

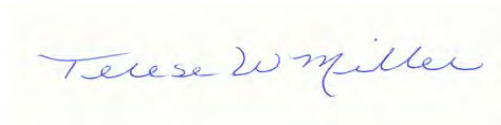
**ASBESTOS AND LEAD-BASED PAINT SURVEY**

1031 Reaney Avenue  
St. Paul, Minnesota

*Prepared for:*

City of St. Paul  
Department of Planning and Economic Development  
1100 City Hall Annex  
25 West 4<sup>th</sup> Street  
St. Paul, Minnesota 55102-1623

*Submitted by:*



Terese W. Miller  
Principal Consultant, CEO



St. Croix Environmental, Inc.  
1094 Golden Oaks Drive  
Hudson, Wisconsin 54016

September 26, 2013

## TABLE OF CONTENTS

1. Introduction.....	1
2. Asbestos Survey.....	1
2.1. ACM Sampling.....	1
2.2. ACM Results .....	1
3. Lead-Based Paint Survey .....	2
3.1. Lead-Based Paint Sampling.....	2
3.2. Lead-Based Paint Results .....	2
4. Definitions.....	3
5. Inspection and Sampling Limitations.....	3

## APPENDICES

Attachment 1	Pre-Renovation Inspection
Appendix A	Inspector Qualifications
Appendix B	Laboratory and Test Results

## 1. Introduction

St. Croix Environmental, Inc. (SCE) was retained by the City of St. Paul (the City) to administer a Survey of the property located at 1031 Reaney Avenue in St. Paul, Minnesota (the Site). The Site is occupied by a single family residential property scheduled for renovation.

The purpose of the work was to evaluate building materials suspected to contain asbestos and lead-based paint as follows:

- Identify asbestos containing materials (ACM) at the Site as defined by the Environmental Protection Agency (EPA), Minnesota Pollution Control Agency (MPCA), and the Minnesota Department of Health (MDH).
- Test peeling or flaking paint for lead content prior to renovation.

The work did not include a survey for hazardous materials other than asbestos or lead-based paint. Greg Myers, a trained and Minnesota Licensed Lead Risk Assessor (MN#LR284) and Minnesota Licensed Asbestos Inspector (A12289) and Andrew Myers, also a trained and Minnesota Licensed Lead Risk Assessor (MN#LR 578) and Minnesota Licensed Asbestos Inspector (AI# 8478) performed evaluation services for this project.

## 2. Asbestos Survey

The building survey and sampling activities were completed on September 10<sup>th</sup> and 11<sup>th</sup> of 2013.

### 2.1. ACM Sampling

A list of the suspect asbestos materials that were sampled can be found on Pages 3-5 in **Attachment 1**. Materials other than those listed, and not sampled, were either: 1) not considered suspect for asbestos content (e.g. fiberglass insulation, concrete, brick, plastic); or, 2) inaccessible, such as materials in wall cavities, confined spaces, or locked rooms/areas. If suspect asbestos containing materials other than those listed and sampled are discovered at the Site, they should be considered asbestos containing until testing proves otherwise.

Carolina Environmental, located in Cary, North Carolina, NVLAP accreditation number 1017680, provided laboratory analysis for the asbestos. Samples were analyzed by Polarized Light Microscopy (PLM), the EPA-approved analytical method for bulk analysis.

### 2.2. ACM Results

Asbestos was found in sink undercoating and sheet vinyl. A copy of the analytical laboratory report is included in **Appendix B**. The sample location diagram is also included in the appendix.

### 3. Lead-Based Paint Survey

The purpose of this project was to determine whether lead-based paint or other lead hazards are present on the interior or exterior surfaces of the residential property.

#### 3.1. Lead-Based Paint Sampling

The paint inspection sampling strategy was performed consistent with HUD Guidelines (1995 with revised 1997 Chapter 7). The results of portable x-ray fluorescence (XRF) analysis of representative building components in each functional area or room are shown in **Appendix B**.

Samples were tested with a Niton® XLp 303A X-Ray Fluorescence (XRF) spectrum analyzer (Serial # 26848) to determine if coatings contained lead above the Minnesota Department of Health (MDH), Environmental Protection Agency (EPA) and the Housing and Urban Development (HUD) Association standard of 1.0 milligrams per square centimeter ( $\text{mg}/\text{cm}^2$ ) of lead.

#### 3.2. Lead-Based Paint Results

Specific building components determined to have a lead concentration above the action level (1.0  $\text{mg}/\text{cm}$ ) are listed on pages 7 and 8 of **Attachment 1**. A rating of the paint condition is included in **Appendix B**.

## Definitions

The following definitions apply to this report:

- The EPA/MPCA/MDH defines ACM as any material that contains greater than one percent asbestos by volume. Materials found to contain one percent or less asbestos by volume are not regulated as ACM by EPA/MPCA/MDH.
- Friable ACM is defined as any material that contains greater than one percent asbestos, and which can be crumbled, pulverized, or reduced to powder by hand pressure.
- Category I non-friable ACM means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than one percent asbestos. Category I non-friable ACM is not allowed to remain in place during renovation/rehabilitation if it is in a condition where the renovation/rehabilitation activities might cause it to become friable.
- Category II non-friable ACM means any material, excluding Category I non-friable ACM, containing more than one percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to a powder by hand pressure. Category II nonfriable ACM is not allowed to remain in place during renovation or rehabilitation if it has a high probability of becoming crumbled, pulverized, or reduced to a powder during renovation, rehabilitation, transport, or disposal.

## 4. Inspection and Sampling Limitations

This survey report is intended to describe lead-based paint and ACM that may be present at the subject site, including those that may be impacted during renovation or rehabilitation activities. Services performed by the consultant were conducted in accordance with generally recognized industry standards and current MPCA and MDH guidelines, and in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances and under similar budget and time constraints. No other warranty is made or intended.

The survey is not intended to be technically exhaustive and no representation is made to the client, expressed or implied, and no warranty or guarantee is included or intended. It is possible that some materials were not identified during the course of the inspection at this site. Such unidentified materials would be those that are hidden from view, such as floor tile under floor tile or carpet, pipe insulation in wall cavities, materials out of reach in high ceiling areas, materials located under or behind finish materials, or materials inadvertently overlooked. Building materials known to possibly contain asbestos or lead-based paint which were not sampled as part of this survey should be assumed to be asbestos or lead containing until proven otherwise.

The consultant and/or inspector for this survey are not held responsible or liable for any repairs or replacements with regards to this property, systems, components, or the contents therein. Material samples were analyzed by an independent outside laboratory; the results of their analyses are presented herein. While we choose an established, reputable and certified lab to perform the sample analysis, SCE does not warrant the accuracy of the laboratory results.

The information contained in this report represents the consultant's best efforts to determine the presence of lead-based paint and ACM at the site given the site conditions. No inspection was carried out of flues, chutes, ducts, voids and any similar enclosed areas, the access to which would necessitate the use of specialist equipment or tools, or which would have caused damage to decoration, fixtures, fittings or the structure of the building. We are therefore unable to report on the presence of asbestos or lead in these areas, and accept no responsibility for the presence of such.

Attachment 1

---

# PRE-RENOVATION INSPECTION PROFILE

**Single Family Residential Property  
1031 Reaney  
St. Paul, Minnesota**

## INTRODUCTION

Midwest Environmental Consulting, L.L.C. (MEC) staff conducted an inspection of the duplex residential property located at 1031 Reaney Avenue, St. Paul, Minnesota at the request of Kevin Miller, St. Croix Environmental. The purpose of the inspection was to identify possible environmental hazards, deteriorated lead-based paint, and suspect building materials that may contain asbestos and collect the minimum number of samples for asbestos analysis, prior to renovation of the single family building complex. Greg Myers, training and Minnesota Licensed Lead Risk Assessor (MN#LR284) and Minnesota Licensed Asbestos Inspector (AI2289) and Andrew Myers, trained and Minnesota Licensed Lead Risk Assessor (MN#LR 578) and Minnesota Licensed Asbestos Inspector (AI# 8478) performed all the evaluation services for this project.

## BUILDING SUMMARY

The single family residential property located at 1031 Reaney, St. Paul, Minnesota is a two story wood framed structure on a stone and concrete basement and foundation and crawl space constructed in approximately 1886. The interior walls and ceilings are a combination of plaster and drywall and wood paneling over plaster. There is also drop down ceiling tile over plaster and stapled on ceiling tile over plaster. The mill work is a combination of original millwork and newer millwork and cabinets. The windows are a combination of original vintage windows and newer vinyl windows. The exterior has aluminum siding, soffits, fascia & trim over plank sheathing.

Insulation is fiberglass batt insulation and blown-in insulation. Renovated rooms have fiberglass wall insulation. Original room have little or no insulation.

The living room floor has warped flooring from water damage from the upper level bathroom. The basement also has water intrusion.

There is a detached garage with vinyl siding, metal clad soffits & fascia over oriented strand board (OSB) sheathing. Visible mod is present on lower OSB, primarily from capillary water intrusion.

Bare soil is present on the property. There is negative grade and level grade around the house foundation.

There is evidence of vandalism at the property with some broken windows on the main level. There has also been removal of copper from the structure.

No dust wipe samples or bare soil samples were collected as a part of this evaluation at the request of St. Croix Environmental. Bare soil is present and is assumed to be above the Minnesota Department of Health defined action level of 100 parts per million. Interior lead dust levels are assumed to be above the defined action levels of 40 micrograms for floors, 250 micrograms for window sill and 400 micrograms for exterior window troughs.

## ASBESTOS

### Sampling

Samples of potentially asbestos-contaminating materials have been collected and analyzed following preferred Environmental Protection Agency (EPA) analytical procedures. The laboratory providing the analysis for the asbestos portion of the project is Carolina Environmental, Cary, North Carolina, NVLAP accreditation number 101768-0. Samples were analyzed by Polarized Light Microscopy (PLM), the EPA-approved analytical method for bulk analysis.

The following suspect asbestos-containing samples were collected during the prerenovation asbestos inspection, and submitted for analysis:

Event Sample #	Sample Location/ Material	Asbestos Concentration/ Type	Non-Asbestos Content	Approximate Amount
1 856/0913B-B1 9/10/13	Kitchen, 1'x1' tan floor tile/mastic. Homogeneous to B2	None detected in all layers	5% cellulose 75% vinyl 20% silicates 5% cellulose 90% mastic 5% silicates	225 ft <sup>2</sup>
2 856/00913B-B2 9/10/13	Kitchen, 1'x1' tan floor tile/mastic. Homogeneous to B1	None detected in all layers.	5% cellulose 75% vinyl 20% silicates 5% cellulose 90% mastic 5% silicates	-----
3 856/0913B-B3 9/10/13	Kitchen, sink deadener	2% Chrysotile	5% cellulose 73% tar 5% silicates	3 ft <sup>2</sup>
4 856/0913B-B4 9/10/13	Drywall/taping compound	None detected	10% cellulose 70% gypsum 20% calcium carbonate <1% paint	Throughout



5 856/0913B-B5 9/10/13	Basement Stairwell, plaster	None detected in all layers	5% cellulose 75% binder 20% silicates <1% paint	Throughout
6 856/0913B-B6 9/10/13	Living Room, 1'x1' stapled in ceiling tile. Homogeneous to B7, B8	None detected	95% cellulose 5% paint	461.5 ft <sup>2</sup>
7 856/0913B-B7 9/10/13	Living Room, 1'x1' stapled in ceiling tile. Homogeneous to B6, B8	None detected	95% cellulose 5% paint	-----
8 856/0913B-B8 9/10/13	Living Room, 1'x1' stapled in ceiling tile. Homogeneous to B6, B7	None detected	95% cellulose 5% paint	-----
9 856/0913B-B9 9/10/13	Living Room, 1'x1' ceramic tile/grout	None detected in all layers	50% binder 50% silicates <1% paint	45 ft <sup>2</sup>
10 856/0913B-B10 9/10/13	1 <sup>st</sup> Floor, E. Bedroom, 2'x2' ceiling tile. Homogeneous to B11, B12	None detected	35% cellulose 35% fiberglass 20% binder 10% Perlite <1% paint	120 ft <sup>2</sup>
11 856/0913B-B11 9/10/13	1 <sup>st</sup> Floor, E. Bedroom, 2'x2' ceiling tile. Homogeneous to B10, B12	None detected	35% cellulose 35% fiberglass 20% binder 10% Perlite <1% paint	-----
12 856/0913B-B12 9/10/13	1 <sup>st</sup> Floor, E. Bedroom, 2'x2' ceiling tile. Homogeneous to B10, B11	None detected	35% cellulose 35% fiberglass 20% binder 10% Perlite <1% paint	-----
13 856/0913B-B13 9/10/13	Stairway to 2 <sup>nd</sup> Floor, tread	None detected	100% binder <1% paint	14 treads
14 856/0913B-B14 9/10/13	2 <sup>nd</sup> Floor Bath, sheet vinyl	None detected	20% cellulose 5% fiberglass 50% vinyl 25% binder <1% mastic	34 ft <sup>2</sup>

15 856/0913B-15 9/10/13	2 <sup>nd</sup> Floor, E. Bedroom, mastic	None detected	5% cellulose 90% mastic 5% silicates	82 ft <sup>2</sup>
16 856/0913B-B16 9/10/13	2 <sup>nd</sup> Floor, N. Bedroom, sheet vinyl	25% Chrysotile	50% vinyl 25% binder <1% mastic	225 ft <sup>2</sup>
17 856/0913B-B17 9/10/13	Attic, blown in insulation. Homogeneous to B18, B19	None detected	100% cellulose	Throughout
18 856/0913B-B18 9/10/13	Attic, blown in insulation. Homogeneous to B17, B19	None detected	100% cellulose	Throughout walls
19 856/0913B-B19 9/10/13	Attic, blown in insulation. Homogeneous to B17, B18	None detected	100% cellulose	-----
20 856/0913B-B20 9/10/13	Roof shingles/black vapor barrier	None detected in all layers	15% fiberglass 70% tar 15% gravel 50% cellulose 50% tar	Throughout
21 856/0913B-B21 9/10/13	Exterior weather barrier paper	None detected	50% cellulose 50% tar	Throughout
22 856/0913B-B22 9/10/13	Window caulk	None detected	5% cellulose 75% calcium carbonate 20% silicates <1% paint	Throughout
23 856/0913B-B23 9/10/13	Garage shingles/vapor barrier	None detected in all layers	15% fiberglass 70% tar 15% gravel 15% fiberglass 70% tar 15% silicates	427 ft <sup>2</sup>

ft<sup>2</sup> - square foot

The random samples collected from areas within the complex, were found to contain asbestos in sink deadener & sheet vinyl. The contractor will be required to follow all Minnesota Pollution Control Agency, Minnesota Department of Health and Occupational Safety and Health Administration requirements. Contractors should be qualified and licensed to perform asbestos abatement of these surfaces.

Prior to disposal of any furnaces, hot water heaters or other gas appliances with thermocouples, the thermocouples should be removed for recycling or disposal as hazardous waste. Any mercury switch thermostats should be removed and either recycled or disposed of as hazardous waste.

## **LEAD-BASED PAINT INSPECTION AND RISK ASSESSMENT**

The purpose of this project was to determine whether lead-based paint or other lead hazards are present on the interior or exterior surfaces of the residential property. This report contains the results of the HUD lead-based paint inspection and risk assessment. No dust wipe samples or bare soil samples were collected as a part of this evaluation at the request of St. Croix Environmental.

According to HUD protocol, if the first 5 of a building component are identified as positive for lead-based paint, the remaining like components are assumed to be lead-based paint containing.

The lead-based paint inspection was conducted following the Housing and Urban Development (HUD) "*Guidelines for the Evaluation and Control of Lead-Based Paint in Housing*," using the 2012 revision Chapter 7 protocols. Not every door surface, or component combinations of like building components were tested. The sampling criteria used are those outlined in the HUD Standards 24 CFR Part 35 et al, "*Requirements for Notification Evaluation and Education of Lead-Based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance*."

### **Results of Paint Inspection**

MEC used a paint inspection sampling strategy as described in the HUD Guidelines (2012 revision). The results of portable x-ray fluorescence (XRF) analysis of representative building components in each functional area or room are shown in Appendix B. Results are organized and shown in actual sequence of analysis. Samples were tested with a Niton® XLp 303A X-Ray Fluorescence (XRF) spectrum analyzer (Serial # 26848) to determine if coatings contained lead above the Minnesota Department of Health (MDH), Environmental Protection Agency (EPA) and the Housing and Urban Development (HUD) Association standard of 1.0 milligrams per square centimeter (mg/cm<sup>2</sup>) of lead.

HUD regulations 24 CFR Part 35 et.al, the HUD *Guidelines*, the Environmental Protection Agency (EPA), and the Minnesota Department of Health (MDH) define the paint action level as a lead concentration at or above the level of 1.0 mg/cm<sup>2</sup> when measured with a portable XRF instrument (0.5% by weight when measured by laboratory methods).

The lead-based paint inspection protocol described in the HUD *Guidelines* relies on a statistical approach for result interpretation. Tests are performed on each test combination. A test combination consists of unique combinations of substrate, color, building component, and location.

XRF analytical results in Appendix B, in the column labeled "Results" represent lead concentrations per square centimeter of painted surface (mg/cm<sup>2</sup>).

XRF results are classified as positive or negative. A positive classification indicates that lead is present on the testing combination at or above the HUD standard. It is important to note that positive and negative results apply not only to the actual testing combination, but also to any repetitions of the testing combination in the room or area that were not tested.

Appendix B includes a record of XRF calibration checks. Those checks were performed on thin films supplied by the XRF manufacturer; they contain known concentrations of lead. The graphs in that appendix show the variation of quality control with time. The assays in the table of raw data (Appendix B) that are labeled "Calibrate" indicate that they are for quality control. Additional quality control data and information are available to you upon request.

The exterior sampling sides are designated below:

- Side A: South, faces Reaney Avenue
- Side B: West, adjoins residential property
- Side C: North, faces garage
- Side D: East, faces residential

Specific building components determined to have a lead concentration above the action level (1.0 mg/cm<sup>2</sup>) are listed below and on the following pages:

LOCATION	COMPONENT
Living Room	Painted wood door jamb
Kitchen	Painted wood door components
Kitchen	Painted metal closet pipe
Stair to Basement	Painted wood shelf supports
Stair to Basement	Painted wood skirt & skirt ledge
Stair to Basement	Painted plaster walls & ceiling
Stair to 2 <sup>nd</sup> Floor	Painted wood door components
Stair to 2 <sup>nd</sup> Floor	Painted wood baseboards
Stair to 2 <sup>nd</sup> Floor	Painted wood stair skirt, stair treads & stair riser
2 <sup>nd</sup> Floor Hall	Painted wood baseboards
2 <sup>nd</sup> Floor Hall	Painted drywall attic hatch
Bathroom	Bathtub

Bedroom 3	Painted wood baseboards
Bedroom 3	Painted wood window components
Bedroom 3	Painted wood closet door components
Bedroom 3	Painted wood closet shelf supports
Bedroom 4	Painted wood baseboards
Bedroom 4	Painted wood window components
Bedroom 4	Painted wood closet door & door components
Bedroom 4	Painted wood closet shelf supports
Bedroom 4	Painted plaster closet walls
Exterior	Metal entry door (depth index indicates lead beneath the metal surfaces)
Porch	Painted wood ceiling & trim
Exterior	Metal window components (depth index indicates lead beneath the metal surfaces)
Exterior	Metal soffits & fascia (depth index indicates lead beneath the metal surfaces)
Exterior	Metal siding (depth index indicates lead beneath the metal surfaces)

Also included in Appendix B of this report is a rating of the condition of paint on components (column titled "Condition"). Comments on the condition include:

**Intact:** good condition; **Fair:** less than 2 square feet of damage to large interior surface, i.e., wall, less than 10 square feet of damage to large exterior surface, i.e., outside walls, or less than 10% damage to small surface areas, i.e., baseboards, trim, etc.; **Poor:** more than 2 square feet of damage on large interior surfaces, more than 10 square feet of damage to large exterior surface areas, or more than 10% damage to small surface areas.

## RESULTS OF LEAD RISK ASSESSMENT

The risk assessment portion of this investigation involved collecting information about the property through a visual inspection of the dwelling and reviewing paint test data. No lead dust wipe samples or bare soil samples were collected during this risk assessment at the request of St. Croix Environmental. It will be assumed that lead dust hazards are above the defined MDH/HUD lead hazard action levels. It is also assumed that if bare soil is present that the bare soil levels are above the defined action levels. Water and sodium rhodizonate swabs were also not collected as part of this project.

## Visual Inspection

MEC conducted an inspection of painted and varnished surfaces on the interior and exterior of the residence. Emphasis was placed on chewable surfaces within 5 feet of the ground or floor.

The results of the visual inspection indicate that the exterior and interior of the structure is mainly in poor condition with some components in intact or fair condition.

Please note, however, the condition report within the XRF table for painted or varnished surfaces found to be fair or poor, that were below the 1.0 mg/cm<sup>2</sup> action level.

Dust wipe and bare soil samples were not collected from the residence as a part of this evaluation at the request of St. Croix Environmental and will be assumed to be above defined MDH/HUD lead hazard levels. Water and sodium rhodizonate swabs were also not collected as part of this project.

## RECOMMENDATIONS

Lead-based paint or lead hazards were found during the inspection and risk assessment of the property including on painted wood interior door components; painted kitchen closet metal pipe; plaster walls & ceilings; stairway components; painted wood baseboards; bathtub; interior painted wood window components; closet shelf supports; painted wood porch ceiling & trim; beneath exterior metal window components; beneath metal siding, soffits & trim.

At the request of the City of St. Paul, only abatement options are provided for lead hazards identified during this evaluation. Abatement options can include removal of building components to the substrate and replacement with new lead free products; enclosure of building components under dust tight barriers, encapsulation or removal of coatings to the substrate and re-coating with lead free coatings.

### Living Room:

Painted wood door components: In fair condition.

- Option 1: Remove door components to raw opening using Lead Safe Work Practices and replace with new lead free components.
- Option 2: Remove coatings to bare substrate using Lead Safe Work Practices and re-coat with lead free coatings.

### Kitchen:

Painted wood door components: In intact condition.

- Option 1: Remove door components to raw opening using Lead Safe Work Practices and replace with new lead free components.
- Option 2: Remove coatings to bare substrate using Lead Safe Work Practices and re-coat with lead free coatings.

Painted metal closet pipe: In poor condition.

- Option 1: Remove pipe using Lead Safe Work Practices and replace with a new

- radiator pipe.
- Option 2: Remove coatings to the substrate using Lead Safe Work Practices and re-coat with lead free coatings.

### **Stairway to Basement:**

Painted wood shelf supports: In poor condition.

- Option 1: Remove components using Lead Safe Work Practices and replace with new lead free products.
- Option 2: Remove coatings to bare substrates using Lead Safe Work Practices and re-coat with lead free coatings.

Painted wood skirt & skirt ledge: In poor condition.

- Option 1: Remove components using Lead Safe Work Practices and replace with new lead free components.
- Option 2: Enclose under a dust tight barrier and include into an Operation & Maintenance Plan with ongoing monitoring..
- Option 3: Encapsulate with an approved lead abatement encapsulant such as Safe Encasement® or equivalent and include into an Operation & Maintenance Plan with ongoing monitoring.
- Option 4: Remove coatings to bare substrate using Lead Safe Work Practices and re-coat with lead free coatings.

### **Stairway to 2<sup>nd</sup> Floor:**

Painted wood door components: In poor condition.

- Option 1: Remove door components to raw opening using Lead Safe Work Practices and replace with new lead free components.
- Option 2: Remove coatings to bare substrate using Lead Safe Work Practices and re-coat with lead free coatings.

Painted wood baseboards & skirt: In poor condition.

- Option 1: Remove components using Lead Safe Work Practices and replace with new lead free components.
- Option 2: Enclose components under a dust tight barrier and include into an Operation & Maintenance Plan with ongoing monitoring..
- Option 3: Encapsulate with an approved lead abatement encapsulant such as Safe Encasement® or equivalent and include into an Operation & Maintenance Plan with ongoing monitoring.
- Option 4: Remove coatings to bare substrate using Lead Safe Work Practices and re-coat with lead free coatings.

Painted wood stair treads & risers: In poor condition.

- Option 1: Remove stair treads using Lead Safe Work Practices and replace with lead free components.
- Option 2: Enclose under a dust tight barrier using Lead Safe Work Practices and include into an Operation & Maintenance Plan with ongoing monitoring.

- Option 3: Remove coatings to bare substrates using Lead Safe Work Practices and re-coat with lead free coatings.

## **2<sup>nd</sup> Floor Hall:**

Painted wood baseboards: In poor condition.

- Option 1: Remove baseboards using Lead Safe Work Practices and replace with new lead free components.
- Option 2: Enclose baseboards under a dust tight barrier and include into an Operation & Maintenance Plan with ongoing monitoring..
- Option 3: Encapsulate with an approved lead abatement encapsulant such as Safe Encasement® or equivalent and include into an Operation & Maintenance Plan with ongoing monitoring.
- Option 4: Remove coatings to bare substrate using Lead Safe Work Practices and re-coat with lead free coatings.

Painted drywall attic hatch: In intact condition.

- Option 1: Remove ceiling systems using Lead Safe Work Practices and replace with new lead free products.
- Option 2: Enclose under a dust tight barrier using Lead Safe Work Practices and include into an Operation & Maintenance Plan with ongoing monitoring.
- Option 3: Encapsulate with an approved lead abatement encapsulant such as Safe Encasement® or equivalent and include into an Operation & Maintenance Plan with ongoing monitoring.
- Option 4: Remove coatings to bare substrates using Lead Safe Work Practices and re-coat with lead free coatings.

## **Bathroom:**

Bathtub: In poor condition.

- Option 1: Remove tub using Lead Safe Work Practices and replace with new lead free products.
- Option 2: Enclose with a lead free tub surround and include into an Operation & Maintenance Plan with ongoing monitoring.

## **Bedroom 3:**

Painted wood baseboards: In intact condition.

- Option 1: Remove baseboards using Lead Safe Work Practices and replace with new lead free components.
- Option 2: Enclose baseboards under a dust tight barrier and include into an Operation & Maintenance Plan with ongoing monitoring..
- Option 3: Encapsulate with an approved lead abatement encapsulant such as Safe Encasement® or equivalent and include into an Operation & Maintenance Plan with ongoing monitoring.
- Option 4: Remove coatings to bare substrate using Lead Safe Work Practices and re-coat with lead free coatings.



Painted wood window components: In intact condition.

- Option 1: Remove window components to raw opening using Lead Safe Work Practices and replace with new lead free products
- Option 2: Remove coatings to bare substrates using Lead Safe Work Practices and re-coat with lead free coatings.

Painted wood closet door components: In intact condition.

- Option 1: Remove door components to raw opening using Lead Safe Work Practices and replace with new lead free components.
- Option 2: Remove coatings to bare substrate using Lead Safe Work Practices and re-coat with lead free coatings.

Painted wood closet shelf supports: In intact condition.

- Option 1: Remove components using Lead Safe Work Practices and replace with new lead free products.
- Option 2: Remove coatings to bare substrates using Lead Safe Work Practices and re-coat with lead free coatings.

#### **Bedroom 4:**

Painted wood baseboards: In poor condition.

- Option 1: Remove baseboards using Lead Safe Work Practices and replace with new lead free components.
- Option 2: Enclose baseboards under a dust tight barrier and include into an Operation & Maintenance Plan with ongoing monitoring..
- Option 3: Encapsulate with an approved lead abatement encapsulant such as Safe Encasement® or equivalent and include into an Operation & Maintenance Plan with ongoing monitoring.
- Option 4: Remove coatings to bare substrate using Lead Safe Work Practices and re-coat with lead free coatings.

Painted wood window components: In poor condition.

- Option 1: Remove window components to raw opening using Lead Safe Work Practices and replace with new lead free products
- Option 2: Remove coatings to bare substrates using Lead Safe Work Practices and re-coat with lead free coatings.

Painted wood closet door components: In poor condition.

- Option 1: Remove door components to raw opening using Lead Safe Work Practices and replace with new lead free components.
- Option 2: Remove coatings to bare substrate using Lead Safe Work Practices and re-coat with lead free coatings.

Painted wood closet shelf supports: In poor condition.

- Option 1: Remove components using Lead Safe Work Practices and replace with new lead free products.

- Option 2: Remove coatings to bare substrates using Lead Safe Work Practices and re-coat with lead free coatings.

Painted plaster closet ceiling: In intact condition.

- Option 1: Remove ceiling systems using Lead Safe Work Practices and replace with new lead free products.
- Option 2: Enclose under a dust tight barrier using Lead Safe Work Practices and include into an Operation & Maintenance Plan with ongoing monitoring.
- Option 3: Encapsulate with an approved lead abatement encapsulant such as Safe Encasement® or equivalent and include into an Operation & Maintenance Plan with ongoing monitoring.

**Exterior:**

Metal door casing (depth index indicates lead beneath the metal surfaces): In intact condition.

- Option 1: Include into an Operation & Maintenance Plan with ongoing monitoring. (The metal cladding is already an enclosure). Ensure that seams are maintained in a sealed condition with elastomeric caulk.
- Option 2: Remove metal cladding using Lead Safe Work Practices and replace with new lead free products.
- Option 3: Remove cladding & coatings to bare substrates using Lead Safe Work Practices and re-coat with lead free coatings.

Metal window cladding (depth index indicates lead beneath the metal surfaces): In intact condition.

- Option 1: Include into an Operation & Maintenance Plan with ongoing monitoring. (The metal cladding is already an enclosure). Ensure that seams are maintained in a sealed condition with elastomeric caulk.
- Option 2: Remove metal cladding using Lead Safe Work Practices and replace with new lead free products.
- Option 3: Remove cladding & coatings to bare substrates using Lead Safe Work Practices and re-coat with lead free coatings.

Metal soffits, & fascia & siding (depth index indicates lead beneath the metal surfaces): In intact condition.

- Option 1: Include into an Operation & Maintenance Plan with ongoing monitoring. (The metal cladding is already an enclosure). Ensure that seams are maintained in a sealed condition with elastomeric caulk.
- Option 2: Remove components to substrate using Lead Safe Work Practices and replace with new lead free products.
- Option 3: Remove coatings under cladding to bare substrate using Lead Safe Work Practices and re-coat with lead free coatings.

## **Lead Dust Hazards**

No lead dust wipes were collected as a part of this evaluation. It is assumed that lead dust is a hazard throughout the property and that dust levels within the complex above the Minnesota Department of Health, the Housing and Urban Development (HUD) and the Environmental Protection Agency (EPA) lead dust levels of 40 micrograms per square foot ( $\mu\text{g}/\text{ft}^2$ ) for a floor surface, 250  $\mu\text{g}/\text{ft}^2$  for a window sill (stool) surface, and 400  $\mu\text{g}/\text{ft}^2$  for a window well (trough) surface. All window systems and floors will be required to be cleaned with a good household cleaner and wet methods.

## **Lead in Bare Soil**

Bare soil was observed on the date of the site evaluation. No bare soil samples were collected as a part of this evaluation. If bare soil is present, it is assumed to be above the Minnesota Department of Health defined action level of 100 parts per million.

- Abatement Option 1: Removal of bare soil and replacement with new soil of 25 parts per million or less of lead.
- Abatement Option 2: Covering bare soil with asphalt, concrete or other impervious material.

When qualified contractors are performing the planned renovation/remodeling activities, precautions should be properly done to minimize the potential for lead-based paint contamination to the workers, occupants and the environment.

## **DISCUSSION**

The mere presence of lead does not constitute a lead hazard. However, lead was found in this property including painted wood interior door components; painted kitchen closet metal pipe; plaster walls & ceilings; stairway components; painted wood baseboards; bathtub; interior painted wood window components; closet shelf supports; painted wood porch ceiling & trim; beneath exterior metal window components; beneath metal siding, soffits & trim. Contractors performing work within this complex should have appropriate training for asbestos and lead-based paint hazards.

The preceding lead reduction recommendations include different ways to treat each lead hazard that was identified by the risk assessment/inspection. The most effective treatments are considered abatement and require little or no ongoing maintenance to preserve a lead safe environment. The less effective treatments are called interim controls and these treatments require an increased amount of ongoing maintenance to preserve a lead safe environment.

If no lead dust, soil, or lead-based paint is found, then no monitoring is required.

If no hazards are found, but lead-based paint is found, then reevaluation should occur every three years, and an owner's visual survey should occur annually.

If lead dust, soil, or lead-based paint hazards are found to be present, choosing the option with removal of all lead-based paint will result in no monitoring requirements. If abatement options are chosen that include enclosure, then no re-evaluation is required, but the owner should conduct visual surveys every year to ensure the enclosure has not failed. If the interim control options (stabilize and paint) are chosen, then re-evaluation should occur after the first year and then every two years after that. Visual surveys by the owner should occur annually.

If lead dust levels are found to be more than ten times the standard levels, then reevaluation after interim control measures should occur six months after the hazard reduction.

In general, all painted surfaces should be monitored. A negative result does not necessarily indicate that no lead is present in that surface, but rather indicates that any lead present in that surface does not rise above the 1.0 mg/cm<sup>2</sup> threshold in the areas tested. Therefore, all painted surfaces should be maintained in accordance with the Minnesota Department of Health standards.

**Rough Estimated costs:**

Window replacement: approximately \$500.00 and up, depending on style and type of replacement.

Work site preparation for interior, approximately \$75.00 to \$250.00 per room.

Exterior preparation approximately \$55.00 to \$100.00 per component (i.e., windows, doors), removal or enclosure.

Work area cleaning: \$0.25 to \$0.55 per square foot.

Paint stabilization: \$0.20 to \$0.65 per square foot.

**Encapsulant:**

Elastomeric encapsulant: \$1.00 to \$3.00 square foot.

Reinforced elastomeric: \$2.60 to \$3.50 square foot.

Fiberglass wall mat/ 2 step: \$2.00 to \$3.50 square foot.

Enclosure: Fur, hang, tape, refinish: \$1.50 to \$4.00 square foot.

Removal: Paint - chemical stripper: \$1.55 to \$4.25 square foot.

**Soil Remediation:**

Clean-up of visible exterior paint chips: \$1.00 to \$1.50 square foot.

Seed and tack grass: \$0.55 to \$0.95 square foot.

Sod: \$2.25 to \$4.30 square foot.

Regrade at foundation and sod: \$4.00 to \$6.00 square foot.

Mulch - 4": \$0.75 to \$1.25 square foot.  
Concrete: \$12.50 to \$16.00 square foot.  
Replace soil: \$55.00 to \$75.00 cubic yard.

If work is going to be performed on these surfaces, individuals and/or contractors should be informed of the results of testing. At a minimum, the person(s) performing the work should follow the requirements of the Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1926.62, Lead in the Construction Industry.

For the protection of the occupants and workers, and if federal funds are involved, you should use qualified firms who are knowledgeable about the hazards associated with lead and are certified/licensed to perform the work.

A copy of this lead inspection/risk assessment summary must be provided to purchasers or lessees (tenants) of this property under Federal Law (24 CFR Part 35 and 40 CFR part 745) before they become obligated under a lease or sales contract. The complete report must also be provided to new purchasers and it must be made available to new tenants. Landlords (lessors) and sellers are also required to distribute an educational pamphlet approved by the U.S. Environmental Protection Agency and include standard warning language in their leases or sales contracts to ensure that parents have the information they need to protect their children from lead-based paint hazards.

Please provide a copy of the survey information to the contractor(s) scheduled to perform the renovation of the complex.

It has been our pleasure to provide this service to you and your organization. If you have any questions, or need further information, please do not hesitate to contact me directly.

Respectfully,



Andrew Myers  
Environmental Project Manager



Greg Myers  
Environmental Services Director

**APPENDIX A**  
**INSPECTOR QUALIFICATIONS**

*Certificate No: 5LM07081307IR*

*Expiration Date: July 8, 2014*

*This is to certify that*  
**Greg A. Myers**  
*has attended and successfully completed an*  
**ASBESTOS INSPECTOR**  
**REFRESHER TRAINING COURSE**

*permitted by*  
*the State of Minnesota under Minnesota Rules 4620.3702 to 4620.3722*  
*and meets the requirements of*  
*Section 206 of Title II of the Toxic Substances Control Act (TSCA)*  
*conducted by*

**Lake States Environmental, Ltd.**

*in*  
**White Bear Lake, MN on July 8, 2013**  
**Examination Date: July 8, 2013**

*Lake States Environmental, Ltd*  
*P. O. Box 645, Rice Lake, WI 54868*  
*(800) 254-9811*

  
*Training Instructor*



ASBESTOS  
INSPECTOR

Certified by:  
State of Minnesota  
Department of Health

Expires: 07/08/2014

Greg A Myers  
19667 Salmonson River Rd  
Mora, MN 55051

*Freda S. Buschner*  
Director, Env. Health Div.

No. AI2289

Issued: 07/15/2013



# Minnesota Department of Health

has authorized

**Midwest Environmental Consulting, LLC**  
**125 Railroad Ave SW**  
**Mora, Minnesota 55051**

in accordance with Minnesota Statutes, section 144.9505 and Minnesota Rules, part 4761.2200,  
to practice in the State of Minnesota as a

## Certified Lead Firm

License No: LF551

Expires 04/07/2014

This certificate is nontransferable.

---

  
Linda B. Bruemmer, Director  
Division of Environmental Health



*Heidi S. Baumer*  
Director, Env. Health Div.



**LEAD  
Risk Assessor**

Licensed by:  
State of Minnesota  
Department of Health

**License No. LR284  
Expires 08/22/2014**

**Greg A Myers  
19667 Salmonson River Rd  
Mora, MN 55051**

**Greg A. Myers**

has completed the Minnesota-Approved Lead Training course entitled:

**Lead Risk Assessor Refresher Training**



**August 22, 2013**

given by

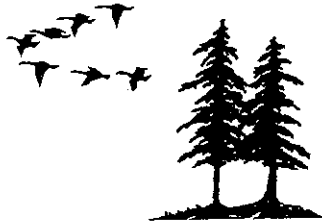
**Midwest Environmental Consulting, L.L.C.**  
125 Railroad Avenue SW, Mora MN 55051  
Phone: 763.691.0111

**SUCCESSFULLY PASSED THE EXAMINATION ON August 22, 2013, IN Coon Rapids, MINNESOTA**

IDENTIFICATION NUMBER: MEC/LRAR 1001  
Expiration Date: August 22, 2014  
MDH Permit Number: RAR-006

  
Course Director/Primary Instructor  


*Approved by the State of Minnesota under Minnesota Rules, parts 4761.2000 to 4761.2700.*





RA-0040

## Lead Risk Assessor Independent Examination

121 East Seventh Place, Suite 220 • St. Paul • Minnesota 55101 • (651) 215-0700

*This certifies that*

**Greg Myers**

*has successfully passed the required independent examination for:*

**Lead Risk Assessor**

October 25, 1999

St. Paul, Minnesota

*This certificate is nontransferable.*

A handwritten signature in cursive script, reading "Patricia A. Blongren".

Director, Division of Environmental Health  
Jan K. Malcolm, Commissioner



## Midwest Center for Occupational Health & Safety

*Program in Continuing Education - Occupational Health*

640 Jackson Street  
St. Paul, MN 55101  
(612) 221-3992  
LR-40

*This certifies that*

**Greg Myers**

*attended this continuing education course offered by Midwest Center for Occupational Health & Safety*

**Lead Risk Assessment**

**April 24 - 25, 1997**

**SUCCESSFULLY PASSED THE EXAMINATION ON APRIL 25, 1997 IN ST PAUL, MN.**

- 2.0 Maintenance of certification points from the American Board of Industrial Hygiene.
- Designed to meet the requirements of the Minnesota Board of Nursing for 19.2 (50 minute) contact hours.
- This course offers 1.6 Continuing Education Units (CEUs) from the Midwest Center for Occupational Health and Safety.

A 1989 ESH Sponsor of Occupational Research Center  
A National Institute of Environmental Health Sciences  
A US EPA Regional Lead Training Center  
A Lead Care (OSHA) Training & Assessment

*James F. Ague*  
Course Director

Revised this certificate for your records

THIS CERTIFIES THAT

**Greg Myers**

has completed the EPA Sponsored Lead Training course entitled  
**Lead Inspector Training**

February 2, 1994 to February 4, 1994  
given by the

**Midwest Center for  
Occupational Health & Safety**

Program in Continuing Education  
An EPA Regional Lead Training Center



Successfully passed the examination on February 4, 1994 in St Paul, MN  
© Designed to meet the requirements of the IRI Board of Marking for 25  
contact hours  
© 3.0 Maintenance of certification points from the American Board of  
Industrial Hygiene

© Andrew has been granted for 12 contact hours for continuing education by  
the IRI for registration as an Environmental Health Specialist/Qualifier  
© This course offers 2.4 Continuing Education Units (CEUs) from the Midwest  
Center for Occupational Health and Safety

LI-199  
Midwest Center for Occupational Health and Safety

**NITON**<sup>®</sup> corporation

## *Certificate of Achievement*

*This is to certify that*

GREG MYERS

*has successfully completed the Manufacturer's Training Course  
for the NITON XL Spectrum Analyzer*

*The two-day course covered radiation safety and monitoring,  
L x-ray measurement technology, and  
machine maintenance of the XL Lead-in-Paint Detector*

94855

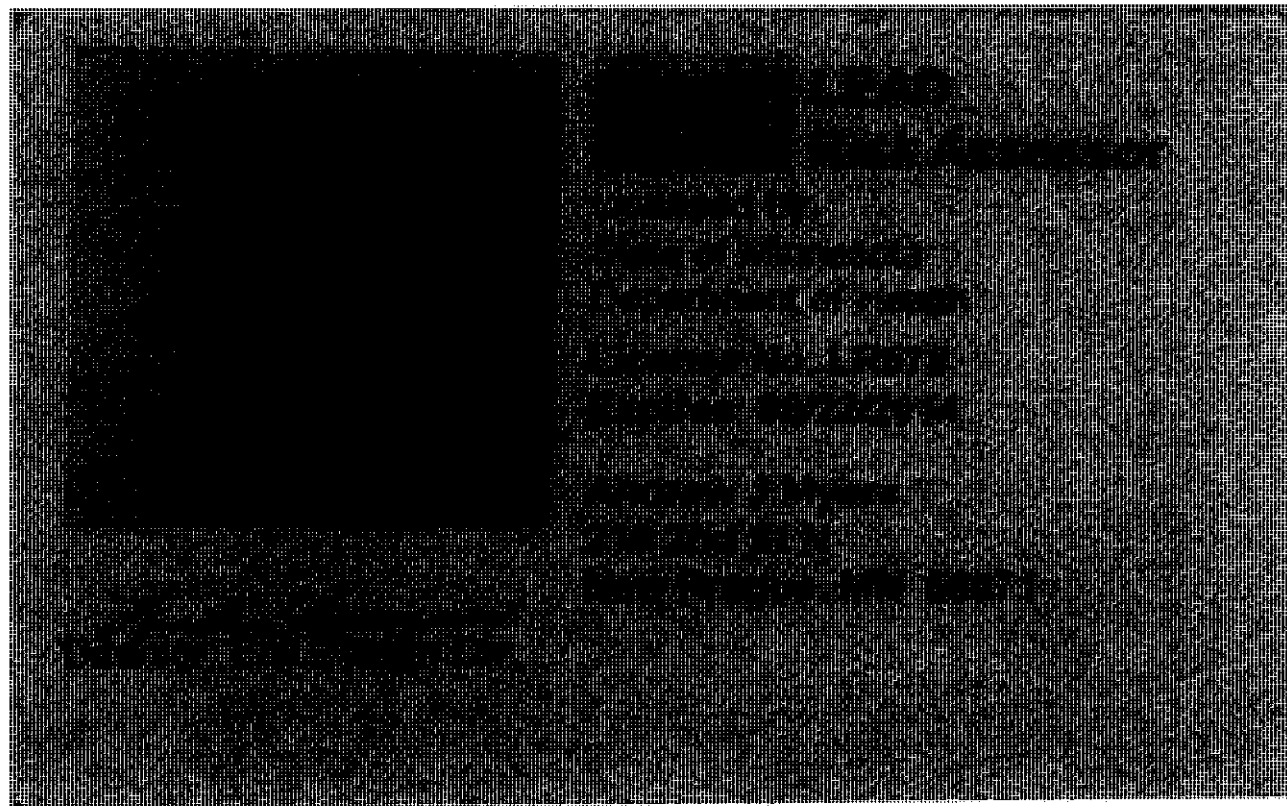
*Certificate Number*

June 15-16, 1995

*Course Date*

*Director of Training*

*Paul Row*  
President & CEO - NITON





**Andrew J. Myers**

has completed the Minnesota-Approved Lead Training course entitled:

**Lead Risk Assessor Refresher Training**

**August 22, 2013**

given by

**Midwest Environmental Consulting, L.L.C.**

125 Railroad Avenue SW, Mora MN 55051


Phone: 763.691.0111

**SUCCESSFULLY PASSED THE EXAMINATION ON August 22, 2013, IN Coon Rapids, MINNESOTA**

IDENTIFICATION NUMBER: MEC/LRAR 1002

Expiration Date: August 22, 2014

MDH Permit Number: RAR-006

  
Course Director/Primary Instructor



*Approved by the State of Minnesota under Minnesota Rules, parts 4761.2000 to 4761.2700.*





# Lead Inspector Independent Examination

I-0031

121 East Seventh Place, Suite 220 • St. Paul • Minnesota 55101 • (651) 215-0700

*This certifies that*

**Andrew Myers**

*has successfully passed the required independent examination for:*

**Lead Inspector**

March 22, 2001  
Morris, Minnesota

*This certificate is nontransferable.*

Jan K. Malcom  
Commissioner

---

Patricia A. Bloomgren, Director  
Division of Environmental Health



RA-0239

## Lead Risk Assessor Independent Examination

121 East Seventh Place, Suite 220 • St. Paul, Minnesota 55101 • (651) 215-0700

*This certifies that*

**Andrew Myers**

*has successfully passed the required independent examination for:*

**Lead Risk Assessor**

June 26, 2001

Minneapolis, Minnesota

*This certificate is nontransferable.*

Jan K. Malcom  
Commissioner

A handwritten signature in cursive script that reads "Patricia A. Bloomgren".

Patricia A. Bloomgren, Director  
Division of Environmental Health

**Andrew J. Myers**

has completed the Minnesota-Approved Lead Training Course entitled:

**Initial Lead Inspector Training**  
**March 12-14, 2001**

given by

**Midwest Environmental Consulting, LLC**  
145 - 2<sup>ND</sup> Avenue SE, Cambridge, MN 55008

**SUCCESSFULLY PASSED THE EXAMINATION ON MARCH 14, 2001, IN BOFORS, MINNESOTA**

**IDENTIFICATION NUMBER: DECALIT 0053**  
**Expiration Date: March 14, 2002**  
**MDOT Permit No: LI-003**

*Meg Anzick*  
Course Director

**Andrew J. Myers**

has completed the Minnesota-Approved Lead Training course entitled:

**Lead-Based Paint Risk Assessor Training**

**June 25-26, 2001**

given by

**Midwest Environmental Consulting, L.L.C.**  
145 - 2<sup>nd</sup> Avenue SE, Cambridge, MN 55008

• SUCCESSFULLY PASSED THE EXAMINATION ON JUNE 26, 2001, IN MINNEAPOLIS, MINNESOTA

IDENTIFICATION NUMBER: MEGLRA-0111  
Expiration Date: June 26, 2002  
MCH Form # RAI-002

*Chris Amyler*  
Course Director

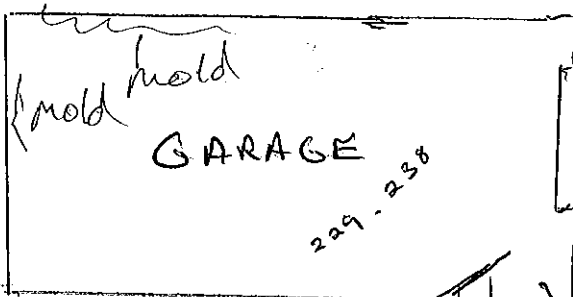


**APPENDIX B**

**XRF TEST RESULTS  
SAMPLING MAPS  
DATA PAGES  
CALIBRATION DATA**



ALLEY



Retaining wall  
walk  
in  
poor  
condition

AC

B21

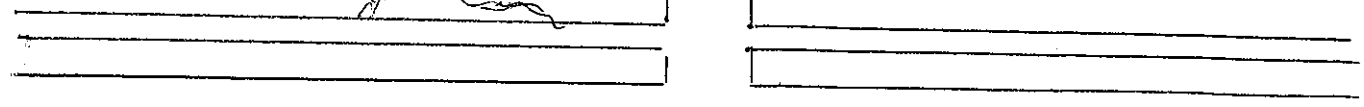
EXT  
199 - 228

B22

BARE  
SOIL

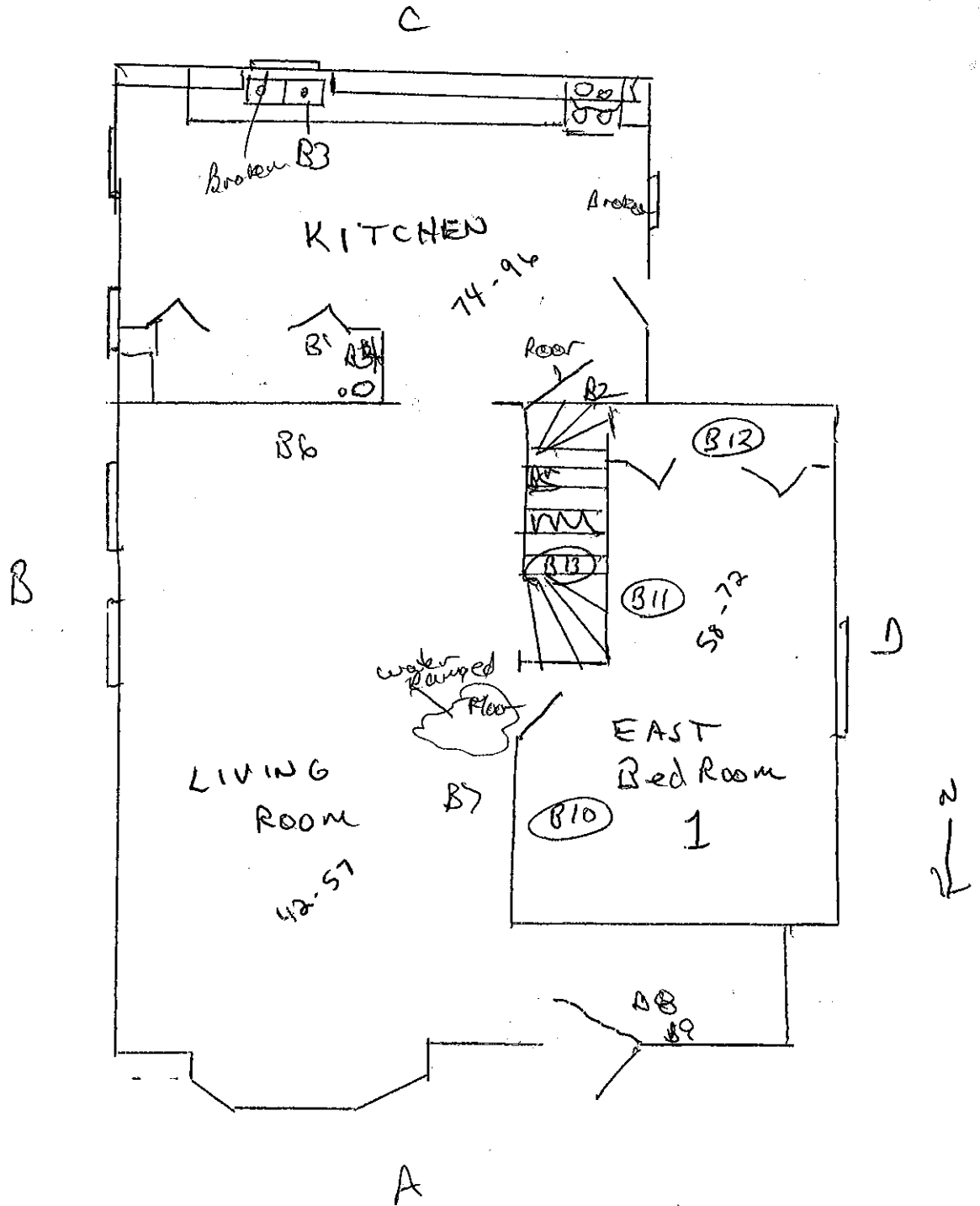
SITE PLAN  
1031 REANEY AVENUE  
ST. PAUL, MINNESOTA  
SKETCH NOT TO SCALE  
DRAWN BY: GREG MYERS  
MIDWEST ENVIRONMENTAL  
CONSULTING L.L.C  
DATE: SEPTEMBER 10, 2013

REANEY AVENUE



FIRST FLOOR  
1031 REANEY AVENUE  
ST. PAUL, MN  
SKETCH NOT TO SCALE

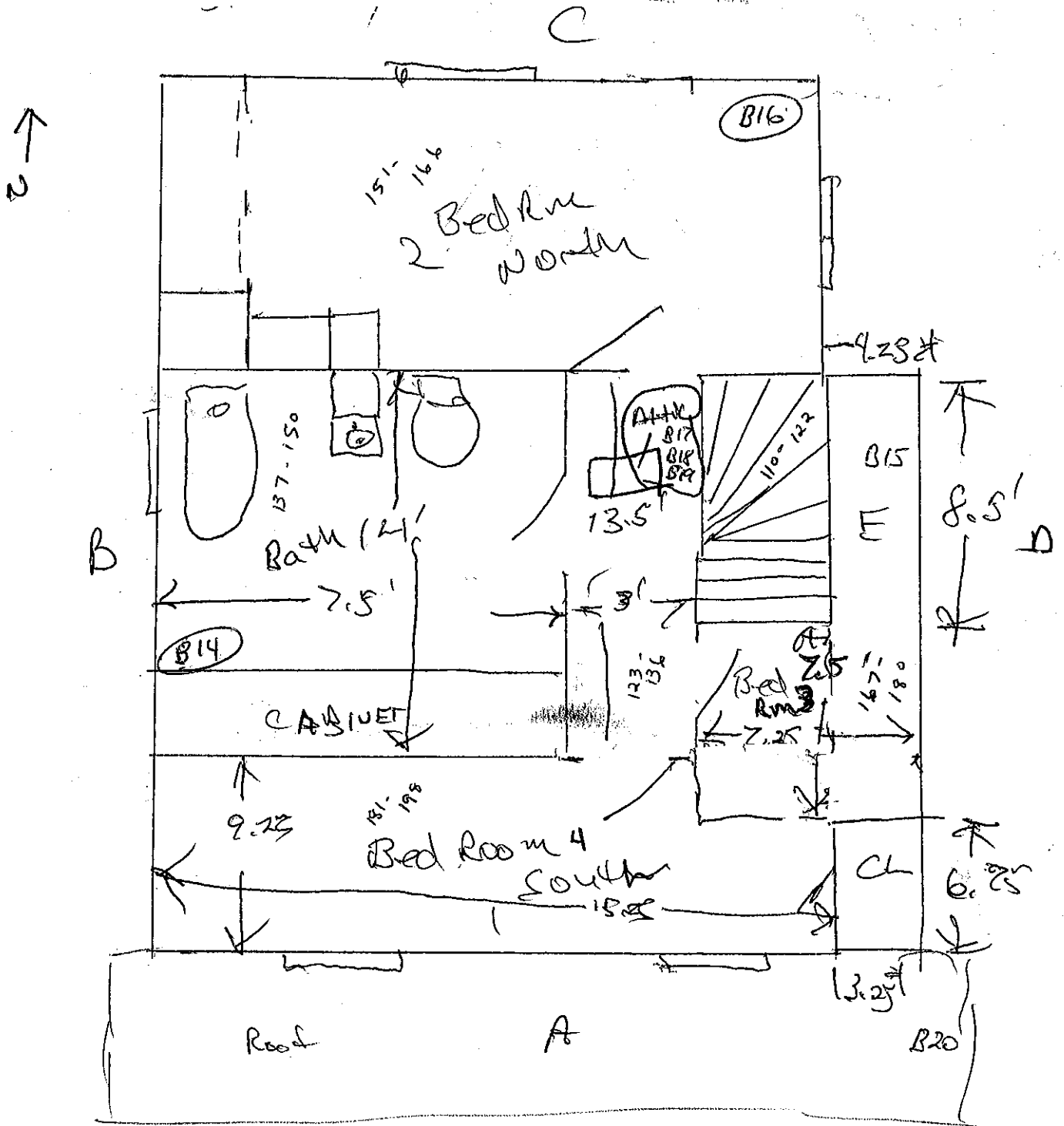
DRAWN BY: GREG MEARS  
MIDWEST ENVIRONMENTAL  
CONSULTING LLC  
DATE: SEPTEMBER 10, 2013





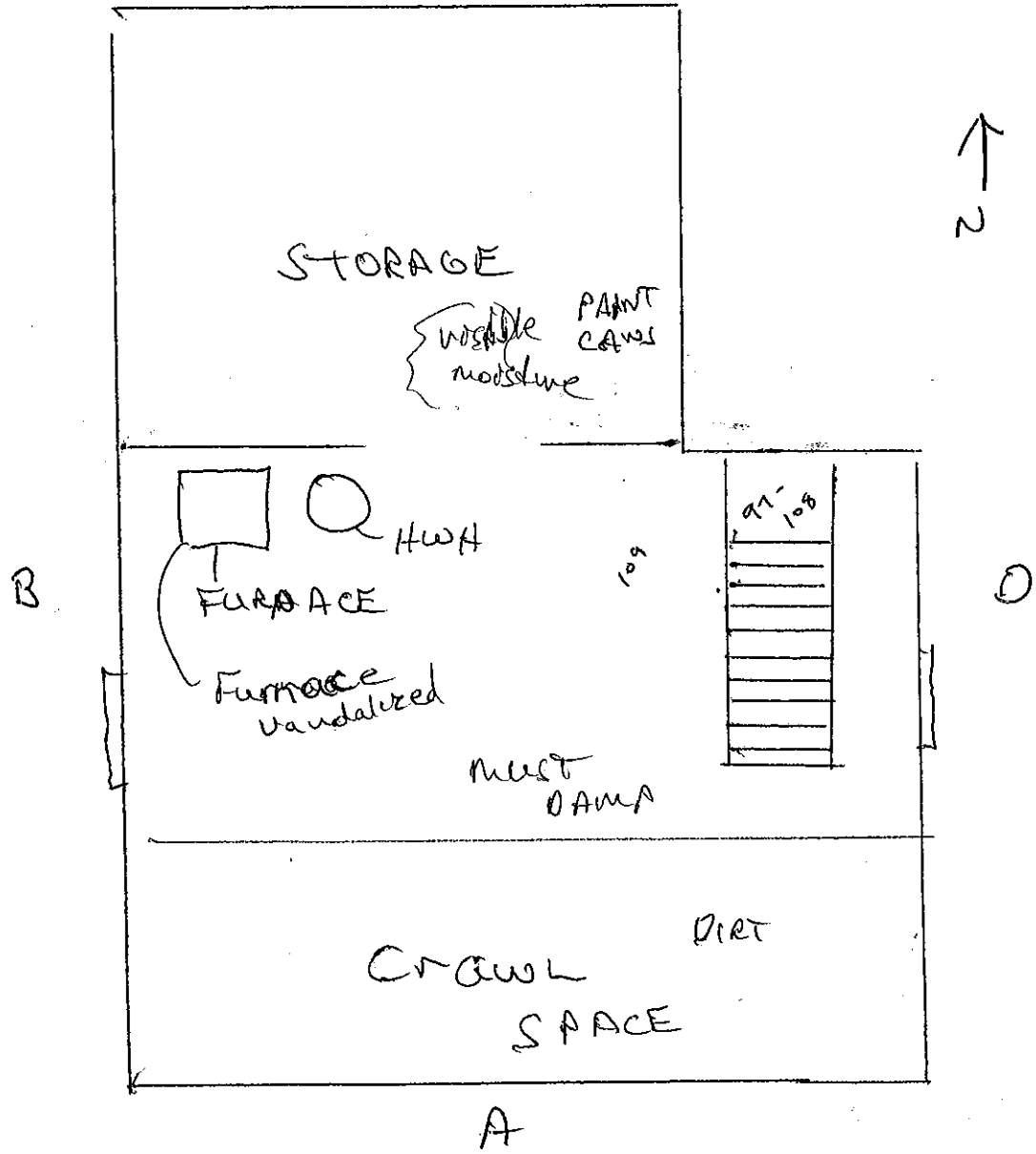
SECOND FLOOR  
 1031 REANEY AVENUE  
 ST. PAUL, MINNESOTA  
 SKETCH NOT TO SCALE

DRAWN BY: GREG MYERS  
 MIDWEST ENVIRONMENTAL  
 CONSULTING L.L.C  
 DATE: SEPTEMBER 10, 2013



BASEMENT LEVEL  
1031 REANEY AVENUE  
ST. PAUL, MINNESOTA  
C

SKETCH NOT TO SCALE  
DRAWN BY: GREG MYERS  
MIDWEST ENVIRONMENTAL  
CONSULTING LLC  
DATE: SEPTEMBER 10, 2013



St. Croix Environmental  
 1031 Reaney Avenue  
 St. Paul MN

Site: St. Croix Environmental - 1031 Reaney Ave., St. Paul MN																		
Date: Sept. 11, 2013																		
XRF: Xlp 303A, Serial # 26848																		
Site	XRF	Date/Time	Floor	Room	Rm.	Side	Component	Substrate	Condition	Color	Results	PbC	PbL	PbK	Duration	Depth	Insp.	
	36	9/11/2013 12:48											3.13	0.72	0	94.41		AM
1031 Reaney Ave	37	9/11/2013 12:50					calibrate				POS	1.1	1.1	< LOD	9.61	1.15	AM	
1031 Reaney Ave	38	9/11/2013 12:51					calibrate				POS	1	1	< LOD	20.8	1.08	AM	
1031 Reaney Ave	39	9/11/2013 12:51					calibrate				Null	1	1	< LOD	11.53	1.09	AM	
1031 Reaney Ave	40	9/11/2013 12:52					calibrate				POS	1	1	< LOD	19.98	1.09	AM	
1031 Reaney Ave	41	9/11/2013 12:53					calibrate				POS	1	1	0.7	26.26	1.08	AM	
1031 Reaney Ave	42	9/11/2013 12:54	1	LIVING ROOM		A	DOOR	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.28	1	AM	
1031 Reaney Ave	43	9/11/2013 12:57	1	LIVING ROOM		A	DOOR CASING	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.82	1	AM	
1031 Reaney Ave	44	9/11/2013 12:58	1	LIVING ROOM		A	BASEBOARD	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	6.85	1	AM	
1031 Reaney Ave	45	9/11/2013 13:06	1	LIVING ROOM		A	WINDOW CASING	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.28	1	AM	
1031 Reaney Ave	46	9/11/2013 13:07	1	LIVING ROOM		A	WINDOW SASH	VINYL	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	4.66	1	AM	
1031 Reaney Ave	47	9/11/2013 13:08	1	LIVING ROOM		C	DOOR CASING	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.28	3.34	AM	
1031 Reaney Ave	48	9/11/2013 13:09	1	LIVING ROOM		C	DOOR JAMB	WOOD	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.27	1	AM	
1031 Reaney Ave	49	9/11/2013 13:09	1	LIVING ROOM		D	DOOR JAMB	WOOD	INTACT	WHITE	POS	4.8	4.8	4.8	3.28	6.67	AM	
1031 Reaney Ave	50	9/11/2013 13:10	1	LIVING ROOM		B	WINDOW SILL	WOOD	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.29	1	AM	
1031 Reaney Ave	51	9/11/2013 13:10	1	LIVING ROOM		D	CROWN MOLD	WOOD	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.28	1	AM	
1031 Reaney Ave	52	9/11/2013 13:11	1	LIVING ROOM		D	CEILING PANEL	PANEL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	2.47	1	AM	
1031 Reaney Ave	53	9/11/2013 13:12	1	LIVING ROOM		A	WALL	DRYWALL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.55	1	AM	
1031 Reaney Ave	54	9/11/2013 13:12	1	LIVING ROOM		B	WALL	DRYWALL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	5.19	3.09	AM	
1031 Reaney Ave	55	9/11/2013 13:13	1	LIVING ROOM		C	WALL	DRYWALL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	13.95	1	AM	
1031 Reaney Ave	56	9/11/2013 13:13	1	LIVING ROOM		D	WALL	DRYWALL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.84	1	AM	
1031 Reaney Ave	57	9/11/2013 13:14	1	LIVING ROOM			FLOOR	CERAMIC	INTACT	WHITE	Neg	0.21	0.21	< LOD	3.28	2.16	AM	
1031 Reaney Ave	58	9/11/2013 13:15	1	BEDROOM 1		D	DOOR	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.29	1	AM	
1031 Reaney Ave	59	9/11/2013 13:16	1	BEDROOM 1		D	DOOR casing	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.29	1	AM	
1031 Reaney Ave	60	9/11/2013 13:16	1	BEDROOM 1		D	WINDOW casing	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.29	2.07	AM	
1031 Reaney Ave	61	9/11/2013 13:17	1	BEDROOM 1		A	WINDOW casing	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.29	1	AM	
1031 Reaney Ave	62	9/11/2013 13:17	1	BEDROOM 1		B	WINDOW casing	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.29	1	AM	
1031 Reaney Ave	63	9/11/2013 13:18	1	BEDROOM 1		C	WINDOW casing	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.82	1.76	AM	
1031 Reaney Ave	64	9/11/2013 13:18	1	BEDROOM 1		D	WINDOW casing	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.3	3.84	AM	
1031 Reaney Ave	65	9/11/2013 13:19	1	BEDROOM 1		C	CLOSET dr	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.29	1	AM	
1031 Reaney Ave	66	9/11/2013 13:19	1	BEDROOM 1		C	Clst Dr Casing	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.29	1	AM	
1031 Reaney Ave	67	9/11/2013 13:20	1	BEDROOM 1		C	CLOSET shelf	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.01	1	AM	
1031 Reaney Ave	68	9/11/2013 13:21	1	BEDROOM 1		C	CLOSET wall	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.56	1.43	AM	
1031 Reaney Ave	69	9/11/2013 13:21	1	BEDROOM 1		C	FLOOR vent	METAL	INTACT	WHITE	Neg	0.1	0.1	< LOD	3.27	2.03	AM	
1031 Reaney Ave	70	9/11/2013 13:22	1	BEDROOM 1		C	drop ceiling	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.83	2.61	AM	
1031 Reaney Ave	71	9/11/2013 13:22	1	BEDROOM 1		C	drop ceiling		INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.01	1	AM	

St. Croix Environmental  
 1031 Reaney Avenue  
 St. Paul MN

Site	REF	Date/Time	Floor	Room	Rm	Side	Component	Substrate	Condition	Color	Results	PbC	PbL	PbK	Duration	Depth	Insp
1031 Reaney Ave	72	9/11/2013 13:23	1	BEDROOM 1		C	WALL vent	METAL	POOR	GREEN	Neg	< LOD	< LOD	< LOD	3.28	1	AM
1031 Reaney Ave	73	9/11/2013 13:24	1	KITCHEN		C	DOOR casing	WOOD	INTACT	WHITE	Neg	0.7	0.4	0.7	23.24	10	AM
1031 Reaney Ave	74	9/11/2013 13:25	1	KITCHEN		C	DOOR casing	WOOD	INTACT	WHITE	POS	2.4	< LOD	2.4	5.47	10	AM
1031 Reaney Ave	75	9/11/2013 13:25	1	KITCHEN		C	DOOR jamb	WOOD	INTACT	WHITE	POS	2	< LOD	2	5.48	10	AM
1031 Reaney Ave	76	9/11/2013 13:26	1	KITCHEN		A	DOOR	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.28	1	AM
1031 Reaney Ave	77	9/11/2013 13:26	1	KITCHEN		A	DOOR casing	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.31	1	AM
1031 Reaney Ave	78	9/11/2013 13:27	1	KITCHEN		B	WINDOW casing	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.28	1	AM
1031 Reaney Ave	79	9/11/2013 13:27	1	KITCHEN		C	CABINET	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.29	1	AM
1031 Reaney Ave	80	9/11/2013 13:28	1	KITCHEN		D	DOOR casing	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.29	1	AM
1031 Reaney Ave	81	9/11/2013 13:28	1	KITCHEN		D	DOOR	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.3	1	AM
1031 Reaney Ave	82	9/11/2013 13:28	1	KITCHEN		C	WINDOW casing	WOOD	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.01	1.61	AM
1031 Reaney Ave	83	9/11/2013 13:29	1	KITCHEN		C	WINDOW casing	WOOD	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.29	2.79	AM
1031 Reaney Ave	84	9/11/2013 13:29	1	KITCHEN		A	CLOSET dr	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.55	1	AM
1031 Reaney Ave	85	9/11/2013 13:30	1	KITCHEN		A	C1st Shelf Support	WOOD	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.27	3.43	AM
1031 Reaney Ave	86	9/11/2013 13:31	1	KITCHEN		A	CLOSET pipe	METAL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	3.3	2.15	AM
1031 Reaney Ave	87	9/11/2013 13:31	1	KITCHEN		A	CLOSET pipe	METAL	POOR	WHITE	POS	24	33	24	3.28	3.24	AM
1031 Reaney Ave	88	9/11/2013 13:31	1	KITCHEN		A	CLOSET wall	DRYWALL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.56	1	AM
1031 Reaney Ave	89	9/11/2013 13:32	1	KITCHEN		A	WALL	DRYWALL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.3	1.13	AM
1031 Reaney Ave	90	9/11/2013 13:32	1	KITCHEN		B	WALL	DRYWALL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.29	1	AM
1031 Reaney Ave	91	9/11/2013 13:33	1	KITCHEN		C	WALL	DRYWALL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	4.65	1	AM
1031 Reaney Ave	92	9/11/2013 13:33	1	KITCHEN		D	WALL	DRYWALL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.3	1.85	AM
1031 Reaney Ave	93	9/11/2013 13:33	1	KITCHEN			CEILING	DRYWALL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.83	1	AM
1031 Reaney Ave	94	9/11/2013 13:34	1	KITCHEN		A	BASEBOARD	vinyl	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.28	7.13	AM
1031 Reaney Ave	95	9/11/2013 13:34	1	KITCHEN			FLOOR	vinyl	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	5.47	1	AM
1031 Reaney Ave	96	9/11/2013 13:35	1	KITCHEN		A	FLOOR vent	METAL	POOR	BROWN	Neg	< LOD	< LOD	< LOD	5.23	6.21	AM
1031 Reaney Ave	97	9/11/2013 13:36	0	STAIR		C	DOOR	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.29	1	AM
1031 Reaney Ave	98	9/11/2013 13:36	0	STAIR		C	DOOR casing	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.27	1	AM
1031 Reaney Ave	99	9/11/2013 13:37	0	STAIR		B	rail	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.27	1	AM
1031 Reaney Ave	100	9/11/2013 13:37	0	STAIR		B	shelf support	WOOD	POOR	WHITE	POS	7.4	5.8	7.4	4.38	2.75	AM
1031 Reaney Ave	101	9/11/2013 13:38	0	STAIR		B	shelf support	WOOD	POOR	WHITE	POS	9.7	5.7	9.7	2.74	2.66	AM
1031 Reaney Ave	102	9/11/2013 13:38	0	STAIR		B	shelf support	WOOD	POOR	WHITE	POS	8.4	5.3	8.4	2.46	2.51	AM
1031 Reaney Ave	103	9/11/2013 13:38	0	STAIR		D	skirt	WOOD	POOR	WHITE	POS	12.5	6	12.5	2.74	3.25	AM
1031 Reaney Ave	104	9/11/2013 13:39	0	STAIR		D	skirt ledge	WOOD	POOR	WHITE	POS	13.5	5.3	13.5	2.73	3.57	AM
1031 Reaney Ave	105	9/11/2013 13:39	0	STAIR		A	WALL	PLASTER	POOR	WHITE	POS	18.9	10.1	18.9	2.74	3.6	AM
1031 Reaney Ave	106	9/11/2013 13:39	0	STAIR		B	WALL	PLASTER	POOR	WHITE	POS	20.8	10.1	20.8	2.75	3.16	AM
1031 Reaney Ave	107	9/11/2013 13:39	0	STAIR		D	WALL	PLASTER	POOR	WHITE	POS	18.3	10.1	18.3	2.74	3.41	AM
1031 Reaney Ave	108	9/11/2013 13:40	0	STAIR			CEILING	PLASTER	POOR	WHITE	POS	18.1	10.1	18.1	2.74	3.83	AM
1031 Reaney Ave	109	9/11/2013 13:41	0	basement		B	WINDOW	PLASTER	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.5	4.33	AM
1031 Reaney Ave	110	9/11/2013 13:42	2	STAIR		B	DOOR casing	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	1.91	1	AM
1031 Reaney Ave	111	9/11/2013 13:42	2	STAIR		B	DOOR jamb	WOOD	POOR	WHITE	POS	13.5	10.1	13.5	3.28	8.32	AM

St. Croix Environmental  
 1031 Reaney Avenue  
 St. Paul MN

Site	XRF	Date/Time	Floor	Room	Rm	Side	Component	Substrate	Condition	Color	Result	PDC	PbC	PbX	Duration	Depth	Insp
1031 Reaney Ave	112	9/11/2013 13:43	2	STAIR		B	BASEBOARD	WOOD	POOR	WHITE	POS	15.7	8.4	15.7	3.02	6.31	AM
1031 Reaney Ave	113	9/11/2013 13:43	2	STAIR		B	skirt	WOOD	POOR	WHITE	POS	13	7.5	13	2.72	7.31	AM
1031 Reaney Ave	114	9/11/2013 13:43	2	STAIR		C	TREAD	WOOD	POOR	WHITE	POS	4.3	4.3	<LOD	1.09	3.94	AM
1031 Reaney Ave	115	9/11/2013 13:44	2	STAIR		C	RISER	WOOD	POOR	WHITE	POS	14.8	10.1	14.8	2.74	8.65	AM
1031 Reaney Ave	116	9/11/2013 13:44	2	STAIR		D	rail	WOOD	POOR	Varnish	Neg	<LOD	<LOD	<LOD	3.28	1.22	AM
1031 Reaney Ave	117	9/11/2013 13:45	2	STAIR		A	WALL	DRYWALL	POOR	WHITE	Neg	<LOD	<LOD	<LOD	3.56	1	AM
1031 Reaney Ave	118	9/11/2013 13:45	2	STAIR		A	WALL	DRYWALL	POOR	WHITE	Neg	<LOD	<LOD	<LOD	4.93	1.39	AM
1031 Reaney Ave	119	9/11/2013 13:45	2	STAIR		B	WALL	DRYWALL	POOR	WHITE	Neg	<LOD	<LOD	<LOD	4.11	1	AM
1031 Reaney Ave	120	9/11/2013 13:46	2	STAIR		C	WALL	DRYWALL	POOR	WHITE	Neg	<LOD	<LOD	<LOD	5.46	2.02	AM
1031 Reaney Ave	121	9/11/2013 13:46	2	STAIR		D	WALL	DRYWALL	POOR	WHITE	Neg	<LOD	<LOD	<LOD	4.12	3.86	AM
1031 Reaney Ave	122	9/11/2013 13:46	2	STAIR		B	rail cap	WOOD	POOR	WHITE	Neg	<LOD	<LOD	<LOD	3.3	5.7	AM
1031 Reaney Ave	123	9/11/2013 13:47	2	HALL		A	DOOR casing	WOOD	POOR	WHITE	Neg	<LOD	<LOD	<LOD	3.02	3.29	AM
1031 Reaney Ave	124	9/11/2013 13:48	2	HALL		C	DOOR casing	WOOD	POOR	WHITE	Neg	<LOD	<LOD	<LOD	3.28	1	AM
1031 Reaney Ave	125	9/11/2013 13:48	2	HALL		B	BASEBOARD	WOOD	POOR	WHITE	POS	16.9	6.2	16.9	2.47	10	AM
1031 Reaney Ave	126	9/11/2013 13:49	2	HALL		B	DOOR	WOOD	INTACT	Varnish	Neg	<LOD	<LOD	<LOD	3.28	1	AM
1031 Reaney Ave	127	9/11/2013 13:50	2	HALL		B	FLOOR VENT	METAL	POOR	BROWN	Neg	<LOD	<LOD	<LOD	3.3	1	AM
1031 Reaney Ave	128	9/11/2013 13:50	2	HALL		A	WALL	DRYWALL	INTACT	BLUE	Neg	<LOD	<LOD	<LOD	5.46	1	AM
1031 Reaney Ave	129	9/11/2013 13:51	2	HALL		B	WALL	DRYWALL	INTACT	BLUE	Neg	<LOD	<LOD	<LOD	3.27	1	AM
1031 Reaney Ave	130	9/11/2013 13:51	2	HALL		C	WALL	DRYWALL	INTACT	BLUE	Neg	<LOD	<LOD	<LOD	6.02	1.35	AM
1031 Reaney Ave	131	9/11/2013 13:51	2	HALL		D	WALL	DRYWALL	INTACT	BLUE	Neg	<LOD	<LOD	<LOD	3.57	3.51	AM
1031 Reaney Ave	132	9/11/2013 13:52	2	HALL		D	WALL	DRYWALL	INTACT	BLUE	Neg	<LOD	<LOD	<LOD	4.66	5.39	AM
1031 Reaney Ave	133	9/11/2013 13:52	2	HALL			CEILING	DRYWALL	INTACT	WHITE	Neg	<LOD	<LOD	<LOD	4.92	1	AM
1031 Reaney Ave	134	9/11/2013 13:53	2	HALL		D	ATTIC HATCH	DRYWALL	INTACT	WHITE	POS	8.4	5.8	8.4	3.02	5.54	AM
1031 Reaney Ave	135	9/11/2013 13:53	2	HALL		D	ATTIC HATCH	DRYWALL	INTACT	WHITE	POS	4.3	4.3	4.5	2.47	7.31	AM
1031 Reaney Ave	136	9/11/2013 13:53	2	HALL		C	MOLDING	WOOD	INTACT	WHITE	Neg	<LOD	<LOD	<LOD	3.02	1	AM
1031 Reaney Ave	137	9/11/2013 13:54	2	BATHROOM		D	DOOR	WOOD	INTACT	Varnish	Neg	<LOD	<LOD	<LOD	3.29	1	AM
1031 Reaney Ave	138	9/11/2013 13:55	2	BATHROOM		D	DOOR CASING	WOOD	INTACT	Varnish	Neg	<LOD	<LOD	<LOD	3.55	1	AM
1031 Reaney Ave	139	9/11/2013 13:55	2	BATHROOM		D	BASEBOARD	WOOD	INTACT	Varnish	Neg	<LOD	<LOD	<LOD	3.29	1	AM
1031 Reaney Ave	140	9/11/2013 13:55	2	BATHROOM		A	CABINET	WOOD	INTACT	Varnish	Neg	<LOD	<LOD	<LOD	3.29	1	AM
1031 Reaney Ave	141	9/11/2013 13:56	2	BATHROOM		C	CABINET	WOOD	INTACT	Varnish	Neg	<LOD	<LOD	<LOD	5.22	1	AM
1031 Reaney Ave	142	9/11/2013 13:56	2	BATHROOM		C	CABINET	WOOD	INTACT	Varnish	Neg	<LOD	<LOD	<LOD	3.27	1	AM
1031 Reaney Ave	143	9/11/2013 13:56	2	BATHROOM		B	WINDOW CASING	WOOD	INTACT	Varnish	Neg	<LOD	<LOD	<LOD	3.28	1	AM
1031 Reaney Ave	144	9/11/2013 13:57	2	BATHROOM		B	TUB	METAL	POOR	WHITE	POS	34.5	5.4	34.5	1.92	2.49	AM
1031 Reaney Ave	145	9/11/2013 13:57	2	BATHROOM			FLOOR	VINYL	INTACT	WHITE	Neg	<LOD	<LOD	<LOD	3.55	5.53	AM
1031 Reaney Ave	146	9/11/2013 13:58	2	BATHROOM		A	WALL	DRYWALL	INTACT	WHITE	Neg	<LOD	<LOD	<LOD	4.93	1	AM
1031 Reaney Ave	147	9/11/2013 13:58	2	BATHROOM		B	WALL	DRYWALL	INTACT	WHITE	Neg	<LOD	<LOD	<LOD	4.12	1	AM
1031 Reaney Ave	148	9/11/2013 13:58	2	BATHROOM		C	WALL	DRYWALL	INTACT	WHITE	Neg	<LOD	<LOD	<LOD	4.08	1	AM
1031 Reaney Ave	149	9/11/2013 13:58	2	BATHROOM		D	WALL	DRYWALL	INTACT	WHITE	Neg	<LOD	<LOD	<LOD	2.74	1	AM
1031 Reaney Ave	150	9/11/2013 13:59	2	BATHROOM			CEILING	DRYWALL	INTACT	WHITE	Neg	<LOD	<LOD	<LOD	2.18	1	AM
1031 Reaney Ave	151	9/11/2013 14:01	2	BEDROOM 2		A	DOOR	WOOD	INTACT	Varnish	Neg	<LOD	<LOD	<LOD	3.29	1.45	AM

St. Croix Environmental  
 1031 Reaney Avenue  
 St. Paul MN

Site	QRF	Date/Time	Floor	Room	Rm#	Side	Component	Substrate	Condition	Color	Result	PbC	Pb	PbK	Duration	Depth	Asp
1031 Reaney Ave	152	9/11/2013 14:01	2	BEDROOM 2		A	DOOR casing	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.02	1.24	AM
1031 Reaney Ave	153	9/11/2013 14:02	2	BEDROOM 2		A	BASEBOARD	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.82	7.7	AM
1031 Reaney Ave	154	9/11/2013 14:02	2	BEDROOM 2		B	Clst Dr Casing	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.28	1	AM
1031 Reaney Ave	155	9/11/2013 14:03	2	BEDROOM 2		B	CLOSET shelf	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.28	4.51	AM
1031 Reaney Ave	156	9/11/2013 14:03	2	BEDROOM 2		B	CLOSET wall	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.28	1	AM
1031 Reaney Ave	157	9/11/2013 14:03	2	BEDROOM 2		A	WALL	WOOD	INTACT	Varnish	Neg	0.5	0.5	1.4	3.27	4.47	AM
1031 Reaney Ave	158	9/11/2013 14:04	2	BEDROOM 2		B	WALL	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.27	1	AM
1031 Reaney Ave	159	9/11/2013 14:04	2	BEDROOM 2		C	WALL	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.29	2.35	AM
1031 Reaney Ave	160	9/11/2013 14:04	2	BEDROOM 2		D	WALL	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.29	1	AM
1031 Reaney Ave	161	9/11/2013 14:05	2	BEDROOM 2		D	WINDOW casing	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.56	1	AM
1031 Reaney Ave	162	9/11/2013 14:05	2	BEDROOM 2		D	WINDOW sash	vinyl	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.3	1	AM
1031 Reaney Ave	163	9/11/2013 14:06	2	BEDROOM 2			FLOOR	vinyl	INTACT	YELLOW	Neg	< LOD	< LOD	< LOD	4.65	1.19	AM
1031 Reaney Ave	164	9/11/2013 14:06	2	BEDROOM 2		B	crown mold	WOOD	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.29	1.23	AM
1031 Reaney Ave	165	9/11/2013 14:07	2	BEDROOM 2			CEILING		INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.3	1	AM
1031 Reaney Ave	166	9/11/2013 14:07	2	BEDROOM 2		A	vent	METAL	INTACT	BROWN	Neg	< LOD	< LOD	< LOD	3.31	1	AM
1031 Reaney Ave	167	9/11/2013 14:08	2	BEDROOM 3		C	vent	METAL	POOR	BROWN	Neg	< LOD	< LOD	< LOD	1.1	1	AM
1031 Reaney Ave	168	9/11/2013 14:09	2	BEDROOM 3		B	DOOR	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.28	2.77	AM
1031 Reaney Ave	169	9/11/2013 14:09	2	BEDROOM 3		B	DOOR casing	WOOD	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.3	1	AM
1031 Reaney Ave	170	9/11/2013 14:09	2	BEDROOM 3		B	BASEBOARD	WOOD	INTACT	WHITE	POS	24.8	8.3	24.8	3.01	10	AM
1031 Reaney Ave	171	9/11/2013 14:10	2	BEDROOM 3		D	WINDOW casing	WOOD	INTACT	WHITE	POS	22.9	9.5	22.9	2.73	9.68	AM
1031 Reaney Ave	172	9/11/2013 14:10	2	BEDROOM 3		C	Clst Dr Casing	WOOD	INTACT	WHITE	POS	26.8	< LOD	26.8	2.74	8.9	AM
1031 Reaney Ave	173	9/11/2013 14:11	2	BEDROOM 3		C	CLOSET shelf	WOOD	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.28	1.53	AM
1031 Reaney Ave	174	9/11/2013 14:11	2	BEDROOM 3		C	Clst Shelf Support	WOOD	INTACT	WHITE	POS	23.5	< LOD	23.5	2.46	2.99	AM
1031 Reaney Ave	175	9/11/2013 14:12	2	BEDROOM 3		C	CLOSET wall	PLASTER	INTACT	PINK	Neg	< LOD	< LOD	< LOD	5.47	2.38	AM
1031 Reaney Ave	176	9/11/2013 14:12	2	BEDROOM 3		A	WALL	PLASTER	INTACT	PINK	Neg	< LOD	< LOD	< LOD	4.13	3.44	AM
1031 Reaney Ave	177	9/11/2013 14:12	2	BEDROOM 3		B	WALL	PLASTER	INTACT	PINK	Neg	< LOD	< LOD	< LOD	5.48	5.02	AM
1031 Reaney Ave	178	9/11/2013 14:13	2	BEDROOM 3		C	WALL	PLASTER	INTACT	PINK	Neg	< LOD	< LOD	< LOD	5.5	1	AM
1031 Reaney Ave	179	9/11/2013 14:13	2	BEDROOM 3		D	WALL	PLASTER	INTACT	PINK	Neg	< LOD	< LOD	< LOD	5.48	1	AM
1031 Reaney Ave	180	9/11/2013 14:14	2	BEDROOM 3			CEILING	PLASTER	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	4.38	1	AM
1031 Reaney Ave	181	9/11/2013 14:14	2	BEDROOM 4			CEILING	PLASTER	FAIR	WHITE	Neg	< LOD	< LOD	< LOD	4.93	3.13	AM
1031 Reaney Ave	182	9/11/2013 14:15	2	BEDROOM 4		D	DOOR	WOOD	INTACT	Varnish	Neg	< LOD	< LOD	< LOD	3.29	1	AM
1031 Reaney Ave	183	9/11/2013 14:16	2	BEDROOM 4		D	DOOR casing	WOOD	INTACT	WHITE	Null	< LOD	< LOD	< LOD	0.28	1	AM
1031 Reaney Ave	184	9/11/2013 14:16	2	BEDROOM 4		D	DOOR casing	WOOD	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.03	1	AM
1031 Reaney Ave	185	9/11/2013 14:16	2	BEDROOM 4		D	BASEBOARD	WOOD	POOR	WHITE	POS	25.9	9.3	25.9	2.73	6.96	AM
1031 Reaney Ave	186	9/11/2013 14:17	2	BEDROOM 4		A	WINDOW CASING	WOOD	POOR	WHITE	POS	22.8	10.1	22.8	2.74	10	AM
1031 Reaney Ave	187	9/11/2013 14:17	2	BEDROOM 4		D	CLOSET DR	WOOD	POOR	WHITE	POS	20.3	10.1	20.3	3.02	9.57	AM
1031 Reaney Ave	188	9/11/2013 14:17	2	BEDROOM 4		D	Clst Dr Casing	WOOD	POOR	WHITE	POS	20.8	10.1	20.8	3.03	7.54	AM
1031 Reaney Ave	189	9/11/2013 14:18	2	BEDROOM 4		D	CLOSET SHELF	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	3.3	1	AM
1031 Reaney Ave	190	9/11/2013 14:18	2	BEDROOM 4		D	Clst Shelf Support	WOOD	POOR	WHITE	POS	6.7	6.5	6.7	1.93	4.07	AM
1031 Reaney Ave	191	9/11/2013 14:18	2	BEDROOM 4		D	Clst Shelf Support	WOOD	POOR	WHITE	POS	7.2	6.6	7.2	2.73	3.79	AM

St. Croix Environmental  
 1031 Reaney Avenue  
 St. Paul MN

Site	XRF #	Date/Time	Floor	Room	Rm #	Side	Component	Substrate	Condition	Color	Results	PbC	PbI	PbK	Duration	Depth	Insp.
1031 Reaney Ave	192	9/11/2013 14:19	2	BEDROOM 4		D	Clst Shelf Support	WOOD	POOR	WHITE	POS	20.9	10.1	20.9	5.2	5.56	AM
1031 Reaney Ave	193	9/11/2013 14:19	2	BEDROOM 4		D	CLOSET WALL	PLASTER	INTACT	BLUE	POS	3.2	3.2	3.9	3.01	4.02	AM
1031 Reaney Ave	194	9/11/2013 14:19	2	BEDROOM 4		A	WALL	PLASTER	INTACT	BLUE	Neg	< LOD	< LOD	< LOD	4.11	4.63	AM
1031 Reaney Ave	195	9/11/2013 14:20	2	BEDROOM 4		B	WALL	PLASTER	INTACT	BLUE	Neg	< LOD	< LOD	< LOD	4.1	4.18	AM
1031 Reaney Ave	196	9/11/2013 14:20	2	BEDROOM 4		C	WALL	PLASTER	INTACT	BLUE	Neg	< LOD	< LOD	< LOD	4.92	2.78	AM
1031 Reaney Ave	197	9/11/2013 14:20	2	BEDROOM 4		D	WALL	PLASTER	INTACT	BLUE	Neg	< LOD	< LOD	< LOD	4.64	3.91	AM
1031 Reaney Ave	198	9/11/2013 14:21	2	BEDROOM 4		C	VENT	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.27	1.4	AM
1031 Reaney Ave	199	9/11/2013 14:22		OUTSIDE		A	DOOR	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.28	3.37	AM
1031 Reaney Ave	200	9/11/2013 14:22		OUTSIDE		A	DOOR	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.29	1	AM
1031 Reaney Ave	201	9/11/2013 14:23		OUTSIDE		A	DOOR CASING	METAL	INTACT	BLUE	POS	4.8	< LOD	4.8	3.56	10	AM
1031 Reaney Ave	202	9/11/2013 14:23		OUTSIDE		A	DOOR JAMB	WOOD	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.3	1	AM
1031 Reaney Ave	203	9/11/2013 14:24		OUTSIDE		A	PORCH CEILING	WOOD	POOR	BLUE	POS	22	7.3	22	2.74	5.26	AM
1031 Reaney Ave	204	9/11/2013 14:24		OUTSIDE		A	PORCH TRIM	WOOD	POOR	BLUE	POS	29.1	4.4	29.1	4.65	4.38	AM
1031 Reaney Ave	205	9/11/2013 14:26		OUTSIDE		A	WINDOW CASING	METAL	INTACT	WHITE	Neg	0.7	0.4	0.7	30.64	10	AM
1031 Reaney Ave	206	9/11/2013 14:26		OUTSIDE		A	WINDOW CASING	METAL	INTACT	WHITE	Null	< LOD	< LOD	< LOD	1.09	10	AM
1031 Reaney Ave	207	9/11/2013 14:26		OUTSIDE		A	WINDOW CASING	METAL	INTACT	WHITE	Null	< LOD	< LOD	< LOD	2.74	10	AM
1031 Reaney Ave	208	9/11/2013 14:27		OUTSIDE		A	WINDOW CASING	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.82	7.04	AM
1031 Reaney Ave	209	9/11/2013 14:27		OUTSIDE		A	WINDOW CASING	METAL	INTACT	WHITE	Neg	< LOD	0.28	< LOD	15.35	10	AM
1031 Reaney Ave	210	9/11/2013 14:28		OUTSIDE		B	WINDOW CASING	METAL	INTACT	WHITE	Null	< LOD	< LOD	< LOD	3.54	10	AM
1031 Reaney Ave	211	9/11/2013 14:28		OUTSIDE		B	WINDOW CASING	METAL	INTACT	WHITE	Neg	0.6	< LOD	0.6	13.68	2.02	AM
1031 Reaney Ave	212	9/11/2013 14:31		OUTSIDE		B	WINDOW CASING	METAL	INTACT	WHITE	POS	1.1	0.4	1.1	60	10	AM
1031 Reaney Ave	213	9/11/2013 14:31		OUTSIDE		B	WINDOW CASING	METAL	INTACT	WHITE	POS	2.2	< LOD	2.2	5.78	10	AM
1031 Reaney Ave	214	9/11/2013 14:32		OUTSIDE		D	WINDOW CASING	METAL	INTACT	WHITE	POS	3.1	0.7	3.1	4.68	10	AM
1031 Reaney Ave	215	9/11/2013 14:33		OUTSIDE		D	WINDOW CASING	METAL	INTACT	WHITE	POS	1.8	0.8	1.8	6.56	10	AM
1031 Reaney Ave	216	9/11/2013 14:33		OUTSIDE		D	DOOR	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.31	1	AM
1031 Reaney Ave	217	9/11/2013 14:34		OUTSIDE		D	DOOR CASING	METAL	INTACT	BLUE	Neg	< LOD	< LOD	< LOD	1.37	1	AM
1031 Reaney Ave	218	9/11/2013 14:34		OUTSIDE		D	DOOR CASING	METAL	INTACT	BLUE	Null	< LOD	< LOD	< LOD	1.37	1	AM
1031 Reaney Ave	219	9/11/2013 14:34		OUTSIDE		D	DOOR CASING	METAL	INTACT	BLUE	Neg	< LOD	< LOD	< LOD	1.37	1	AM
1031 Reaney Ave	220	9/11/2013 14:34		OUTSIDE		D	DOOR CASING	METAL	INTACT	BLUE	Neg	< LOD	< LOD	< LOD	3.3	1	AM
1031 Reaney Ave	221	9/11/2013 14:34		OUTSIDE		D	DOOR CASING	METAL	INTACT	BLUE	Neg	< LOD	< LOD	< LOD	3.29	1	AM
1031 Reaney Ave	222	9/11/2013 14:35		OUTSIDE		D	RAIL	METAL	POOR	BLACK	Neg	< LOD	< LOD	< LOD	3.29	1	AM
1031 Reaney Ave	223	9/11/2013 14:37		OUTSIDE		D	SOFFIT	METAL	INTACT	BLUE	POS	10.7	< LOD	10.7	3.01	10	AM
1031 Reaney Ave	224	9/11/2013 14:38		OUTSIDE		D	FASCIA	METAL	INTACT	BLUE	POS	13.1	< LOD	13.1	3.01	10	AM
1031 Reaney Ave	225	9/11/2013 14:38		OUTSIDE		A	SIDING	METAL	INTACT	BLUE	POS	4.5	< LOD	4.5	4.11	10	AM
1031 Reaney Ave	226	9/11/2013 14:39		OUTSIDE		B	SIDING	METAL	INTACT	BLUE	POS	2.9	< LOD	2.9	5.48	10	AM
1031 Reaney Ave	227	9/11/2013 14:39		OUTSIDE		C	SIDING	METAL	INTACT	BLUE	POS	4.3	< LOD	4.3	3.84	10	AM
1031 Reaney Ave	228	9/11/2013 14:39		OUTSIDE		D	SIDING	METAL	INTACT	BLUE	POS	3.7	< LOD	3.7	4.65	10	AM
1031 Reaney Ave	229	9/11/2013 14:40		GARAGE		D	SIDING	VINYL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	4.11	1	AM
1031 Reaney Ave	230	9/11/2013 14:41		GARAGE		A	SIDING	VINYL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	4.65	2.18	AM
1031 Reaney Ave	231	9/11/2013 14:41		GARAGE		B	SIDING	VINYL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.3	1	AM

St. Croix Environmental  
 1031 Reaney Avenue  
 St. Paul MN

Site	XRF	Date/Time	Floor	Room	Rm #	Side	Component	Substrate	Condition	Color	Results	PbC	PbI	PbK	Duration	Depth	Insp
1031 Reaney Ave	232	9/11/2013 14:41		GARAGE		C	SIDING	VINYL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	5.77	1	AM
1031 Reaney Ave	233	9/11/2013 14:42		GARAGE		C	SOFFIT	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.83	1.51	AM
1031 Reaney Ave	234	9/11/2013 14:42		GARAGE		C	FASCIA	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	4.39	1	AM
1031 Reaney Ave	235	9/11/2013 14:43		GARAGE		D	DOOR	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.83	1	AM
1031 Reaney Ave	236	9/11/2013 14:43		GARAGE		D	DOOR	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.28	1	AM
1031 Reaney Ave	237	9/11/2013 14:43		GARAGE		A	DOOR	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.01	1.72	AM
1031 Reaney Ave	238	9/11/2013 14:43		GARAGE		A	DOOR	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	3.28	2.82	AM
1031 Reaney Ave	239	9/11/2013 14:46					CALIBRATE				POS	1	1	< LOD	22.48	1.06	AM
1031 Reaney Ave	240	9/11/2013 14:46					CALIBRATE				POS	1.1	1.1	< LOD	21.09	1.12	AM
1031 Reaney Ave	241	9/11/2013 14:47					CALIBRATE				POS	1	1	0.9	22.79	1.08	AM



## Description of Column Titles

- Site:** The sequential number of the site (homes or buildings) inspected on a particular day.
- No:** The sequential XRF sample number for a given site.
- XL No/Map:** The sample number recorded on the maps of a particular site.
- Date:** Date that the XRF sample was analyzed.
- Time:** Time of XRF sample analysis.
- Floor:** The sample location floor level (0 = basement, 1 = first floor, 2 = second floor).
- Room:** The specific location where the sample was analyzed on the site. Calibrate is also recorded in this column when appropriate.
- Side:** Side of the room based on sampling methodology as described earlier in this report. The only four sides that can be designated are **A, B, C, and D.**
- Structure:** This refers to the general building component that the test was performed on. It may also include modifications such as: upper, lower, exterior, interior, right, and left.
- Feature:** Specifies additional information about a structure.
- Substrate:** Refers to the material that the structure was made of, i.e., wood, concrete, drywall, etc.
- Condition:** Describes whether the surface being tested is **Intact:** good condition; **Fair:** less than 2 square feet of damage to large interior surface, i.e., wall, less than 10 square feet of damage to large exterior surface, i.e., outside walls, or less than 10% damage to small surface areas, i.e., baseboards, trim, etc.; **Poor:** more than 2 square feet of damage on large interior surfaces, more than 10 square feet of damage to large exterior surface areas, or more than 10% damage to small surface areas.
- Color:** Color of surface tested.
- Result:** The lead concentration in  $\text{mg}/\text{cm}^2$  as determined with L-shell and K-shell X-ray data. Results: POS - above action level, NEG - below action level.
- PbL( $\text{mg}/\text{cm}^2$ ):** The lead concentration as determined with L-shell X-ray data.
- PbK:** The lead concentration in  $\text{mg}/\text{cm}^2$  on the K-shell X-ray data spectrum.
- PbC:** The combined lead concentration in  $\text{mg}/\text{cm}^2$  of the low end of the L-shell and K-shell X-ray data spectrum.
- Duration:** The length of the XRF sample analysis in seconds.
- Depth:** This is the index that is a qualitative indication of the depth of the lead in paint. As the number approaches 1, the lead is concentrated close to the top layers of paint. The largest number available for depth index is 10. The greater the number, the more likely interfering elements may have been detected.
- Inspector:** When multiple inspectors are used, this number indicates who sampled at the time indicated.
- Note:** This refers to any notes that were collected during the analysis of the particular sample. Then can be found on the field data sheet titled "Lead-Based Paint Inspection Data Page."

## SAMPLING METHODOLOGY

Buildings were systematically inspected for lead-based paints. The **A** side of the building is the side facing the street. Starting from the **A** side, the other sides are lettered consecutively (**B, C, D**), going clockwise around the building.

Some rooms that are unique in the building are named on the inspection report. These would include things like pantry, kitchen, halls, bathrooms, and staircases. If there is more than one of a certain type of named room, then they are numbered (e.g., staircases to basements are numbered staircase 1, while staircases to the second floor are labeled staircase 2). Room numbering starts in the **A-D** corner of the building and continues clockwise from that point.

Within each room of the building, each of the sides of the room are named. The naming of walls in a room, for instance, follows the same pattern as that used on the exterior of the building, namely, the street side of each room is labeled **A**, and then clockwise from that wall, walls are labeled **B, C, D**.

**APPENDIX B**

**ASBESTOS  
LABORATORY RESULTS  
CHAIN-OF-CUSTODY(S)**



---

## ASBESTOS LABORATORY REPORT

Prepared for

**Midwest Environmental Consulting, L.L.C.**

---

**PROJECT:** 856/0913B; 1031 Reaney, St. Paul, MN

**CEI LAB CODE:** A13-10932

**DATE ANALYZED:** 09/16/13

**DATE REPORTED:** 09/17/13

**TOTAL SAMPLES ANALYZED:** 23

**# SAMPLES >1% ASBESTOS:** 2

**TEL: 866-481-1412**

*www.ceilabs.com*



# Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 856/0913B; 1031 Reaney, St. Paul, MN

CEI LAB CODE: A13-10932

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

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
856/09/3B1		A1552964A	Tan	Floor Tile	None Detected
		A1552964B	Clear	Mastic	None Detected
856/09/3B2		A1552965A	Tan	Floor Tile	None Detected
		A1552965B	Clear	Mastic	None Detected
856/09/3B3		A1552966	Black	Sink Undercoating	<b>Chrysotile 2%</b>
856/09/3B4		A1552967	Tan,White	Drywall/Joint Compound	None Detected
856/09/3B5	Layer 1	A1552968	White	Plaster Skim Coat	None Detected
	Layer 2	A1552968	Grey	Plaster Base Coat	None Detected
856/09/3B6		A1552969	Brown,White	Ceiling Tile	None Detected
856/09/3B7		A1552970	Brown,White	Ceiling Tile	None Detected
856/09/3B8		A1552971	Brown,White	Ceiling Tile	None Detected
856/09/3B9	Layer 1	A1552972	Beige,White	Ceramic Tile	None Detected
	Layer 2	A1552972	Grey	Grout	None Detected
856/09/3B10		A1552973	White,Beige	Ceiling Tile	None Detected
856/09/3B11		A1552974	White,Beige	Ceiling Tile	None Detected
856/09/3B12		A1552975	White,Beige	Ceiling Tile	None Detected
856/09/3B13		A1552976	White,Black	Tread	None Detected
856/09/3B14		A1552977	White	Sheet Vinyl	None Detected
856/09/3B15		A1552978	Black	Mastic	None Detected
856/09/3B16		A1552979	Gold	Sheet Vinyl	<b>Chrysotile 25%</b>
856/09/3B17		A1552980	Grey	Insulation	None Detected
856/09/3B18		A1552981	Grey	Insulation	None Detected
856/09/3B19		A1552982	Grey	Insulation	None Detected
856/09/3B20	Layer 1	A1552983	Black	Roof Shingle	None Detected
	Layer 2	A1552983	Black	Vapor Barrier	None Detected
856/09/3B21		A1552984	Black	Weather Barrier Paper	None Detected
856/09/3B22		A1552985	Grey	Putty	None Detected
856/09/3B23	Layer 1	A1552986	Black,Grey	Shingle	None Detected
	Layer 2	A1552986	Black	Vapor Paper	None Detected



# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** Midwest Environmental Consulting, L.L.C.  
 125 Railroad Avenue SW  
 Mora, MN 55051

**CEI Lab Code:** A13-10932  
**Date Received:** 09-12-13  
**Date Analyzed:** 09-16-13  
**Date Reported:** 09-17-13

**Project:** 856/0913B; 1031 Reaney, St. Paul, MN

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS
			Fibrous	Cellulose	Non-Fibrous		
856/09/3B1 A1552964A	Floor Tile	Homogeneous	5%	Cellulose	75%	Vinyl	None Detected
		Tan Fibrous Bound			20%	Silicates	
A1552964B	Mastic	Homogeneous	5%	Cellulose	90%	Mastic	None Detected
		Clear Fibrous Bound			5%	Silicates	
856/09/3B2 A1552965A	Floor Tile	Homogeneous	5%	Cellulose	75%	Vinyl	None Detected
		Tan Fibrous Bound			20%	Silicates	
A1552965B	Mastic	Homogeneous	5%	Cellulose	90%	Mastic	None Detected
		Clear Fibrous Bound			5%	Silicates	
856/09/3B3 A1552966	Sink Undercoating	Homogeneous	5%	Cellulose	73%	Tar	2% Chrysotile
		Black Fibrous Bound			20%	Silicates	
856/09/3B4 A1552967	Drywall/Joint Compound	Heterogeneous	10%	Cellulose	70%	Gypsum	None Detected
		Tan, White Fibrous Bound			20%	Calc Carb Paint	
856/09/3B5 Layer 1 A1552968	Plaster Skim Coat	Homogeneous	5%	Cellulose	75%	Binder	None Detected
		White Fibrous Bound			20%	Silicates Paint	



# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** Midwest Environmental Consulting, L.L.C.  
125 Railroad Avenue SW  
Mora, MN 55051

**CEI Lab Code:** A13-10932  
**Date Received:** 09-12-13  
**Date Analyzed:** 09-16-13  
**Date Reported:** 09-17-13

**Project:** 856/0913B; 1031 Reaney, St. Paul, MN

## ASBESTOS BULK PLM, EPA 800 METHOD

Client ID Lab ID	Description	Lit. Appearance	NON-ASBESTOS COMPONENTS			ASBESTOS	
			Fibrous	Non-Fibrous			
Layer 2 A1552968	Plaster Base Coat	Homogeneous	5%	Cellulose	60%	Binder	None Detected
		Grey Fibrous Bound	5%	Hair	30%	Silicates	
856/09/3B6 A1552969	Ceiling Tile	Homogeneous Brown, White Fibrous Bound	95%	Cellulose	5%	Paint	None Detected
856/09/3B7 A1552970	Ceiling Tile	Homogeneous Brown, White Fibrous Bound	95%	Cellulose	5%	Paint	None Detected
856/09/3B8 A1552971	Ceiling Tile	Homogeneous Brown, White Fibrous Bound	95%	Cellulose	5%	Paint	None Detected
856/09/3B9 Layer 1 A1552972	Ceramic Tile	Homogeneous Beige, White Non-fibrous Tightly Bound			50%	Binder	None Detected
					50%	Silicates	
					<1%	Paint	
Layer 2 A1552972	Grout	Homogeneous Grey Non-fibrous Tightly Bound			50%	Binder	None Detected
					50%	Silicates	
856/09/3B10 A1552973	Ceiling Tile	Homogeneous White, Beige Fibrous Bound	35%	Cellulose	20%	Binder	None Detected
			35%	Fiberglass	10%	Perlite	
					<1%	Paint	



# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** Midwest Environmental Consulting, L.L.C.  
 125 Railroad Avenue SW  
 Mora, MN 55051

**CEI Lab Code:** A13-10932  
**Date Received:** 09-12-13  
**Date Analyzed:** 09-16-13  
**Date Reported:** 09-17-13

**Project:** 856/0913B; 1031 Reaney, St. Paul, MN

## ASBESTOS BULK PLM, EPA 800 METHOD

Client ID Lab ID	Lab Description	Lab Appearance	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Cellulose	Non-Fibrous	Binder	
856/09/3B11 A1552974	Ceiling Tile	Homogeneous	35%	Cellulose	20%	Binder	None Detected
		White, Beige	35%	Fiberglass	10%	Perlite	
		Fibrous			<1%	Paint	
		Bound					
856/09/3B12 A1552975	Ceiling Tile	Homogeneous	35%	Cellulose	20%	Binder	None Detected
		White, Beige	35%	Fiberglass	10%	Perlite	
		Fibrous			<1%	Paint	
		Bound					
856/09/3B13 A1552976	Tread	Homogeneous			100%	Binder	None Detected
		White, Black			<1%	Paint	
		Non-fibrous					
		Bound					
856/09/3B14 A1552977	Sheet Vinyl	Heterogeneous	20%	Cellulose	50%	Vinyl	None Detected
		White	5%	Fiberglass	25%	Binder	
		Fibrous			<1%	Mastic	
		Bound					
856/09/3B15 A1552978	Mastic	Homogeneous	5%	Cellulose	90%	Mastic	None Detected
		Black			5%	Silicates	
		Fibrous					
		Bound					
856/09/3B16 A1552979	Sheet Vinyl	Heterogeneous			50%	Vinyl	25% Chrysotile
		Gold			25%	Binder	
		Fibrous			<1%	Mastic	
		Bound					
856/09/3B17 A1552980	Insulation	Homogeneous	100%	Cellulose			None Detected
		Grey					
		Fibrous					
		Loosely Bound					





# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** Midwest Environmental Consulting, L.L.C.  
 125 Railroad Avenue SW  
 Mora, MN 55051

**CEI Lab Code:** A13-10932  
**Date Received:** 09-12-13  
**Date Analyzed:** 09-16-13  
**Date Reported:** 09-17-13

**Project:** 856/0913B; 1031 Reaney, St. Paul, MN

**ASBESTOS BULK PLM, EPA 600 METHOD**

TEST ID	Lab Description	Lab Material	NON-ASBESTOS COMPONENTS			ASBESTOS
			Fiber	Non-Fibrous		
856/09/3B18 A1552981	Insulation	Homogeneous Grey Fibrous Loosely Bound	100%	Cellulose		None Detected
856/09/3B19 A1552982	Insulation	Homogeneous Grey Fibrous Loosely Bound	100%	Cellulose		None Detected
856/09/3B20 Layer 1 A1552983	Roof Shingle	Heterogeneous Black Fibrous Bound	15%	Fiberglass	70% Tar 15% Gravel	None Detected
Layer 2 A1552983	Vapor Barrier	Homogeneous Black Fibrous Bound	50%	Cellulose	50% Tar	None Detected
856/09/3B21 A1552984	Weather Barrier Paper	Homogeneous Black Fibrous Bound	50%	Cellulose	50% Tar	None Detected
856/09/3B22 A1552985	Putty	Homogeneous Grey Fibrous Bound	5%	Cellulose	75% Calc Carb 20% Silicates <1% Paint	None Detected
856/09/3B23 Layer 1 A1552986	Shingle	Heterogeneous Black, Grey Fibrous Bound	15%	Fiberglass	70% Tar 15% Gravel	None Detected



# ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

**Client:** Midwest Environmental Consulting, L.L.C.  
125 Railroad Avenue SW  
Mora, MN 55051

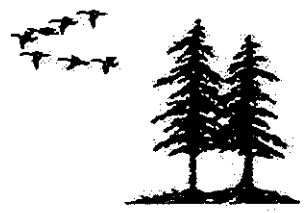
**CEI Lab Code:** A13-10932  
**Date Received:** 09-12-13  
**Date Analyzed:** 09-16-13  
**Date Reported:** 09-17-13

**Project:** 856/0913B; 1031 Reaney, St. Paul, MN

## ASBESTOS BULK FLM, EPA 800 METHOD

Layer ID	Description	Lab Analysis	NON-ASBESTOS COMPONENTS			ASBESTOS
			Ferrous	Non-Ferrous		
Layer 2	Vapor Paper	Heterogeneous	15% Fiberglass	70% Tar	<b>None Detected</b>	
A1552986		Black		15% Silicates		
		Fibrous				
		Bound				





**Midwest Environmental Consulting, L.L.C.**  
 125 Railroad Avenue SW • Mora, MN 55051  
 763-691-0111 / 320-679-4054  
 Fax: 763-691-0145 / 320-679-4442  
 Client Address: \_\_\_\_\_  
 Contact: Greg Myers

**CHAIN OF CUSTODY**

Project Number: 856/09/13 B  
 Client: St. Croix Environmental / City of St. Paul  
 Project: 1031 Reaney, St. Paul, MN  
 Phone/Fax: \_\_\_\_\_

Sample ID	Sample Description	Collection Date/Time	Matrix (Vol./Area)	Analysis Requested
B56/09/13-1	Kitchen 1/21' Floor <sup>clean marble</sup> Tile Tan	09/10/13 10:30am	15' x 15'	PLM Asbestos
B2	" " " " "			
B3	Kitchen sink deadener Black		3ft <sup>2</sup>	
B4	Drywall / Taping compound white		throughout	
B5	Basement stone wall slabs		throughout	
B6	Living Room 1 1/2' slabs in <sup>white/grey</sup> center		28.5' x 11.5' <sup>25' x 7.5'</sup>	
B7	" " " " "			
B8	" " " " "			
B9	Living Room 1/2' white <sup>grout grey</sup> concrete			
B10	First Floor East kitchen 2' x 2' <sup>white/grey</sup> concrete		16' x 7.5'	
B11	" " " " "			
B12	" " " " "			
B13	Staircase <sup>number</sup> 2nd floor <sup>black</sup> concrete		1/4' <sup>framed</sup>	
B14	2nd Floor bath sheet <sup>white/grey</sup> <sup>white/grey</sup> <sup>white/grey</sup>		7.25' x 11.5'	

Sampled by: Greg Myers Date: 09/10/13 Time: 10:30am  
 Delivered by: Red Fox Date: 09/11/13 Time: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Delivered by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Received by Lab: MMMBMW Date: 9/12/13 Time: 9:55AM  
 Disposition of Samples: \_\_\_\_\_

Notes: Analyze until parative any layer Homogeneous  
 Please analyze @ 72 hours turnaround



**Midwest Environmental Consulting, L.L.C.**  
 125 Railroad Avenue SW - Mora, MN 55051  
 763-691-0111 / 320-679-4054  
 Fax: 763-691-0145 / 320-679-4442  
 Client Address: \_\_\_\_\_  
 Contact: Greg Myers

**CHAIN OF CUSTODY**

Project Number: 856/09138  
 Client: St. Croix Environmental / City of St. Paul  
 Project: 1031 Reaney St. Paul, MN  
 Phone/Fax: \_\_\_\_\_

Sample ID	Sample Description	Collection Date/Time	Matrix (Vol./Area)	Analysis Requested
856/09138-15	2nd Floor East bed room <sup>Black unscrubbed</sup> - marble	09/10/13		PLM Asbestos
B16	2nd Floor - N bedroom <sup>Gold Repainted</sup> - Silestone			
B17	1st floor in circulation <sup>grey</sup> - tile		throughout	
B18	" " " " " "		throughout	
B19	" " " " " "			
B20	Roof Shingles <sup>Black</sup> - <sup>Black</sup> vinyl		throughout	
B21	Exterior weather barrier <sup>Black</sup> - paper		throughout	
B22	Caulk <sup>white</sup> - window		throughout	
B23	Garage Shingles <sup>grey</sup> - <sup>Black</sup> vinyl	1:45 A	1/25' x 26.25'	

Sampled by: Greg Myers Date: 09/10/13 Time: 1:03 PM Delivered by: Fred Ex Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Delivered by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Received by Lab: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Disposition of Samples: \_\_\_\_\_

Notes: Analyze until Peritive any layer  
 Please analyze @ 72 hour turn around

**Radon Test Result: 1.7 ±0.2 pCi/L**

**Test Started 09/27/13 at 3:00 pm**

**Test Ended 09/30/13 at 3:00 pm**

Closed house conditions maintained during test.

**Location Basement**



TCHU YAJH  
1031 REANEY AVE  
SAINT PAUL, MN 55106

### INTERPRETING YOUR TEST RESULT

The US EPA action level for indoor radon is 4.0 pCi/L. The EPA indicates that there is little short-term risk with test results in this range (0.6 to 1.9 pCi/L). However, because radon levels fluctuate daily, as well as seasonally, you may want to retest during another season. Additionally, if you make any structural changes or start to use a lower level of the building more frequently, you should test again.

You may be able to obtain additional information about radon related subjects by contacting your state radon office at "[www.health.mn.gov/radonkit](http://www.health.mn.gov/radonkit)" or by calling the "Radon Fix-It Line" at 800-644-6999 Monday thru Friday between NOON and 8PM EST.

This test result reflects the amount of radon measured in this sample AFTER it arrived at our laboratory. All analysis computations are automatically adjusted to reflect the length of test, the amount of moisture in the sample, time from the end of test, and the amount of radiation measured. If ALL the test instructions were carefully followed, then it is reasonable to assume this is an accurate assessment of the average level of the radon this sample was exposed to during the time indicated on the test packet.

## READ THIS FIRST

This result has been rounded to one-tenth (0.1) of a pCi/L (picoCurie per liter), the most common method of reporting radon in air.

## NEXT...PLEASE...READ

everything under the heading

## INTERPRETING YOUR TEST RESULT

### Your health risk

The primary health risk from long-term exposure to radon is lung cancer. The risk of developing a lung cancer from radon exposure depends both on how much radon is present and how long you are exposed to radon. The higher the radon level or the longer the time of exposure, even if the levels are relatively low, the greater the risk. Exposures up to 4 pCi/L may present some risk of contracting lung cancer to more sensitive occupants, especially children. Recently the US Congress set as a goal the lowering of radon levels in buildings to equal the levels of outside air.

### What is a picoCurie

For those interested in the numbers, a picoCurie is 0.000,000,000,001 (one-trillionth) of a Curie, an international measurement unit of radioactivity. One pCi/L means that in one liter of air there will be 2.2 radioactive disintegrations each minute. For example, at 4 pCi/L there will be approximately 12,672 radioactive disintegrations in one liter of air, during a 24-hour period.

### Conducting Follow-up Measurements

USEPA protocol describes two general types of radon measurements: short-term tests conducted from 48 hours up to 90 days, and long-term tests that last from 90 to 365 days. Your first test (initial/screening) should be a short-term 'worst-case' screening to see if there is a potential for high exposure to radon. Screening tests should be conducted under closed-building conditions, in the lowest lived-in area in the house, because the highest concentrations of radon will usually be found in a room closest to the underlying soil. Tests made under these conditions are less likely to miss a house with a potential for high concentrations. On the other hand, if the results of worst-case screening tests are very low, there is a high probability that the average annual concentrations in the house are also low.

\* Your state has designated a radon officer to assist citizens with questions on radon. Most offer free information on radon and radon reduction techniques, and most keep a list of qualified radon testing and mitigation businesses. Your radon officer can also provide the phone number of your regional USEPA office.

## Conducting Follow-up Measurements

**The higher your initial (screening) tests, the sooner you should conduct follow-up measurements.** The EPA states that you should retest the same location that was tested initially. **For additional or follow-up testing,** make sure at least one test is conducted in the **lowest lived-in level** of the home. Also choose regularly used rooms, such as family rooms, dens, playrooms, or bedrooms. A bedroom on the lower level may be a good choice, because people generally spend the most time in their bedrooms (approximately one-third of the year). If there are children, it may be appropriate to test their rooms or other areas where they spend a lot of time, especially at the lower levels. All short-term follow-up tests **must** be conducted under closed-building conditions. If closed-building conditions cannot be maintained, a long-term measurement conducted under normal living conditions could be used to help estimate average annual exposures.

Tests **should not be conducted** in a kitchen or a bathroom because high humidity, exhaust fans, and other factors can adversely affect the test results. Tests **should not be conducted** in storage areas or laundry rooms, because relatively little time is spent there. Although radon in water may be a contributor to the concentration of airborne radon, radon in air should be **confirmed** before a test for radon in water is performed.

It is recommended that before spending any time or money on radon mitigation, one should conduct multiple (three or more) tests to be certain there is a need. A few more tests will most certainly cost considerably less than any mitigation work.

If follow-up measurements have **confirmed** that the average annual level of radon is equal to or greater than 4 pCi/L, the USEPA recommends that the building or home be mitigated for radon. Consider also that a future buyer is likely to demand that the building pass a radon test before purchasing.

**Variations in Radon Levels:** what can affect your test results and why it may be important to conduct confirmation tests.

When tests are performed in different seasons or under different weather conditions, the initial screening and follow-up tests may vary considerably. Radon levels can vary significantly between seasons, so different values **are to be expected**. Even during normal

weather, indoor radon levels may rise and fall by a factor of two on a daily cycle; for example, from 5 pCi/L to 10 pCi/L in 24 hours. During rapidly changing or stormy weather, the levels may change more dramatically. Because continual changes in radon levels are considered the norm, expose the testing device for as long as is practical, while following the manufacturer's recommendations. This, of course, provides a better overall average of the measurement.

If you are comparing tests, or are averaging a series of tests, bear in mind that any radon test returns only the average of the levels present during a **specific period of time** at the **precise location** of the test. Conditions during a different test period or at a different location in the building are **expected to be different**.

Test results can also vary if the radon test instructions were not carefully followed. A laboratory measuring radon in samples taken outside the lab **must rely on the person conducting the test**. For example, the wrong starting or ending date of a test will significantly affect the calculated result. The location of each radon test can also influence the result. For example, a test placed in the blowing air stream of a fan is likely to collect more radon than it would under normal conditions. Also, three tests conducted in one home, but in three different rooms, **would be expected to have at least slightly different test results**.

Test results from a properly used activated charcoal test will more closely reflect the average radon concentrations over the last three to five days of the test period. This happens because the radon collected by the activated charcoal has a radioactive half-life of only four days. This means, for example, over one-half of the radon collected during the first three days of a seven day test 'died' before the test ended. Seven day exposures of activated charcoal test devices are suggested because this allows the charcoal to equilibrate with its environment, averaging out the peaks and valleys that normally occur in real-life radon levels. Also the aspect of user convenience is considered, because most find it easier to remember to end a test on the same day of the week it was started.

If you have further questions regarding this test or need advice on follow-up testing, call fax or write to our technical service department listed below. Thank you for choosing the Air Chek test device.

## PERFORMING RADON TESTS FOR A REAL ESTATE TRANSACTION

EPA guidelines recommend that at least two short-term tests should be conducted, either together or sequentially, at the same location in the building. If the average of all the tests is below 4 pCi/L, then no further action is necessary at this time. It is **highly recommended** that any property transaction tests be conducted by a **non-interested third party**. To locate a listed or certified radon tester, contact your state or regional EPA radon office or visit our website at <http://www.radon.com> to download a list of NEHA-certified testers. Ask for or download publication number EPA 402-K-00-008 **Home Buyer's and Seller's Guide to Radon**.

Limitation of Liability: While we at Air Chek, Inc. make every effort to maintain the highest possible quality control and include several checks and verification steps in our procedures, we make **NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS** with respect to any item furnished, information supplied or services rendered you by Air Chek, Inc. Before any action is taken on the basis of test results given to you by Air Chek, Inc. we recommend that further testing be done. Neither Air Chek, Inc., nor any of our employees or agents, shall be liable under any claim, charge, or demand, whether in contract, tort or otherwise, for any and all losses, costs, charges, claims, demands, fees, expenses, injuries or damages (including without limitation **INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH ARE EXCLUDED**) of any nature or kind arising out of, connected with, resulting from, or sustained as a result of any item furnished, information supplied, or service rendered to you by Air Chek, Inc.

Notice to Pennsylvania Residents: The Radon Certification Act requires that anyone who provides any radon-related service or product to the general public must be certified by the Pennsylvania Department of Environmental Protection. You are entitled to evidence of certification from any person who provides such services or products. You are also entitled to a price list for services or products offered. All radon measurement data will be sent to the Department as required in the Act and will be kept confidential. If you have any questions, comments, or complaints concerning persons who provide radon-related services, please contact the Department of Environmental Protection, P.O. Box 8469, Harrisburg, PA 17105-8469 (717-783-4594).

The radon test kit(s) used for this report is certified by the NEHA-NRPP, Lab ID: 101138, for use in all fifty states. It is also listed or certified for use in all states that have a radon program.

For technical information, call (828) 684-0893. Office hours are Mon-Fri 8:30 to 5:30 EASTERN  
You can reach us by Fax at (828) 684-8498 or write to Air Chek, Inc., Box 2000, Naples, NC 28760  
**Web Site:** <http://www.radon.com> **Email to:** [info@radon.com](mailto:info@radon.com)

**Radon Test Result: 1.3 ±0.3 pCi/L**

**Test Started 09/27/13 at 3:00 pm**

**Test Ended 09/30/13 at 3:00 pm**

Closed house conditions maintained during test.

**Location Basement**



TCHU YAJH  
1031 REANEY AVE  
SAINT PAUL, MN 55106

### INTERPRETING YOUR TEST RESULT

The US EPA action level for indoor radon is 4.0 pCi/L. The EPA indicates that there is little short-term risk with test results in this range (0.6 to 1.9 pCi/L). However, because radon levels fluctuate daily, as well as seasonally, you may want to retest during another season. Additionally, if you make any structural changes or start to use a lower level of the building more frequently, you should test again.

You may be able to obtain additional information about radon related subjects by contacting your state radon office at "[www.health.mn.gov/radonkit](http://www.health.mn.gov/radonkit)" or by calling the "Radon Fix-It Line" at 800-644-6999 Monday thru Friday between NOON and 8PM EST.

This test result reflects the amount of radon measured in this sample AFTER it arrived at our laboratory. All analysis computations are automatically adjusted to reflect the length of test, the amount of moisture in the sample, time from the end of test, and the amount of radiation measured. If ALL the test instructions were carefully followed, then it is reasonable to assume this is an accurate assessment of the average level of the radon this sample was exposed to during the time indicated on the test packet.

## READ THIS FIRST

This result has been rounded to one-tenth (0.1) of a pCi/L (picoCurie per liter), the most common method of reporting radon in air.

## NEXT...PLEASE...READ

everything under the heading

## INTERPRETING YOUR TEST RESULT

### Your health risk

The primary health risk from long-term exposure to radon is lung cancer. The risk of developing a lung cancer from radon exposure depends both on how much radon is present and how long you are exposed to radon. The higher the radon level or the longer the time of exposure, even if the levels are relatively low, the greater the risk. Exposures up to 4 pCi/L may present some risk of contracting lung cancer to more sensitive occupants, especially children. Recently the US Congress set as a goal the lowering of radon levels in buildings to equal the levels of outside air.

### What is a picoCurie

For those interested in the numbers, a picoCurie is 0.000,000,000,001 (one-trillionth) of a Curie, an international measurement unit of radioactivity. One pCi/L means that in one liter of air there will be 2.2 radioactive disintegrations each minute. For example, at 4 pCi/L there will be approximately 12,672 radioactive disintegrations in one liter of air, during a 24-hour period.

### Conducting Follow-up Measurements

USEPA protocol describes two general types of radon measurements: short-term tests conducted from 48 hours up to 90 days, and long-term tests that last from 90 to 365 days. Your first test (initial/screening) should be a short-term 'worst-case' screening to see if there is a potential for high exposure to radon. Screening tests should be conducted under closed-building conditions, in the lowest lived-in area in the house, because the highest concentrations of radon will usually be found in a room closest to the underlying soil. Tests made under these conditions are less likely to miss a house with a potential for high concentrations. On the other hand, if the results of worst-case screening tests are very low, there is a high probability that the average annual concentrations in the house are also low.

\* Your state has designated a radon officer to assist citizens with questions on radon. Most offer free information on radon and radon reduction techniques, and most keep a list of qualified radon testing and mitigation businesses. Your radon officer can also provide the phone number of your regional USEPA office.



## Conducting Follow-up Measurements

**The higher your initial (screening) tests, the sooner you should conduct follow-up measurements.** The EPA states that you should retest the same location that was tested initially. **For additional or follow-up testing,** make sure at least one test is conducted in the **lowest lived-in level** of the home. Also choose regularly used rooms, such as family rooms, dens, playrooms, or bedrooms. A bedroom on the lower level may be a good choice, because people generally spend the most time in their bedrooms (approximately one-third of the year). If there are children, it may be appropriate to test their rooms or other areas where they spend a lot of time, especially at the lower levels. All short-term follow-up tests **must** be conducted under closed-building conditions. If closed-building conditions cannot be maintained, a long-term measurement conducted under normal living conditions could be used to help estimate average annual exposures.

Tests **should not be conducted** in a kitchen or a bathroom because high humidity, exhaust fans, and other factors can adversely affect the test results. Tests **should not be conducted** in storage areas or laundry rooms, because relatively little time is spent there. Although radon in water may be a contributor to the concentration of airborne radon, radon in air should be **confirmed** before a test for radon in water is performed.

It is recommended that before spending any time or money on radon mitigation, one should conduct multiple (three or more) tests to be certain there is a need. A few more tests will most certainly cost considerably less than any mitigation work.

If follow-up measurements have **confirmed** that the average annual level of radon is equal to or greater than 4 pCi/L, the USEPA recommends that the building or home be mitigated for radon. Consider also that a future buyer is likely to demand that the building pass a radon test before purchasing.

**Variations in Radon Levels:** what can affect your test results and why it may be important to conduct confirmation tests.

When tests are performed in different seasons or under different weather conditions, the initial screening and follow-up tests may vary considerably. Radon levels can vary significantly between seasons, so different values **are to be expected**. Even during normal

weather, indoor radon levels may rise and fall by a factor of two on a daily cycle; for example, from 5 pCi/L to 10 pCi/L in 24 hours. During rapidly changing or stormy weather, the levels may change more dramatically. Because continual changes in radon levels are considered the norm, expose the testing device for as long as is practical, while following the manufacturer's recommendations. This, of course, provides a better overall average of the measurement.

If you are comparing tests, or are averaging a series of tests, bear in mind that any radon test returns only the average of the levels present during a **specific period of time** at the **precise location** of the test. Conditions during a different test period or at a different location in the building are **expected to be different**.

Test results can also vary if the radon test instructions were not carefully followed. A laboratory measuring radon in samples taken outside the lab **must rely on the person conducting the test**. For example, the wrong starting or ending date of a test will significantly affect the calculated result. The location of each radon test can also influence the result. For example, a test placed in the blowing air stream of a fan is likely to collect more radon than it would under normal conditions. Also, three tests conducted in one home, but in three different rooms, **would be expected to have at least slightly different test results**.

Test results from a properly used activated charcoal test will more closely reflect the average radon concentrations over the last three to five days of the test period. This happens because the radon collected by the activated charcoal has a radioactive half-life of only four days. This means, for example, over one-half of the radon collected during the first three days of a seven day test 'died' before the test ended. Seven day exposures of activated charcoal test devices are suggested because this allows the charcoal to equilibrate with its environment, averaging out the peaks and valleys that normally occur in real-life radon levels. Also the aspect of user convenience is considered, because most find it easier to remember to end a test on the same day of the week it was started.

If you have further questions regarding this test or need advice on follow-up testing, call fax or write to our technical service department listed below. Thank you for choosing the Air Chek test device.

## PERFORMING RADON TESTS FOR A REAL ESTATE TRANSACTION

EPA guidelines recommend that at least two short-term tests should be conducted, either together or sequentially, at the same location in the building. If the average of all the tests is below 4 pCi/L, then no further action is necessary at this time. It is **highly recommended** that any property transaction tests be conducted by a **non-interested third party**. To locate a listed or certified radon tester, contact your state or regional EPA radon office or visit our website at <http://www.radon.com> to download a list of NEHA-certified testers. Ask for or download publication number EPA 402-K-00-008 **Home Buyer's and Seller's Guide to Radon**.

Limitation of Liability: While we at Air Chek, Inc. make every effort to maintain the highest possible quality control and include several checks and verification steps in our procedures, we make **NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS** with respect to any item furnished, information supplied or services rendered you by Air Chek, Inc. Before any action is taken on the basis of test results given to you by Air Chek, Inc. we recommend that further testing be done. Neither Air Chek, Inc., nor any of our employees or agents, shall be liable under any claim, charge, or demand, whether in contract, tort or otherwise, for any and all losses, costs, charges, claims, demands, fees, expenses, injuries or damages (including without limitation **INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH ARE EXCLUDED**) of any nature or kind arising out of, connected with, resulting from, or sustained as a result of any item furnished, information supplied, or service rendered to you by Air Chek, Inc.

Notice to Pennsylvania Residents: The Radon Certification Act requires that anyone who provides any radon-related service or product to the general public must be certified by the Pennsylvania Department of Environmental Protection. You are entitled to evidence of certification from any person who provides such services or products. You are also entitled to a price list for services or products offered. All radon measurement data will be sent to the Department as required in the Act and will be kept confidential. If you have any questions, comments, or complaints concerning persons who provide radon-related services, please contact the Department of Environmental Protection, P.O. Box 8469, Harrisburg, PA 17105-8469 (717-783-4594).

The radon test kit(s) used for this report is certified by the NEHA-NRPP, Lab ID: 101138, for use in all fifty states. It is also listed or certified for use in all states that have a radon program.

For technical information, call (828) 684-0893. Office hours are Mon-Fri 8:30 to 5:30 EASTERN  
You can reach us by Fax at (828) 684-8498 or write to Air Chek, Inc., Box 2000, Naples, NC 28760  
**Web Site:** <http://www.radon.com> **Email to:** [info@radon.com](mailto:info@radon.com)



CITY OF SAINT PAUL  
Christopher B. Coleman, Mayor

375 Jackson Street, Suite 220  
Saint Paul, Minnesota 55101-1806

Telephone: 651-266-8989  
Facsimile: 651-266-9124  
Web: [www.stpaul.gov/dsi](http://www.stpaul.gov/dsi)

## Code Compliance Report

June 15, 2011

BANK OF AMERICA C/O CHRIS KAWOHL RE/MAX RESULTS  
604 BIELENBERG DRIVE SUITE 100  
WOODBURY MN 55125

Re: 1031 Reaney Ave  
File#: 11 014674 VB2

Dear Property Owner:

The following is the Code Compliance report you requested on May 23, 2011.

Please be advised that this report is accurate and correct as of the date June 15, 2011. All deficiencies identified by the City after this date must also be corrected and all codes and ordinances must be complied with. This report is valid for 365 days from June 15, 2011. This report may be used in lieu of a Truth in Housing Report required in St Paul Legislative Code 189. This building must be properly secured and the property maintained at all times.

In order to sell or reoccupy this property the following deficiencies must be corrected:

**BUILDING**                      **Inspector: Jim Seeger**                      **Phone: 651-266-9046**

- Insure basement cellar floor is even, is cleanable, and all holes are filled.
- Install plinth blocks as needed under posts in basement & ensure adequate footing for load imposed.
- Tuck Point interior/exterior of foundation as necessary.
- Dry out basement and eliminate source of moisture.
- Remove mold, mildew and moldy or water damaged materials.
- Permanently secure top and bottom of support posts in an approved manner.
- Install handrails (34 inches - 38 inches above each nosing) and guardrails (36 inch minimum) at all stairways, and return hand rail ends into a newel post or wall per attachment.
- Repair or Replace any deteriorated window sash, broken glass, sash holders, re-putty, etc as necessary.
- Provide complete storms and screens, in good repair for all door and window openings.
- Prepare and paint interior and exterior as necessary. Observe necessary abatement procedures (EPA, MPCA and St. Paul Legislative Code, Chapter 34 for additional information) if lead base paint is present.
- Air-seal and insulate attic/access door.

Re: 1031 Reaney Ave  
June 15, 2011  
Page 2

**BUILDING**                      **Inspector: Jim Seeger**                      **Phone: 651-266-9046**

- Install Smoke Detectors/Carbon Monoxide Detectors per MN Co Conservation Code and the MN Dept. of Labor and Industry.
- Provide major clean-up of premises.
- Repair siding, soffit, fascia, trim, etc. as necessary.
- Provide general rehabilitation of garage.
- Install address numbers visible from street and on the alley side of garage.
- Review all applicable codes & policies when replacing windows including egress windows for sleeping rooms.
- Openings in stair risers must be less than 4 inches.
- Grade must drain away from foundation of dwelling. Maintain 6 inch clearance between wood and soil.
- Provide grading that slopes away from structures and gutter on west side of house, grade need some fill removed.
- Repair or remove front east side fence and rear northwest side fence.
- Replace rear east side entry steps and install flashing at house per code.
- Replace steps to garage to code with handrail and replace concrete walkway at south side of garage.
- Remove plywood from front porch walls and jack up roof.
- Replace rotted bottom plates in garage.
- Install floor at rear section of basement and install footing for post.
- South end of basement install post and footing to code under beam.
- Clean out crawl space in front of house and install vapor barrier.
- Install handrail and guardrail to code on basement stairs.
- Second floor stairs raise upper guardrail to code and inter connect handrail to code.
- A building permit is required to correct the above deficiencies.

**ELECTRICAL**                      **Inspector: Peggy Schlichte**                      **Phone: 651-266-9039**

- Ground the electrical service to the water service with a copper conductor within 5 feet of the entrance point of the water service
- Bond around water meter with a copper wire sized for the electrical service per Article 250 of the NEC
- Provide a complete circuit directory at service panel indicating location and use of all circuits
- Verify/install a separate 20 ampere laundry circuit and a separate 20 ampere kitchen appliance circuit
- Install S type fuse adapters and proper size S fuses listed circuit breakers
- Verify that fuse/circuit breaker amperage matches wire size
- Properly strap cables and conduits in basement/ service conduit on the exterior of the house.
- Ground bathroom light in basement/first bathroom/second bathroom and disconnect receptacle on fixture

Re: 1031 Reaney Ave  
June 15, 2011  
Page 3

**ELECTRICAL**      **Inspector: Peggy Schlichte**      **Phone: 651-266-9039**

- Repair or Replace all broken, missing or loose light fixtures, switches and outlets, covers and plates
- Check all outlets for proper polarity and verify ground on 3-prong outlets
- Remove any 3-wire ungrounded outlets and replace with 2-wire or ground 3-wire to code
- Install hard-wired, battery backup smoke detector per bulletin 80-1 and other smoke detectors as required by the IRC. Also, Install carbon monoxide detector(s) within 10 feet of all bedrooms
- Remove and or/ re-wire all illegal, improper or hazardous wiring in basement/garage
- Throughout building, install outlets and light fixtures as specified in Bulletin 80-1.
- Clip meter side.
- Verify main bonding jumper.
- Add receptacle in pink room southeast.
- All added receptacles must be grounded, tamper-resistant and be on an Arc-Fault Circuit Interrupter-protected circuit.
- Any open walls or walls that are opened as part of this project must be wired to the standards of the current NEC.
- All buildings on the property must meet the St. Paul Property Maintenance Code (Bulletin 80-1).
- All electrical work must be done by a Minnesota-licensed electrical contractor under an electrical permit.

**PLUMBING**      **Inspector: Steve Fernlund**      **Phone: 651-266-9052**

- Basement - Soil and Waste Piping - add appropriate hangers (MPC 1430 Subp. 4)
- Basement - Soil and Waste Piping - improper connections, transitions, fittings or pipe usage (MPC 2420)
- Basement - Water Heater - No gas shut off or gas piping incorrect (IFGC 402.1)
- Basement - Water Heater - Water piping incorrect (MPC 1730 Subp. 1)
- Basement - Water Heater - not fired or in service (MPC 2180)
- Basement - Water Meter - corroded piping; incorrect piping (MPC 0200 0.)
- Basement - Water Meter - raise meter to a minimum 12 inches above floor (MPC 2280)
- Basement - Water Meter - support meter properly (MPC 2280)
- Basement - Water Piping - repair or replace all corroded, broken or leaking piping (MPC 4715.1720)
- Basement - Water Piping - run 1 inch water line from meter to first major take off (SPRWS Water Code)
- First Floor - Gas Piping - range gas shut off; connector or piping incorrect (IFGC 411 1.3.3)
- First Floor - Gas Piping - run dryer vent to code (IFGC 613.1 - IMC 604.1)
- First Floor - Sink - water piping incorrect (MPC 0200 P.) Also dishwasher waste is incorrect.
- Second Floor - Lavatory - waste incorrect (MPC 2300)
- Second Floor - Toilet Facilities - reset toilet to code

Re: 1031 Reaney Ave  
June 15, 2011  
Page 4

**PLUMBING**                      **Inspector: Steve Fernlund**                      **Phone: 651-266-9052**

- Second Floor - Tub and Shower - provide anti-scald valve (MPC 1380. Subp. 5)
- Second Floor - Tub and Shower - replace waste and overflow (MPC 1240)
- Exterior - Lawn Hydrants - Requires backflow assembly or device (MPC 2000)
- Obtain plumbing permits prior to commencement of work.

**HEATING**                      **Inspector: Maureen Hanson**                      **Phone: 651-266-9043**

- Clean and Orsat test furnace burner. Check all controls for proper operation. Check furnace heat exchanger for leaks; provide documentation from a licensed contractor that the heating unit is safe.
- Vent clothes dryer to code.
- Provide adequate combustion air and support duct to code.
- Provide support for gas lines to code.
- Plug, cap and/or remove all disconnected gas lines and any unapproved valves.
- Provide a window in the bathrooms with an aggregate glazing area of not less than 3 square feet, one-half of which must be openable or provide exhaust system vented to outside. A mechanical ventilation permit is required if an exhaust system is installed.
- Install an access cover for the furnace air filter.
- All supply and return ducts for warm air heating system must be clean before final approval for occupancy. Provide access for inspection of inside of ducts or provide documentation from a licensed duct-cleaning contractor that the duct system has been cleaned.
- Repair and/or replace heating registers as necessary.
- Provide heat in every habitable room and bathrooms.
- Repair or replace condensate pump and tubing.
- Undercut doors one inch above finished floor to second floor rooms without ducted return air.
- A gas mechanical permit is required for the above work.

**ZONING**

1. This property is in a (n) RT1 zoning district.
2. This property was inspected as a Single Family Dwelling.

**Notes:**

- See attachment for permit requirements and appeals procedure.
- Most of the roof covering could not be inspected from grade. Recommend this be done before rehabilitation is attempted.

Re: 1031 Reaney Ave  
June 15, 2011  
Page 5

**This is a registered vacant building. In order to sell or reoccupy this building, all deficiencies listed on this code compliance report must be corrected in accordance with the Minimum Housing Standards of the St. Paul Legislative Code (Chapter 34) and all required permits must receive final approval within six (6) months of the date of this report. One (1) six-month time extension may be requested by the owner and will be considered if it can be shown that the code compliance work is proceeding and is more than fifty (50) percent complete in accordance with Legislative Code Section 33.03(f).**

You may file an appeal to this notice by contacting the City Clerk's Office at 651-266-8688. Any appeal must be made in writing within 10 days of this notice. (You must submit a copy of this notice when you appeal, and pay a filing fee.)

If you have any questions regarding this inspection report, please contact Jim Seeger between 7:30 - 9:00 AM at 651-266-9046 or leave a voice mail message.

Sincerely,

James L. Seeger  
Code Compliance Officer  
Department of Safety and Inspections  
City of Saint Paul  
375 Jackson Street, Suite 220  
Saint Paul MN 55101  
Phone: 651-266-9046  
Email: james.seeger@ci.stpaul.mn.us

JLS:ml  
Attachments



CITY OF SAINT PAUL  
Christopher B. Coleman, Mayor

375 Jackson Street, Suite 220  
Saint Paul, Minnesota 55101-1806

Telephone: 651-266-8989  
Facsimile: 651-266-9124  
Web: [www.stpaul.gov/dsi](http://www.stpaul.gov/dsi)

## Code Compliance Report

October 15, 2013

Housing & Redev Authority  
25 Fourth St W #1100  
St Paul MN 55102-1634

**\*\* This Report must be Posted  
on the Job Site \*\***

Re: 1031 Reaney Ave  
File#: 11 014674 VB2

Dear Property Owner:

The following is the Code Compliance report you requested on September 17, 2013.

Please be advised that this report is accurate and correct as of the date October 15, 2013. All deficiencies identified by the City after this date must also be corrected and all codes and ordinances must be complied with. This report is valid for 365 days from October 15, 2013. This report may be used in lieu of a Truth in Housing Report required in St Paul Legislative Code 189. This building must be properly secured and the property maintained at all times.

In order to sell or reoccupy this property the following deficiencies must be corrected:

### ZONING

1. This property is in a(n) RT1 zoning district.
2. This property was inspected as a Single Family Dwelling.

### BUILDING                      Inspector: Jim Seeger                      Phone: 651-266-9046

- Insure basement cellar floor is even, is cleanable, and all holes are filled.
- Tuck Point interior/exterior of foundation as necessary.
- Dry out basement and eliminate source of moisture.
- Remove mold, mildew and moldy or water damaged materials.
- Provide adequate access, ventilation and clearance in crawl space area.
- Install handrails (34 inches - 38 inches above each nosing) and guardrails (36 inch minimum) at all stairways, and return hand rail ends into a newel post or wall per attachment.
- Repair or Replace any deteriorated window sash, broken glass, sash holders, re-putty, etc as necessary.
- Provide complete storms and screens, in good repair for all door and window openings.
- Provide functional hardware at all doors and windows

Re: 1031 Reaney Ave  
October 15, 2013  
Page 2

**BUILDING**                      **Inspector: Jim Seeger**                      **Phone: 651-266-9046**

- Repair or replace damaged doors and frames as necessary, including storm doors.
- Weather seal exterior doors, threshold and weather-stripping.
- Prepare and paint interior and exterior as necessary. Observe necessary abatement procedures (EPA, MPCA and St. Paul Legislative Code, Chapter 34 for additional information) if lead base paint is present.
- Any framing members that required repair or do not meet code (where wall and ceiling covering is removed, members that are over-spanned, over-spaced, not being carried properly, door and window openings that are not adequately supported, etc.) are to be reconstructed in an approved manner.
- Where wall and ceiling covering is removed install full thickness or code-specified insulation.
- Air-seal and insulate attic/access door.
- Install Smoke Detectors/Carbon Monoxide Detectors per MN Conservation Code and the MN Dept. of Labor and Industry: Install per code where feasible.
- Provide major clean-up of premises.
- Repair siding, soffit, fascia, trim, etc. as necessary.
- Provide proper drainage around house to direct water away from foundation of house.
- Provide proper drainage around house to direct water away from foundation of garage.
- Install downspouts and a complete gutter system.
- Install rain leaders to direct drainage away from foundation.
- Provide general rehabilitation of garage.
- Install address numbers visible from street and on the alley side of garage.
- Remove trees which are against foundation of home and garage.
- Openings in stair risers must be less than 4 inches.
- Grade must drain away from foundation of dwelling. Maintain 6 inch clearance between wood and soil.
- Re-level front porch roof and repair porch walls.
- Install floor in rear basement.
- Replace decayed floor joist over electrical panel.
- Install guardrail and handrail to code on basement stairs.
- Remove and repair fences and gates.
- Remove tree from southwest corner of garage.
- Replace concrete at south side of garage.
- Replace east side entry steps.
- Clean out crawl space and install vapor barrier.
- A building permit is required to correct the above deficiencies.

**ELECTRICAL**                      **Inspector: Randy Klossner**                      **Phone: 651-266-9032**

- Bond around water meter with a copper wire sized for the electrical service per Article 250 of the NEC
- Provide a complete circuit directory at service panel indicating location and use of all circuits.
- Verify that fuse/circuit breaker amperage matches wire size
- Properly strap cables and conduits in basement.



Re: 1031 Reaney Ave  
October 15, 2013  
Page 3

**ELECTRICAL**      **Inspector: Randy Klossner**      **Phone: 651-266-9032**

- Close openings in service panel/junction boxes with knockout seals, breaker blanks, and/or junction box covers
- Repair or Replace all broken, missing or loose light fixtures, switches and outlets, covers and plates
- Check all outlets for proper polarity and verify ground on 3-prong outlets
- Install hard-wired, battery backup smoke detector and other smoke detectors as required by the IRC. Also, Install carbon monoxide detector(s) within 10 feet of all bedrooms
- Properly wire exterior lights at front/side/back door
- Remove and or/ re-wire all illegal, improper or hazardous wiring in basement/garage
- Rewire vandalized A/C or close openings in disconnect.
- Install box extensions on devices mounted in wood paneling where required by the NEC.
- Insure dishwasher installed to NEC.
- Replace Electrical panel due to corrosion, wire to current NEC.
- Based on repair list purchase permit for a service and 6 circuits.
- All added receptacles must be grounded, tamper-resistant and be on an Arc-Fault Circuit Interrupter-protected circuit.
- Any open walls or walls that are opened as part of this project must be wired to the standards of the current NEC.
- All electrical work must be done by a Minnesota-licensed electrical contractor under an electrical permit.

**PLUMBING**      **Inspector: Steve Fernlund**      **Phone: 651-266-9052**

- Basement - Water Heater - T and P relief discharge piping incorrect (MPC 2210 Subp. 4)
- Basement - Water Heater - Vent must be in chimney liner (MFGC 501.12)
- Basement - Water Heater - not fired or in service (MPC 2180)
- Basement - Water Meter - service valves not functional or correct (MPC 1800 Subp 3,4)
- Basement - Water Piping - repair or replace all corroded, broken or leaking piping (MPC 4715.1720)
- Basement - Water Piping - run 1 inch water line from meter to first major take off (SPRWS Water Code)
- Basement - Soil and Waste Piping - add appropriate hangers (MPC 1430 Subp. 4)
- First Floor - Gas Piping - dryer gas shutoff; connector or piping incorrect (MFGC 411)
- First Floor - Gas Piping - run dryer vent to code (MFGC 614.1 - 614.7)
- Second Floor - Lavatory - faucet is missing, broken, or parts missing (MPC 0200.P.)
- Second Floor - Toilet Facilities - reset the toilet on a firm base (MPC 0870)
- Second Floor - Tub and Shower - provide anti-scald valve (MPC 1380. Subp. 5)
- Second Floor - Tub and Shower - replace waste and overflow (MPC 1240)
- Exterior - Lawn Hydrants - Requires backflow assembly or device (MPC 2000)

Re: 1031 Reaney Ave  
October 15, 2013  
Page 4

**PLUMBING**                      **Inspector: Steve Fernlund**                      **Phone: 651-266-9052**

- All the above corrections to waste, vent, water, and gas piping shall be per the Minnesota Plumbing Code Chapter 4715 & Chapter 326, the Minnesota Mechanical Code, the Minnesota Fuel Gas Code, and the Saint Paul Regional Water Code. All plumbing must be done by a plumbing contractor licensed in the State of Minnesota and the City of St. Paul under an approved permit.

**HEATING**                      **Inspector: Maureen Hanson**                      **Phone: 651-266-9043**

- Clean and Orsat test furnace burner. Check all controls for proper operation. Check furnace heat exchanger for leak; provide documentation from a licensed contractor that the heating unit is safe
- Replace furnace flue venting to code
- Vent clothes dryer to code
- Provide adequate combustion air and support duct to code
- Provide support for gas lines to code
- Plug, cap and/or remove all disconnected gas lines
- Install furnace air filter access cover
- All supply and return ducts for warm air heating system must be clean before final approval for occupancy. Provide documentation from a licensed duct-cleaning contractor that the duct system has been cleaned.
- Repair and/or replace heating registers as necessary
- Provide heat in every habitable room and bathrooms
- Provide a window in the bathrooms with an aggregate glazing area of not less than 3 square feet, one-half of which must be openable or provide exhaust system vented to outside. A mechanical ventilation permit is required if an exhaust system is installed.
- Provide a means of returning air from every habitable room to the furnace. Return air can not be taken from closets, bathrooms, toilet rooms, kitchen or mechanical rooms.
- Mechanical gas and warm air permits are required for the above work.

**Notes:**

- See attachment for permit requirements and appeals procedure.
- Most of the roof covering could not be inspected from grade. Recommend this be done before rehabilitation is attempted.

**This is a registered vacant building. In order to sell or reoccupy this building, all deficiencies listed on this code compliance report must be corrected in accordance with the Minimum Housing Standards of the St. Paul Legislative Code (Chapter 34) and all required permits must receive final approval within six (6) months of the date of this report. One (1) six-month time extension may be requested by the owner and will be considered if it can be shown that the code compliance work is proceeding and is more than fifty (50) percent complete in accordance with Legislative Code Section 33.03(f).**

Re: 1031 Reaney Ave  
October 15, 2013  
Page 5

You may file an appeal to this notice by contacting the City Clerk's Office at 651-266-8688. Any appeal must be made in writing within 10 days of this notice. (You must submit a copy of this notice when you appeal, and pay a filing fee.)

If you have any questions regarding this inspection report, please contact Jim Seeger between 7:30 - 9:00 AM at 651-266-9046 or leave a voice mail message.

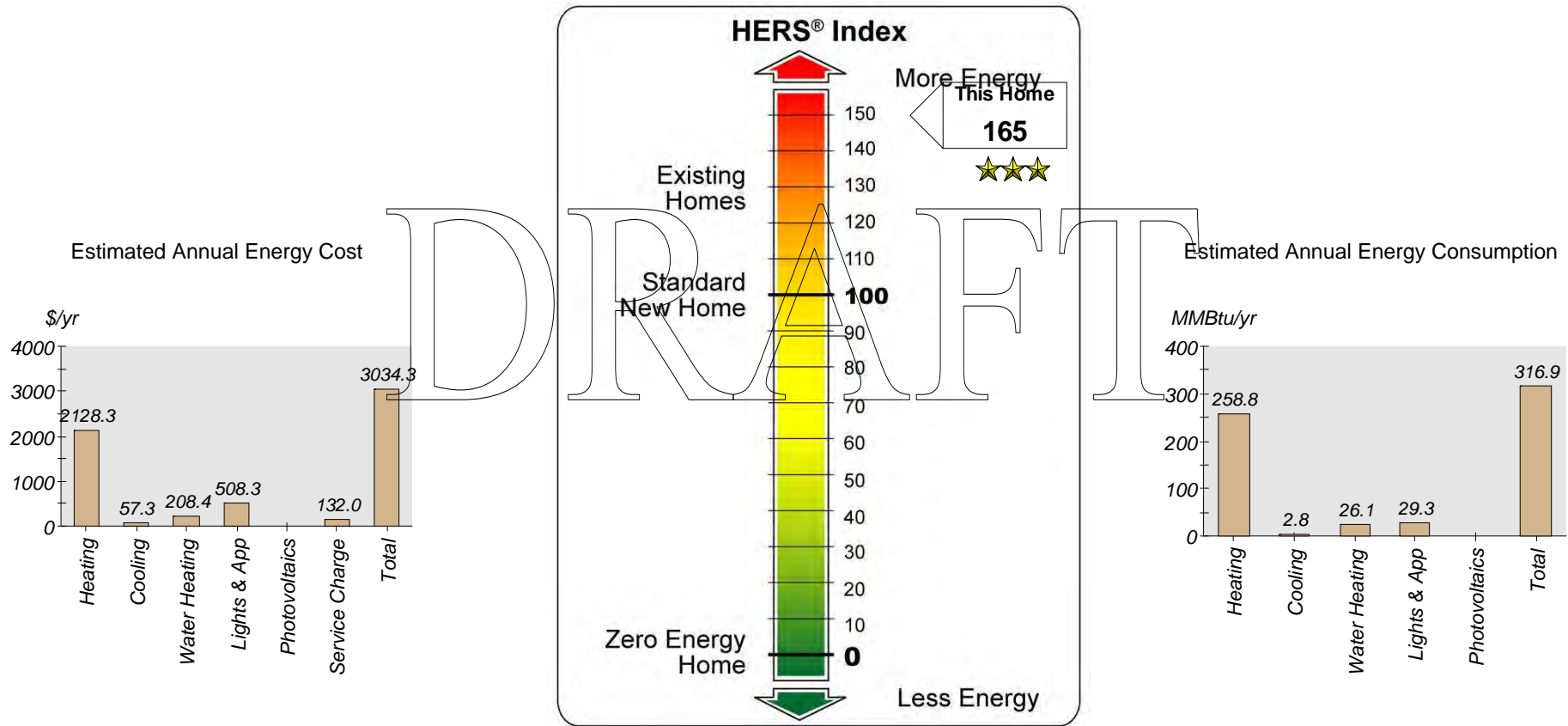
Sincerely,

James L. Seeger  
Code Compliance Officer  
Department of Safety and Inspections  
City of Saint Paul  
375 Jackson Street, Suite 220  
Saint Paul MN 55101  
Phone: 651-266-9046  
Email: [jim.seeger@ci.stpaul.mn.us](mailto:jim.seeger@ci.stpaul.mn.us)

JLS:ml  
Attachments

# HOME PERFORMANCE WITH ENERGY STAR

## ENERGY RATING CERTIFICATE



Address: 1031 Reaney Ave  
Saint Paul, MN 55106

House Type: Single-family detached  
Cond. Area: 2213 sq. ft.  
Rating No.:  
Issue Date: November 06, 2013  
Certification: Verified

Annual Estimates\*:  
Electric(kWh): 8706  
Natural gas(Therms): 2872  
CO2 emissions(Tons): 24  
Annual Savings\*\*: \$0

\* Based on standard operating condition.  
\*\* Based on a HERS 130 Index Home

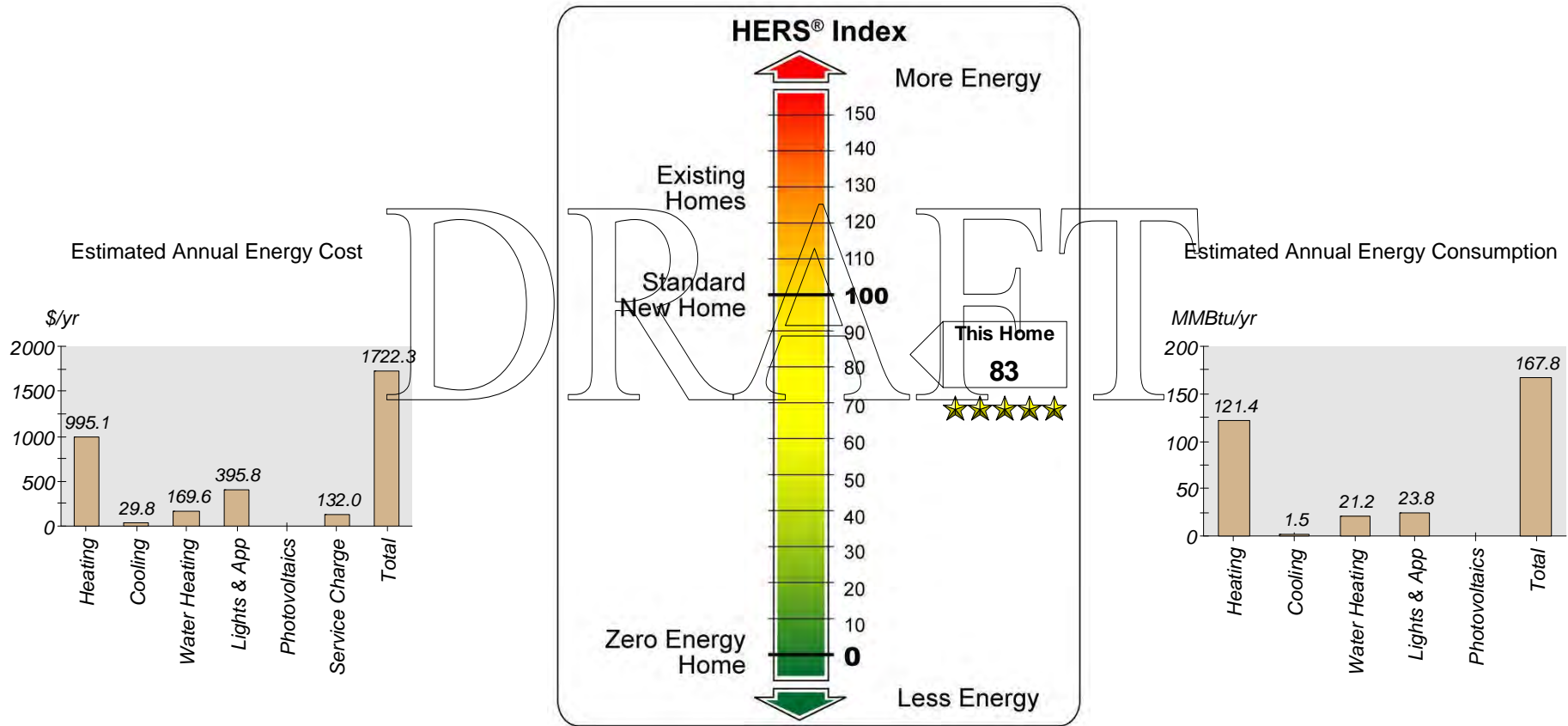
**TITLE**  
**Company**  
Address  
Certified Rater: Jimmie Sparks  
Rater ID: 527  
Registry ID:  
Rating Date: 10/4/13

REM/Rate - Residential Energy Analysis and Rating Software v12.99

This information does not constitute any warranty of energy cost or savings. © 1985-2012 Architectural Energy Corporation, Boulder, Colorado.  
The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

# HOME PERFORMANCE WITH ENERGY STAR

## ENERGY RATING CERTIFICATE



Address: 1031 Reaney Ave  
Saint Paul, MN 55106

House Type: Single-family detached  
Cond. Area: 2213 sq. ft.  
Rating No.:  
Issue Date: November 06, 2013  
Certification: Verified

Annual Estimates\*:  
Electric(kWh): 5854  
Natural gas(Therms): 1478  
CO2 emissions(Tons): 13  
Annual Savings\*\*: \$669

\* Based on standard operating condition.  
\*\* Based on a HERS 130 Index Home

**TITLE**  
**Company**  
Address  
Certified Rater: Jimmie Sparks  
Rater ID: 527  
Registry ID:  
Rating Date: 10/4/13

REM/Rate - Residential Energy Analysis and Rating Software v12.99

This information does not constitute any warranty of energy cost or savings. © 1985-2012 Architectural Energy Corporation, Boulder, Colorado.  
The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

## Neighborhood Energy Connection

### Residential Energy Specification

Customer: City of Saint Paul

Auditor: Jimmie Sparks

Address: 1031 Reaney Ave

Phone: 651-221-4462 x123

Spec ID#	Spec Title	Specification	Location / Notes
104	Replace Furnace with 95% AFUE, Multi-stage, Forced Air Furnace	Remove existing furnace, recycle all metal components and dispose of all other materials in a code legal dump. Install a new ENERGY STAR rated, gas-fired, multi-stage burner, forced air furnace with a minimum AFUE rating of 95%+ and ECM Motor with 2" rise above floor. Connect to existing duct work and gas line. New furnace to be vented with PVC piping per manufacturer's specifications. New furnace will have minimum limited warranties of 20 years on heat exchangers; 5 years on parts. Include auto setback thermostat controls, vent pipe & new shut-off valve. Rework cold air return if necessary to ensure easy access, good fit & easy replacement of air filter. An exterior return air filter box shall be installed on one side, both sides or bottom of new furnace. Seal all exposed duct joints with duct mastic. Remove all existing cloth duct tape prior to installing mastic.	
302	Replace Water Heater with Power Vented .67 EF or higher	Replace water heater with a power-vented water heater with an EF of .67 or greater. Include pressure & temperature release valve, discharge tube to within 6" of floor and PVC flue to power	

		vent to exterior.	
500	Seal Attic Bypasses	<p>Contractor shall seal all attic bypasses. Bypasses shall be defined as any break in the envelope of a house between a heated living space and an unheated area or exterior. Bypass locations include, but are not limited to, the following areas: chimneys, soil stacks, end walls, dropped ceilings, open plumbing walls, beneath knee walls and around duct work, electrical work and attic access points. Bypasses shall be sealed in such a manner that the movement of air through the bypass is essentially stopped. "Essentially stopped" means that air leakage will not be detected by an infrared scan when the house is pressurized to 30 Pascals. Materials to be used for sealing bypasses depend on the size and location of the bypass and meet code requirements. These materials include high quality caulks (20-year life span), polyethylene rod stock, foam, sheetrock, sheet metal, extruded polystyrene and densely packed insulation.</p>	
510	Blow Open Attic to R-50	<p>All bypasses shall be sealed before insulating in such a manner that the movement of air through the bypass is essentially stopped. "Essentially stopped" means that air leakage will not be detected by an infrared scan when the house is pressurized to 30 Pascals. Blow insulation to depth indicated on manufacturer's coverage chart, consistently and evenly to R-50. Insulation in the peak attic must be marked with a ruler to measure depth and a sign with the number of bags used and the date of the installation.</p>	
516	Dense Pack Slants to capacity with Spider fiberglass	<p>Determine cavities are free of hazards and can support dense packing pressures, locate drilling hazards, control dust when drilling from interior. Dense pack spider fiberglass per</p>	

		manufacturer's instructions.	
526	Insulate Above Bay Window	Insulate space above bays to capacity. Insulate floor to capacity. Access holes must be patched, plugged and painted as necessary.	
608	Wall insulation - Exterior Application: Remove Aluminum Siding, Drill, Dense Pack, Plug and Replace Siding	Siding shall be removed before drilling access holes. Determine cavities are free of hazards and can support dense packing pressures, locate drilling hazards, control dust when drilling from interior. Completely fill each cavity to a consistent density. Dense pack cellulose to a minimum density of 3.5 lbs/ft <sup>3</sup> or dense pack spider fiberglass per manufacturer's instructions. Siding must be replaced without damage and nailed back with appropriate galvanized nails. Follow all applicable Lead Safe Work Practices as per the EPA's RRP Rules.	
802	Air Seal and Insulate Rim Joist	Seal cracks and holes in rim joist before insulating. Caulk or foam 3 inches of rigid insulation in place. Or, apply two-part foam evenly and consistently according to manufacturer's instructions to insulate to R-10 around basement rim joist.	
912	Insulate crawl space walls	Install poly on the ground. Affix 2" rigid board (Thermax) insulation with minimum R-value of 7 per inch. Alternately, apply two-part foam evenly and consistently according to manufacturer's instructions to insulate to R-10. Follow applicable code requirements.	
1000	Install ENERGY STAR Rated Kitchen Fan	Install an ENERGY STAR rated exhaust fan connected with insulated rigid ductwork into a dampered vent.	
1004	Vent Existing Kitchen Fan to Outside	Vent kitchen fan using rigid duct and insulated with fiberglass and vented out with dampered roof vent.	



1200	Replace incandescents with CFLs	Replace incandescent bulbs with ENERGY STAR rated compact fluorescent lights. Install fixtures that meet the lighting needs of the particular area.	
1212	Install ENERGY STAR Rated Dishwasher	Install ENERGY STAR rated dishwasher including all alterations and connections to plumbing and electric system. Remove existing dishwasher, recycle all metal components and dispose of all other materials in a code legal dump.	
1214	Install ENERGY STAR Rated Refrigerator	Install ENERGY STAR rated refrigerator sized appropriately for the household. Remove existing refrigerator, recycle all metal components and dispose of all other materials in a code legal dump.	