEN understands the existing structure will be demolished. GREEN completed this Hazardous Materials Survey to support the planned redevelopment. The Survey included assessment for the presence of asbestos via bulk sample collection and laboratory analysis, a lead-based paint XRF survey, and the cataloging of oils and/or hazardous materials located within the building.

Asbestos was positively identified at the 14 South Broadway building, as summarized in **Section 2** and **Appendix E**. In accordance with NESHAP and NHDES regulations, all friable ACM, or materials made friable by demolition or renovation activities, must be removed from the building by a licensed asbestos abatement contractor, prior to demolition or renovation. Removal of ACM is regulated by NHDES. GREEN recommends the identified ACMs be removed from the buildings in accordance with applicable asbestos abatement regulations prior to the start of planned demolition activities. Asbestos abatement must be done by a New Hampshire licensed Asbestos Abatement Contractor and be properly disposed of offsite at an appropriate receiving facility in compliance with all applicable state and federal regulations. The New Hampshire asbestos regulations require visual inspection and clearance air monitoring at the completion of an asbestos abatement project. Additionally, full-time monitoring of asbestos abatement procedures in compliance with design specifications and regulations is recommended during major asbestos abatement projects.

NHDES regulations require notification to the Department and local government officials using the Asbestos Demolitions/Renovation Notification Form, 201-05-31 at least 10 working days prior to conducting of an asbestos response action of more than 10 linear-feet or 25 square feet of ACM.

Based on the results of the lead-based paint survey, lead concentrations at or greater than 1.0 mg/cm² were identified as described in the XRF field inspection sheets included as **Appendix F**. OSHA worker protection rules apply for any amount of lead in paint, GREEN recommends that the owner provide the results of the LBP survey provided in this report to its demolition contractor. The contractor should consider this information in planning for worker protection during the renovation waste disposal. Removal of the paint prior to demolition is not required. However, the contractor may choose to monitor ambient air for lead during demolition, or demonstrate through air monitoring data collected from previous similar projects that the concentrations of lead identified will not result in an exceedance of the OSHA PEL during the demolition. The demolition contractor should also consider whether TCLP characterization of the demolition debris in accordance with RCRA is appropriate. Demolition work must be conducted in accordance with applicable federal, state, and local regulations.

Other oil and hazardous materials were identified within the building and should be properly segregated, disposed/or recycled as appropriate as summarized in **Section 4 and Appendix G** of this Survey report.



6.0 LIMITATIONS

The opinions expressed by GREEN are based solely on the observations, sampling and analysis, and information cited in this report. Observations were made at the subject site under the conditions stated. The purpose of this study was to determine the nature and approximate quantities of hazardous materials prior to demolition activities. This report does not constitute a complete determination of whether past or current owners, operators or occupants of the site have been in compliance with all applicable state, federal or local environmental regulations. This report does not constitute an AHERA survey. GREEN makes no representation regarding material located in inaccessible areas.

Semi-destructive measures were implemented to obtain bulk samples for asbestos analysis. GREEN makes no representation regarding inaccessible materials which may be located within walls, ceilings, ducts, roofs, below grade or other inaccessible areas. Additional field measurements and/or bulk sampling may be required following the exposure/removal of walls, flooring, etc. Should additional material be identified during demolition activities that are not listed in this report the work should be stopped and samples be collected to determine if hazardous classification is warranted.

Our conclusions are based solely on the information described herein and are believed to be representative of conditions at the time of the building survey. If additional information concerning the environmental conditions of the subject site becomes available, GREEN should be notified and presented with that information. Based on the new information, we will reevaluate the conclusions stated in this report to determine whether modifications are warranted.

This report is not a project specification and should not be used as a bidding document, including an asbestos abatement or building demolition specification.

We appreciate the opportunity to provide you with these environmental services. Please contact the undersigned with any questions at 617-479-0550.

Sincerely,
GREEN ENVIRONMENTAL, INC.



Luke Krzyzewski
Project Manager
Environmental Consulting Services



Kristen Awed-Ladas
Senior Project Manager
Environmental Consulting Services

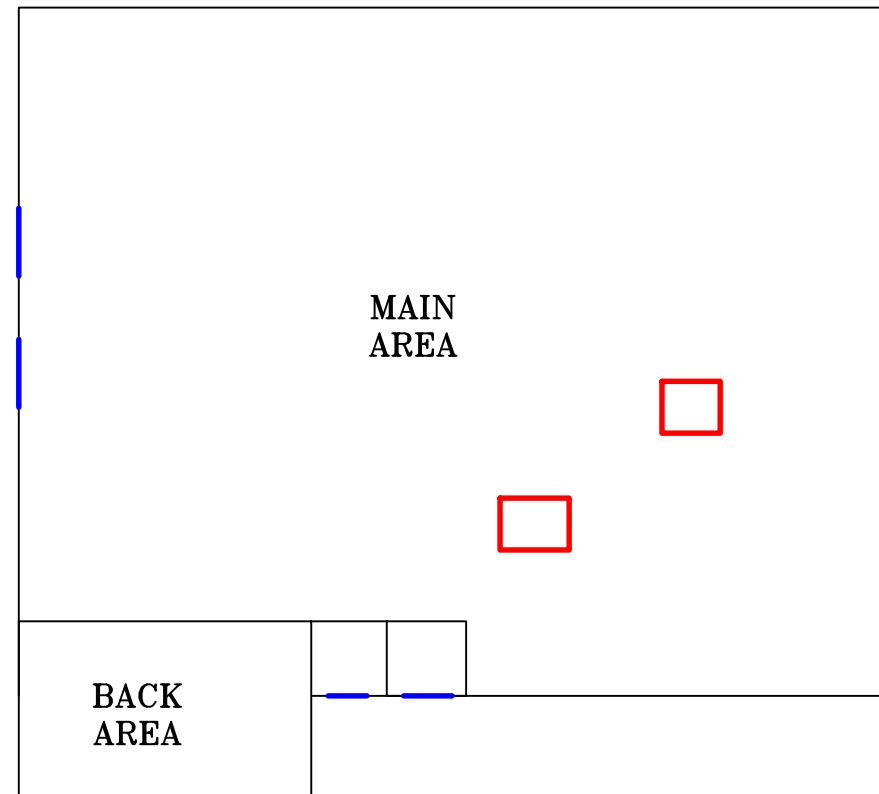




Plans and Figures



NORTH



APPROXIMATE LOCATION OF
ASBESTOS CONTAINING 9" TAN
FLOOR TILE

APPROXIMATE LOCATION OF
ASBESTOS CONTAINING
EXTERIOR WINDOW GLAZE

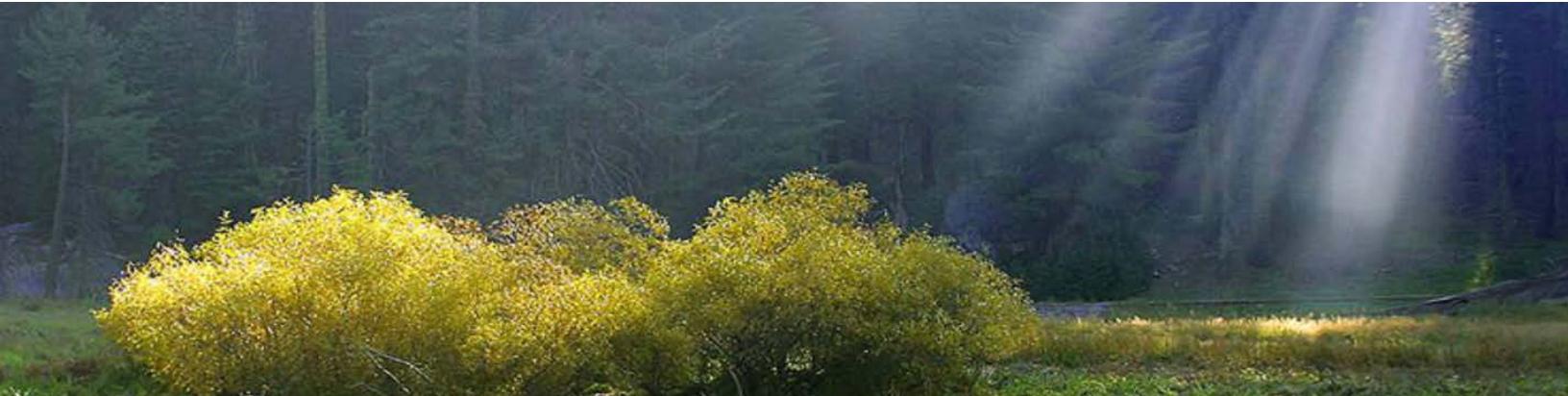
SITE PLAN
1 NORTH BROADWAY
SALEM, NH

VHB
101 WALNUT STREET
WATERTOWN, MA

GREEN
ENVIRONMENTAL

FIGURE: 1
PROJECT NO.: 19039
DATE: JANUARY 2020

APPROVED BY: KA
CHECKED BY: KA
DRAWN BY: LK



Appendix A





A view of the east side of the building facing west



A view of the west side of the building, facing north



A view of the interior of the 14 South Broadway building



A view of the interior of the 14 South Broadway building



Appendix B



14 S BROADWAY

Location 14 S BROADWAY

Mblu 89/ / 1092/ /

Acct#

Owner JAMES R DESJARDINS HOLDINGS INC

Assessment \$327,900

Appraisal \$327,900

PID 6362

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$88,000	\$239,900	\$327,900
Assessment			
Valuation Year	Improvements	Land	Total
2018	\$88,000	\$239,900	\$327,900

Owner of Record

Owner	JAMES R DESJARDINS HOLDINGS INC	Sale Price	\$300,000
Co-Owner		Certificate	
Address	17 GOODRIDGE AVE SALEM, NH 03079-1961	Book & Page	3448/0338
		Sale Date	01/03/2000
		Instrument	1C

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
JAMES R DESJARDINS HOLDINGS INC	\$300,000		3448/0338	1C	01/03/2000
UNITED REALTY ASSOC	\$0		1665/0001		03/28/1963

Building Information

Building 1 : Section 1

Year Built: 1960
 Living Area: 1,865
 Replacement Cost: \$141,479
 Replacement Cost
 Less Depreciation: \$82,100

Building Photo

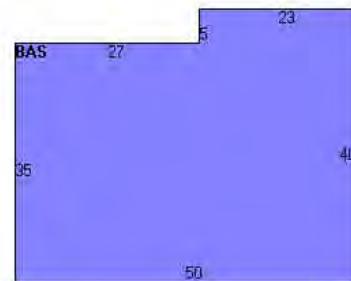
Building Attributes	
Field	Description
STYLE	Dry Cln/Laundr

MODEL	Ind/Comm
Stories:	1
Occupancy	1
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Tar & Gravel
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Carpet
Interior Floor 2	Concr-Finished
Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	None
Bldg Use	STORE/SHOP MDL-96
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	322I
Heat/AC	HEAT/AC PKGS
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEILING ONLY
Rooms/Prtns	AVERAGE
Wall Height	12
% Comn Wall	0



(http://images.vgsi.com/photos/SalemNHPhotos//00\00\00\95.jpg)

Building Layout



(http://images.vgsi.com/photos/SalemNHPhotos//Sketches/6362.

Building Sub-Areas (sq ft)		Legend	
Code	Description	Gross Area	Living Area
BAS	First Floor	1,865	1,865
		1,865	1,865



Extra Features

Extra Features		Legend
No Data for Extra Features		

Land

Land Use

Use Code	322I
Description	STORE/SHOP MDL-96
Zone	CA
Neighborhood	600
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.18
Frontage	0
Depth	0
Assessed Value	\$239,900
Appraised Value	\$239,900

Outbuildings

Outbuildings						<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Assessed Value	Bldg #
PAV1	PAVING-ASPHALT			4500 S.F.	\$5,100	1
SHD1	SHED FRAME			100 S.F.	\$800	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$88,000	\$239,900	\$327,900
2016	\$88,000	\$239,900	\$327,900
2015	\$86,200	\$222,500	\$308,700

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$88,000	\$239,900	\$327,900
2016	\$88,000	\$239,900	\$327,900
2015	\$86,200	\$222,500	\$308,700

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Appendix C



GREEN ENVIRONMENTAL, INC.

Personnel Accreditation

Accredited Inspector

Name: Luke Krzyzewski

Accreditation Number: AI100882

Signature: 

Licensure:

STATE OF NEW HAMPSHIRE

Department of Environmental Services
Asbestos Management & Control Program

ASBESTOS INSPECTOR

LUKE E KRZYZEWSKI

DOB: 05/20/89

Eff. Date: 01/17/20

Exp. Date: 01/16/21



R

AI100882

Craig A. Wright
Craig A. Wright, Director
Air Resources Division



Appendix D





Asbestos Identification Laboratory

165 New Boston St., Ste 227

Woburn, MA 01801

781-932-9600

Web: www.asbestosidentificationlab.com

Email: mikemanning@asbestosidentificationlab.com

Batch:

49417

NVLAP[®]
Lab Code: 200919-0

December 26, 2019

Luke Krzyzewski
Green Environmental Inc.
296 C Weymouth St.
Rockland, MA 02370

Project Name: 14 South Broadway, Salem, NH
Project Number: #19039
Date Sampled: 2019-12-12
Work Received: 2019-12-23
Work Analyzed: 2019-12-24

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

Dear Luke Krzyzewski,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project. The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency. Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations. Department of Health Certification: AAL-121
- State of Vermont, Department of Health Environmental Health License AL934461

Thank you Luke Krzyzewski for your business.

Michael Manning
Owner/Director

Luke Krzyzewski
 Green Environmental Inc.
 296 C Weymouth St.
 Rockland, MA 02370

Project Name: 14 South Broadway, Salem, NH
Project Number: #19039
Date Sampled: 2019-12-12
Work Received: 2019-12-23
Work Analyzed: 2019-12-24

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

FieldID	Material	Location	Color	Non-Asbestos %	Asbestos %
LabID					
1A 547283	12" Gray Multi Speck Floor Tile	1st Floor Main Area	gray	Non-Fibrous 100	None Detected
1B 547284	12" Gray Multi Speck Floor Tile	1st Floor Main Area	gray	Non-Fibrous 100	None Detected
2A 547285	12" Gray Multi Speck Floor Tile Mastic	1st Floor Main Area	multi	Non-Fibrous 100	None Detected
2B 547286	12" Gray Multi Speck Floor Tile Mastic	1st Floor Main Area	multi	Non-Fibrous 100	None Detected
3A 547287	12" Gray Speck Floor Tile	1st Floor Main Area	gray	Non-Fibrous 100	None Detected
3B 547288	12" Gray Speck Floor Tile	1st Floor Main Area	gray	Non-Fibrous 100	None Detected
4A 547289	12" Gray Speck Floor Tile Mastic	1st Floor Main Area	multi	Non-Fibrous 100	None Detected
4B 547290	12" Gray Speck Floor Tile Mastic	1st Floor Main Area	multi	Non-Fibrous 100	None Detected
5A 547291	12" Brown Floor Tile	1st Floor Bath	gray	Non-Fibrous 100	None Detected
5B 547292	12" Brown Floor Tile	1st Floor Bath	gray	Non-Fibrous 100	None Detected
6A 547293	12" Brown Floor Tile Mastic	1st Floor Bath	multi	Non-Fibrous 100	None Detected
6B 547294	12" Brown Floor Tile Mastic	1st Floor Bath	multi	Non-Fibrous 100	None Detected
7A 547295	9" Tan Floor Tile	1st Floor Main Area	yellow	Non-Fibrous 98	Detected Chrysotile 2
7B 547296	9" Tan Floor Tile	1st Floor Main Area			Not Analyzed

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
8A 547297	9" Tan Floor Tile Mastic	1st Floor Main Area	black	Non-Fibrous 100	None Detected
8B 547298					
9A 547299	Residual Black Mastic	1st Floor Main Area	black	Cellulose 2 Non-Fibrous 98	None Detected
9B 547300					
10A 547301	Drywall	1st Floor Bath	multi	Cellulose 15 Non-Fibrous 85	None Detected
10B 547302					
11A 547303	Joint Compound	1st Floor Bath	white	Non-Fibrous 100	None Detected
11B 547304					
11C 547305	Joint Compound	1st Floor Back Area	white	Non-Fibrous 100	None Detected
12A 547306					
12B 547307	1x1 Smooth Ceiling Tile	1st Floor Main Area	brown	Cellulose 98 Non-Fibrous 2	None Detected
13A 547308					
13B 547309	Window Glaze	Exterior North Side	yellow	Non-Fibrous 98	Detected Chrysotile 2
14A 547310					
14B 547311	Window Glaze	Exterior West Side	multi	Non-Fibrous 98	Detected Chrysotile 2
15A 547312					
15B 547313	Door Caulking	Exterior North Side	multi	Cellulose 2 Non-Fibrous 98	None Detected
16A 547314					
	Black Coating on CMU	Exterior West Side	black	Non-Fibrous 100	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
16B 547315	Black Coating on CMU	Exterior West Side	black	Non-Fibrous 100	None Detected
17A 547316	Field/Flash Material	Roof	multi	Cellulose 20 Non-Fibrous 80	None Detected
17B 547317	Field/Flash Material	Roof	multi	Cellulose 20 Non-Fibrous 80	None Detected

Thursday 26

Erik Stogas

End of Report

Analyzed by:

Batch: 49417

Page 3 of 3

Field ID/ (Client Reference)	Material / Location	Temp in Celsius = <u>27</u>		Stereo Scope	% of Asbestos	Optical Properties	RI	Non-Asbestos Percentage (%)	Lab ID# (Lab Use Only)
		Material	Location						Asbestos %
86	23	Material	Over <u>grn</u>	Color	Homogeneity	Friable			
				Chrysotile					
				Amosite					
				Crocidolite					
				Tremolite					
				Anthophyllite					
				Actinolite					
				Chrysotile					
				Amosite					
				Crocidolite					
				Tremolite					
				Anthophyllite					
				Actinolite					
				Chrysotile					
				Amosite					
				Crocidolite					
				Tremolite					
				Anthophyllite					
				Actinolite					
				Chrysotile					
				Amosite					
				Crocidolite					
				Tremolite					
				Anthophyllite					
				Actinolite					
87	3A	Material	Over <u>grn</u>	Color	Homogeneity	Friable			
				Chrysotile					
				Amosite					
				Crocidolite					
				Tremolite					
				Anthophyllite					
				Actinolite					
				Chrysotile					
				Amosite					
				Crocidolite					
				Tremolite					
				Anthophyllite					
				Actinolite					
				Chrysotile					
				Amosite					
				Crocidolite					
				Tremolite					
				Anthophyllite					
				Actinolite					
88	3B	Material	Over <u>grn</u>	Color	Homogeneity	Friable			
				Chrysotile					
				Amosite					
				Crocidolite					
				Tremolite					
				Anthophyllite					
				Actinolite					
				Chrysotile					
				Amosite					
				Crocidolite					
				Tremolite					
				Anthophyllite					
				Actinolite					
				Chrysotile					
				Amosite					
				Crocidolite					
				Tremolite					
				Anthophyllite					
				Actinolite					
89	4A	Material	Over <u>grn</u>	Color	Homogeneity	Friable			
				Chrysotile					
				Amosite					
				Crocidolite					
				Tremolite					
				Anthophyllite					
				Actinolite					
				Chrysotile					
				Amosite					
				Crocidolite					
				Tremolite					
				Anthophyllite					
				Actinolite					
				Chrysotile					
				Amosite					
				Crocidolite					
				Tremolite					
				Anthophyllite					
				Actinolite					
90	4B	Material	Over <u>grn</u>	Color	Homogeneity	Friable			
				Chrysotile					
				Amosite					
				Crocidolite					
				Tremolite					
				Anthophyllite					
				Actinolite					

Temp in Celcius = 27	Stereo Scope	Optical Properties		RI	Non-Asbestos Percentage (%)
		Field ID/ (Client Reference)	Material / Location	% of Asbestos	Asbestos %
91	5A	Material	92	0.5%	Chrysotile
92	5B	Location	93	0.5%	Amosite
93	6A	Material	94	0.5%	Crocidolite
94	6B	Location	95	0.5%	Tremolite
95	7A	Material	96	0.5%	Anthophyllite
96	7B	Location	97	0.5%	Actinolite

Field ID/ (Client Reference)	Material / Location	% of Asbestos	Color	Homogeneity	Texture	Friable Asbestos Minerals	Optical Properties		RI	Non-Asbestos Percentage (%)
							Asbestos %	Morphology		
96	7B	Material	Amosite	Chrysotile	Clay	Chrysotile	Extinction	Sign of Elongation	1.54	Fiberglass
97	8A	Material	Crocidolite	Amosite	Amosite	Amosite	Birefringence	Pleochroism	1.53	Mineral Wool
98	8B	Material	Tremolite	Crocidolite	Crocidolite	Crocidolite			1.52	Cellulose
99	9A	Material	Anthophyllite	Amosite	Amosite	Amosite	Extinction	Sign of Elongation	1.51	Hair
00	9B	Material	Actinolite	Actinolite	Actinolite	Actinolite	Birefringence	Pleochroism	1.50	Synthetic
		Location	Chrysotile	Amosite	Amosite	Amosite			1.49	Other
			Crocidolite	Crocidolite	Crocidolite	Crocidolite	Extinction	Sign of Elongation	1.48	Non-Fibrous
			Tremolite	Tremolite	Tremolite	Tremolite	Birefringence	Pleochroism	1.47	
			Anthophyllite	Anthophyllite	Anthophyllite	Anthophyllite			1.46	
			Actinolite	Actinolite	Actinolite	Actinolite	Extinction	Sign of Elongation	1.45	
			Chrysotile	Amosite	Amosite	Amosite	Birefringence	Pleochroism	1.44	
			Crocidolite	Crocidolite	Crocidolite	Crocidolite			1.43	
			Tremolite	Tremolite	Tremolite	Tremolite	Extinction	Sign of Elongation	1.42	
			Anthophyllite	Anthophyllite	Anthophyllite	Anthophyllite	Birefringence	Pleochroism	1.41	
			Actinolite	Actinolite	Actinolite	Actinolite			1.40	

DNA

Field ID/ (Client Reference)	Material / Location	Temp in Celcius = <u>31</u>	Stereo Scope	Optical Properties		RI	Non-Asbestos Percentage (%)
				% of Asbestos	Asbestos %		
01	10A	Material	0	Color	Morphology		
	Location		0	Homogeneity	Extinction		
02	10B	Material	0	Texture	Sign of Elongation		
	Location		0	Friable	Birefringence		
03	11A	Material	0	Asbestos Minerals	Pleochroism		
	Location		0	Chrysotile		15	
04	11B	Material	0	Amosite		17	
	Location		0	Crocidolite		15	
05	11C	Material	0	Tremolite		12	
	Location		0	Anthophyllite		85	
				Actinolite	Fiberglass		
				Chrysotile	Mineral Wool		
				Amosite	Cellulose		
				Crocidolite	Hair		
				Tremolite	Synthetic		
				Anthophyllite	Other		
				Actinolite	Non-Fibrous		

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = <u>21</u>	Stereo Scope Material / Location	Optical Properties		RI	Non-Asbestos Percentage (%)
				% of Asbestos	Asbestos Minerals		
06	12A	04	Material Location	04	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite	04	10
07	12B	05	Material Location	05	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite	05	2
08	13A	06	Material Location	06	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite	06	10
09	13B	07	Material Location	07	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite	07	2
10	14A	08	Material Location	08	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite	08	10

DWT

Field ID/ (Client Reference)	Material / Location	% of Asbestos	Color	Homogeneity	Texture	Friable Asbestos Minerals	Optical Properties		RI	Non-Asbestos Percentage (%)
							Asbestos %	Morphology		
11	14B					Chrysotile				
12	15A					Amosite				
13	15B	0	grey	grey		Crocidolite				
14	16A	0	grey	grey		Tremolite				
15	16B	0	grey	grey		Anthophyllite				
						Actinolite				
						Chrysotile				
						Amosite				
						Crocidolite				
						Tremolite				
						Anthophyllite				
						Actinolite				
						Chrysotile				
						Amosite				
						Crocidolite				
						Tremolite				
						Anthophyllite				
						Actinolite				

QMS

Temp in Celcius = <u>77</u>		Stereo Scope	Optical Properties		RI	Non-Asbestos Percentage (%)
Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	% of Asbestos	Color	Extinction	Sign of Elongation
16	17A	Material Location	0% ~ 0% ~	Color Homogeneity	Texture	Friable Asbestos Minerals
				Chrysotile	Asbestos %	Morphology
				Amosite		Extinction
				Crocidolite		Sign of Elongation
				Tremolite		Birefringence
				Anthophyllite		Pleochroism
				Actinolite		
				Chrysotile	⊥	⊥
				Amosite		Fiberglass
				Crocidolite		Mineral Wool
				Tremolite		Cellulose
				Anthophyllite		Hair
				Actinolite		Synthetic
				Chrysotile		Other
				Amosite		Non-Fibrous
				Crocidolite		
				Tremolite		
				Anthophyllite		
				Actinolite		
				Chrysotile		
				Amosite		
				Crocidolite		
				Tremolite		
				Anthophyllite		
				Actinolite		
				Chrysotile		
				Amosite		
				Crocidolite		
				Tremolite		
				Anthophyllite		
				Actinolite		

Due Friday

GREEN ▲
ENVIRONMENTAL

Bulk Sampling Chain-of-Custody

Client:

VHB

Date: 12/12/19

Page: 1 of 3

Project Address:

14 South Broadway Salem NH Project #: 19039

Inspector: Luke Krzyzewski

Contact:

Luke K

Analysis:

PLM - Positive Stop

TAT: 3 days

Email:

lkrzyzewski@greenenvironmental.com

35

Building	Floor	Room	Description	Field #	Comments	Fri/ Non-Fri
14 South Broadway	1st	Main Area	12" Gray multi Speck floor Tile	1A		/
			↓	1B		/
			12" Gray multi Speck floor Tile mastic	2A		/
			↓	2B		/
			12" Gray Speck Floor Tile	3A		/
			↓	3B		/
			12" Gray Speck floor tile mastic	4A		/
			↓	4B		/
		Bath	12" Brown Floor Tile	5A		/
			↓	5B		/
			12" Brown Floor tile mastic	6A		/
			↓	6B		/

Relinquish By	Date	#Samples	Received By	Date	Time	# Samples
✓	12/16/19	35	✓	12/12/19	12:31:19	

GREEN 
ENVIRONMENTAL
Bulk Sampling Chain-of-Custody

Client:

VHB

Date: 12/12/19

Page: 2 of 3

Project Address:

14 South Broadway

Salem

Project #: 19039

Inspector: Luke Krzyzewski

Contact:

Luke K

Analysis:

PLM - Positive Stop

TAT: 3 days

Email:

lkrzyzewski@greenenvironmental.com

Building	Floor	Room	Description	Field #	Comments	Fri / Non-Fri
14 South Broadway	1st	main area	9" Tan floor Tile	7A		/
			↓	7B		/
			9" Tan floor Tile Black mastic	8A		/
			↓	8B		/
			Residual Black mastic	9A		/
			↓	9B		/
		Bath	Drywall	10A		/
		Back Area	↓	10B		/
		Bath	Joint Compound	11A		/
		Back Area	↓	11B		/
			↓	11C		/
		main Area	1x1 Smooth Ceiling Tile	12A		/
Relinquish By	Date	#Samples	Received By	Date	Time	# Samples
<u>Z</u>	<u>12/16/19</u>	<u>35</u>				

GREEN 
ENVIRONMENTAL
Bulk Sampling Chain-of-Custody

Client:

VHB

Date: 12/12/19

Page: 3 of 3

Project Address:

14 S. Broadway

Project #: 19039

Inspector: Luke Krzyzewski

Contact:

Luke K

Analysis:

PLM - Positive Stop

TAT: 3 days

Email:

lkrzyzewski@greenenvironmental.com

Building	Floor	Room	Description	Field #	Comments	Fri / Non-Fri
14 S. Broadway	1st	Main Area	1x1 Smooth Ceiling Tile	12B		-
	Exterior	North side	Window Glaze	13A		-
		South side	↓	13B		-
		West side	Window Glaze	14A		-
		↓	↓	14B		-
		North side	Door Casing	15A		-
		↓	↓	15B		-
		West side	Black Coating on CMU	16A		-
		↓	↓	16B		-
		Roof	Field / Flash material	17A		-
		↓	↓	17B		-

Relinquish By	Date	#Samples	Received By	Date	Time	# Samples
2	12/14/19	35				



Appendix E



Appendix E
Locations of the Identified Asbestos-Containing Materials
14 South Broadway
Salem, NH

Location	Material Description	Estimated Quantity
<i>1st Floor</i>		
1 st Floor - Main Area	9" Tan Floor Tile	5 SF
<i>Exterior</i>		
North Side	Window Glaze	2 Units
South Side	Window Glaze	2 Units
West Side	Window Glaze	2 Units
Notes:	1. SF = Square Feet 2. Unit = Each	



Appendix F





Titan Lead Testing, LLC
PO Box 760709
Melrose, MA 02176

Tel: 781-799-8763
Fax: 781-662-3300

December 31, 2019
Luke Krzyzewski
Green Environmental
296 Weymouth St., Unit C
Rockland, MA 02370

RE: Lead Paint Testing Results
14 South Broadway
Salem, New Hampshire

Dear Mr. Krzyzewski:

This report presents the results of testing for the presence of lead paint on interior painted at 14 South Broadway, Salem, New Hampshire. Representative of Titan Lead Testing (Titan), Mr. David Pesce performed the testing on December 12, 2019 and December 13, 2019. Mr. Pesce is manufacturer's-trained in the proper use and interpretation of results of the XRF Spectrum Analyzer. Mr. Pesce is also a New Hampshire Department of Health and Human Services licensed Lead Inspector and Risk Assessor (Lic # RA-00059).

Scope of Work

The purpose of the lead testing was to determine the lead content of various painted building substrates prior to renovation and demolition activities. Selected relevant accessible painted surfaces were tested by Titan. Concentrations of lead in paint were measured on site by portable XRF analysis.

Sampling Protocol

The lead content of painted surfaces was determined using a portable X-ray Fluorescence (XRF) Spectrum Analyzer (HEURESIS Pb200i; Serial # 1645). The XRF Spectrum Analyzer uses a radioactive source to excite the electrons of lead atoms (if present) in paints. As the lead atom electrons return to their normal state, they emit X-rays, which are counted by the XRF Spectrum Analyzer. This data is processed and the results are converted to milligrams of lead per square centimeter (mg/cm^2) of sampled surface area.

Results

The XRF testing results indicate that levels of lead on surfaces tested range from less than $0.1 \text{ mg}/\text{cm}^2$ (lower limit of quantification of the XRF) to $20.3 \text{ mg}/\text{cm}^2$. Renovation and demolition activities that impact surfaces where lead may be present require specific work practices and disposal requirements. A summary of the lead testing results is attached.

Recommendations

The employer of workers who disturb or remove lead paint must comply with OSHA Standard 29 CFR 1926.62 - Lead. This applies to all construction work, alteration, or repair, including painting, where an employee may be occupationally exposed to lead. This standard does not establish a minimum threshold for the lead content, below which an initial exposure assessment is not required. An initial exposure assessment is required for each renovation or demolition activity that will disturb lead. This standard also contains additional requirements concerning the disturbance or removal of lead.

Limitations

Lead paint testing was performed on representative building substrates in selected building areas. Additional lead-containing building substrates and components may be present in other building areas or hidden by floor, wall and ceiling finishes or otherwise may be inaccessible.

Lead paint testing was performed to determine the lead content of painted building components that may be impacted by renovation activities and should not be used to determine compliance with the New Hampshire Lead Paint Poisoning Prevention and Control Act (RSA 130-A)

Please call if you have any questions or require additional information.

Sincerely,



David Pesce

Attachment

ATTACHMENT
LEAD TESTING RESULTS BY XRF

Lead Paint Testing Results by XRF
14 South Broadway
Salem, New Hampshire
December 12-13, 2019

Room/Area	Location/Component	Color	Substrate	Results (mg/cm ²)
Main Room	Wall CMU	Yellow	Concrete	< 0.1
Main Room	Column	Yellow	Brick	< 0.1
Main Room	Window Sill	Brown	Wood	< 0.1
Main Room	Window Casing	White	Wood	1.6
Main Room	Colun	Brown	Metal	< 0.1
Main Room	Pipe	Yellow	Metal	< 0.1
Main Room	Partition Wall	White	Wood	< 0.1
Main Room	Partition Wall	Blue	Wood	< 0.1
Main Room	Lower Wall	Brown	Wood	< 0.1
Main Room	Baseboard	Brown	Wood	< 0.1
Main Room	Sliding Fire Door	Black	Metal	19.6
Main Room	Ceiling Tile	White	Wood	< 0.1
Main Room	Duct	White	Metal	< 0.1
Main Room	Light Protector	White	Metal	0.4
Main Room	Beam	White	Wood	0.9
Main Room	Door	White	Wood	< 0.1
Main Room	Door Casing	White	Wood	< 0.1
Main Room	Door	Brown	Metal	< 0.1
Main Room	Door Frame	Brown	Metal	< 0.1
Main Room	Window Sash	Brown	Metal	< 0.1
Main Room	Shelf	Yellow	Wood	< 0.1
Main Room	Wall	Yellow	Wood	< 0.1
Main Room	Door	Gray	Metal	< 0.1
Main Room	Door Frame	Gray	Metal	< 0.1
Women's Restroom	Wall CMU	White	Concrete	< 0.1
Women's Restroom	Wall	White	Wood	< 0.1
Women's Restroom	Column	White	Brick	< 0.1
Women's Restroom	Cabinet	White	Wood	< 0.1
Women's Restroom	Door	White	Wood	< 0.1
Women's Restroom	Door jamb	White	Wood	< 0.1
Women's Restroom	Baseboard	White	Wood	< 0.1
Women's Restroom	Window Sash	Black	Metal	< 0.1
Men's Restroom	Wall CMU	White	Concrete	< 0.1
Men's Restroom	Wall	White	Wood	< 0.1
Men's Restroom	Door	White	Wood	< 0.1
Men's Restroom	Door Casing	White	Wood	0.2
Men's Restroom	Window Sash	Black	Metal	< 0.1

Lead Paint Testing Results by XRF
14 South Broadway
Salem, New Hampshire
December 12-13, 2019

Room/Area	Location/Component	Color	Substrate	Results (mg/cm ²)
Men's Restroom	Sink	Gray	Metal	< 0.1
Men's Restroom	Ceiling Tile	White	Wood	< 0.1
Boiler Room	Sliding Fire Door	Gray	Metal	20.3
Boiler Room	Door	Gray	Metal	< 0.1
Boiler Room	Door Frame	Gray	Metal	< 0.1
Boiler Room	Duct	Gray	Metal	< 0.1
Boiler Room	Window Sash	Gray	Metal	< 0.1
Exterior	Siding	Brown	Metal	< 0.1
Exterior	Door	Brown	Metal	< 0.1
Exterior	Door Frame	Brown	Metal	< 0.1
Exterior	Overhang Trim	White	Metal	2.6
Exterior	Upper Trim	White	Wood	2.6
Exterior	Siding CMU	White	Concrete	< 0.1
Exterior	Window Sill	White	Concrete	< 0.1
Exterior	Window Sash	White	Metal	< 0.1
Exterior	Door	Gray	Metal	< 0.1
Exterior	Door Frame	Gray	Metal	< 0.1
Exterior	Window Sash	White	Metal	< 0.1
Exterior	Lintel	White	Metal	1.7
Exterior	Post	White	Metal	< 0.1
Exterior	Gas Pipe	Gray	Metal	< 0.1
Exterior	Upper Trim	Yellow	Metal	2.3

- <0.1 = less than the limit of quantification of the XRF.
- mg/cm² = milligrams of lead per square centimeter of sampled surface area.



Appendix G



Appendix G
Locations of the Regulated Materials
14 South Broadway
Salem, NH

Location	Material Description	Quantity
Main Area	4' Fluorescent Tubes	12
	8' Fluorescent Tubes	41
	PCB/Non-PCB Containing Ballasts	26
	Exit Signs	1
Back Area	8' Fluorescent Tubes	1
	PCB/Non-PCB Containing Ballasts	8
Exterior - East Side	4' Fluorescent Tubes	12
	PCB/Non-PCB Containing Ballasts	12