

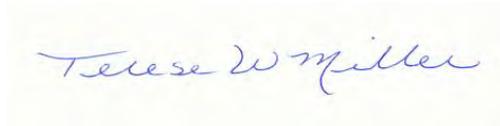
**HAZARDOUS MATERIALS SURVEY**

216/218 Bates Avenue  
St. Paul, Minnesota 55106

*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:*



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Principal Consultant, CEO



St. Croix Environmental, Inc.  
1094 Golden Oaks Drive  
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May 11, 2012

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## APPENDICES

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## 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 216/218 Bates Avenue in St. Paul, Minnesota (the Site). The Site is occupied by a commercial/residential unit which is 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).
- Identify deteriorated 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 May 7 and May 8, 2012

### 2.1. ACM Sampling

A list of the suspect asbestos materials that were sampled can be found on Page 3 in **Appendix I**. 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 of the asbestos samples. The samples were analyzed by Polarized Light Microscopy (PLM), the EPA-approved analytical method for bulk analysis.

### 2.2. ACM Results

A copy of the analytical laboratory report is included in **Appendix A**. The sample location diagram is also included in the appendix. The following sample was found to contain asbestos.

856/0512B-B19 5/7/12	South roof flashing sealant	10% Chrysotile in layer 1	Throughout
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### 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 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 (mg/cm<sup>2</sup>) of lead.

#### 3.2. Lead-Based Paint Results

Specific building components determined to have a lead concentration above the action level (1.0 mg/cm) are listed below:

<b>LOCATION</b>	<b>COMPONENT</b>
Floor 1, Room 1	Painted wood door components
Floor 1, Room 1	Painted wood overhead door components
Floor 1, Room 1	Painted wood window components
Floor 1, Room 1	Painted wood upper trim
Floor 1, Back Room	Painted brick wall
Exterior	Painted wood overhead door

### 4. 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.

## 5. 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 activities. Services performed by SCE 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 SCE's best efforts to determine the presence of lead-based peeling or flaking 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.





**ASBESTOS and LEAD-BASED PAINT  
PRE-RENOVATION INSPECTION  
SITE EVALUATION**

**Commercial/Residential Property  
216/218 Bates Avenue  
St. Paul, Minnesota**

**PREPARED FOR:  
Kevin Miller  
St. Croix Environmental  
1094 Golden Oaks Drive  
Hudson WI 54016**

**Phone:  
715-381-5701**

**INSPECTION DATE:**

**May 7, 2012 & May 8, 2012**

**INSPECTED BY:**

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**MEC PROJECT NUMBER: 856/0512B**

**REPORT DATE: May 10, 2012**

# PRE-RENOVATION INSPECTION PROFILE

**Commercial/Residential Property  
216/218 Bates Avenue  
St. Paul, Minnesota**

## INTRODUCTION

Midwest Environmental Consulting, L.L.C. (MEC) staff conducted an inspection of the commercial/residential property located at 216/218 Bates 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 commercial/residential property located at 216/218 Bates Avenue, St. Paul, Minnesota is a two story brick building on a concrete/stone foundation and partial basement constructed in approximately 1912. The lower commercial area of the complex has a combination of brick walls, plaster walls, drywall walls and wood paneling. The floors are concrete except for the area above the partial basement which has a wood floor. The ceiling in the lower north area is a combination of drop-in fiberglass and pressed fiber ceiling tiles with a brown fiber board above the tiles. The roof deck is wood joists and a plank roof deck in poor condition with visible mold, rotted joists and decking.

Water infiltration is occurring from holes in the roof deck and bad roofing materials and flashing. Water drainage from the roof is also draining between the east brick wall and the stucco exterior causing it to delaminate and structurally damage the brick wall.

Mold was visibly present on all porous drywall, ceiling tile, fiberboard, furniture, painted plaster walls and concrete walls. Severe rot is occurring to the basement floor deck and the roof deck of the north complex area.

The exterior metal siding is in poor condition allowing water infiltration into the building, including the apartment unit. The windows are in poor condition and have also been vandalized allowing for moisture infiltration. The roof deck on the apartment unit also has water intrusion on the east end rim joists and is rotting and beginning to sag.

The apartment unit is the second level of the 216/218 Bates Avenue complex. The entry to the unit is on the east side. The walls and ceilings of the apartment unit are drywall. The floor is painted concrete with carpet and a small area of floor tile in the

bathroom. The windows are primarily wood double hung windows. There are casement sliding windows with plexiglass insert panels on the west side.

Visible mold was present on the drywall walls and ceilings of the east bedroom, the entry room, the west wall of the living room and on the bathroom fiberboard.

The west windows are not sealed to the sashes and water is likely to be entering the structure. Visible microbial growth was not visible on the west walls on the day of the site evaluation. The roof joists and decking were visibly wet and rot was present.

Appliances, furniture, water heaters, ceiling heaters, air conditioners, softeners, tire, liquid cleansers, mercury switches, parlor stove, thermometer, and trash will need to be removed from this property.

If the building is going to be rehabilitated, documented methodologies will need to be incorporated for microbial remediation. If the building is to be demolished, precautions will need to be taken to deal with the extensive microbial contamination.

## 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
1 856/0512B-B1 5/7/12	Main Level, drywall/taping compound	None detected	15% cellulose 70% gypsum 15% silicates	Throughout
2 856/0512B-B2 5/7/12	Main Level, north plaster wall	None detected	70% silicates 20% binder 10% paint	Scattered throughout

3 856/0512B-B3 5/7/12	Main Level, west wall, brown Styrofoam glue	None detected	90% foam 10% mastic	West wall
4 856/0412B-B4 5/7/12	Main Level, 2'x4' ceiling tile, squiggly lines to side. Homogeneous to B5, B6	None detected	65% cellulose 10% fiberglass 20% Perlite 5% paint	192 ft <sup>2</sup>
5 856/0512B-B5 5/7/12	Main Level, 2'x4' ceiling tile, squiggly lines to side, Homogeneous to B4, B6	None detected	65% cellulose 10% fiberglass 20% Perlite 5% paint	-----
6 856/0512B-B6 5/7/12	Main Level, 2'x4' ceiling tile, squiggly lines to side. Homogeneous to B4, B5	None detected	65% cellulose 10% fiberglass 20% Perlite 5% paint	-----
7 856/0512B-B7 5/7/12	North Office, 1'x1' grey floor tile/clear glue	None detected in all layers	60% vinyl 25% calcium carbonate 15% silicates 5% cellulose 75% mastic 15% silicates	156 ft <sup>2</sup>
8 856/0512B-8 5/7/12	Main Level, buffalo boards above ceiling tile.	None detected	95% cellulose 5% paint	900 ft <sup>2</sup>
9 856/0512B-B9 5/7/12	Apt. drywall/taping compound	None detected	15% cellulose 45% gypsum 25% calcium carbonate 15% silicates	Throughout
10 856/0512B-B10 5/7/12	Apt. Bathroom, 1'x1' floor tile/mastic	None detected in all layers	60% vinyl 25% calcium carbonate 15% silicates 5% cellulose 75% mastic 20% silicates	17 ft <sup>2</sup>
11 856/0512B-B11 5/7/12	Apt. west window caulk	None detected	5% cellulose 90% binder 5% paint	2 windows

12 856/0512B-B12 5/7/12	Apt. plaster ceiling above drywall	None detected	<1% hair 75% silicates 25% binder	Throughout
13 856/0512B-B13 5/7/12	Apt. window glaze - south window	None detected	40% binder 45% calcium carbonate 15% silicates	1 window
14 856/0512B-B14 5/7/12	Apt. white window caulk, east	None detected	5% cellulose 90% binder 5% paint	Scattered outside
15 856/0512B-B15 5/7/12	North roof membrane, multi- layer	None detected	30% cellulose 20% fiberglass 35% tar 15% silicates	2,700 ft <sup>2</sup>
16 856/0512B-B16 5/7/12	North roof, flashing sealant	None detected	20% cellulose 70% tar 10% silicates	Throughout
17 856/0512B-B17 5/7/12	North complex, east wall, stucco	None detected	70% silicates 25% binder 5% paint	282 ft <sup>2</sup>
18 856/0512B-B18 5/7/12	North complex, white rubbery stucco sealant	None detected	100% binder	651 linear feet
19 856/0512B-B19 5/7/12	South roof flashing sealant	15% Chrysotile in layer 1	75% tar 15% silicates 10% cellulose 75% tar 15% silicates 75% silicates 25% binder	Throughout
20 856/0512B-B20 5/7/12	South roof membrane	None detected	30% cellulose 20% fiberglass 40% tar 10% silicates	1,500 ft <sup>2</sup>
21 856/0512B-B21 5/7/12	Chimney mortar	None detected	80% silicates 20% calcium carbonate	Throughout

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

The random samples collected from areas within the complex, were found to contain asbestos in the south roof flashing. 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 October 1997 revised 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 (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. 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: West, faces Bates Avenue
- Side B: North, faces Wilson Avenue
- Side C: East, faces residential
- Side D: South, 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
Floor 1, Room 1	Painted wood door components
Floor 1, Room 1	Painted wood overhead door components
Floor 1, Room 1	Painted wood window components
Floor 1, Room 1	Painted wood upper trim
Floor 1, Back Room	Painted brick wall
Exterior	Painted wood overhead door

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.

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 window components; painted wood door components, including overhead doors; painted wood trim & painted brick wall.

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.

### Floor 1, Room 1:

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 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 upper trim: In poor condition.

- Option 1: Remove wall & 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.

### **Floor 1, Back Room:**

Painted brick wall: In poor condition

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

### **Exterior:**

Painted wood overhead 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.

### **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 not observed on the date of the site evaluation due to snow cover. 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 on window & door components; painted brick wall; painted wood upper 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.

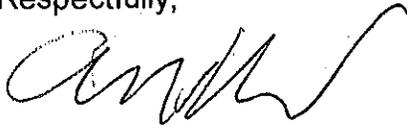
A copy of this lead inspection/risk assessment summary must be provided to purchasers or lessees (tenants) of this property under Federal Law (24 CFR Part 35 and 40 CFR

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



*Heather S. Bremer*  
Director, Env. Health Div.



**LEAD**  
**Risk Assessor**

Licensed by:  
State of Minnesota  
Department of Health

License No. LR578  
Expires 08/25/2012

Andrew J Myers  
210 2nd St N  
New Prague, MN 56071

**Andrew J. Myers**



has completed the Minnesota-Approved Lead Training course entitled:

**Lead Risk Assessor Refresher Training**

**August 25, 2011**

given by

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

145 - 2<sup>nd</sup> Avenue SE, Cambridge, MN 55008

Phone: 763.691.0111

**SUCCESSFULLY PASSED THE EXAMINATION ON August 25, 2011, IN Cambridge, MINNESOTA**

IDENTIFICATION NUMBER: MEC/LRAR 0847

Expiration Date: August 25, 2012

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 BOBBIS, MINNESOTA**

**IDENTIFICATION NUMBER: REC/LI-0053**  
**Expiration Date: March 14, 2002**  
**MDH 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

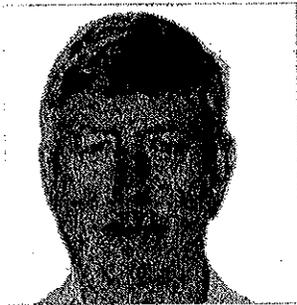
• SUCCESSFULLY PASSED THE EXAMINATION ON JUNE 28, 2001, IN MINNEAPOLIS, MINNESOTA

IDENTIFICATION NUMBER: MEC/LRA-0111

Expiration Date: June 28, 2002

Exam Permit #: RAI-002

*Andrew J. Myers*  
Course Director



*Janet A. Bremer*  
Director, Env. Health Div.



**LEAD**  
**Risk Assessor**

Licensed by:  
State of Minnesota  
Department of Health

License No. LR284  
Expires 08/26/2012

Greg A Myers  
19667 Salmonson River Rd  
Mora, MN 56051

**Greg A. Myers**

has completed the Minnesota-Approved Lead Training course entitled:

**Lead Risk Assessor Refresher Training**

**August 25, 2011**

given by

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

145 - 2<sup>nd</sup> Avenue SE, Cambridge, MN 55008

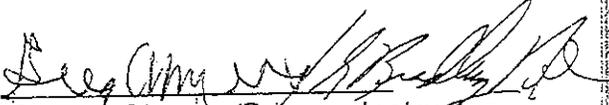
Phone: 763.691.0111

**SUCCESSFULLY PASSED THE EXAMINATION ON August 25, 2011, IN Cambridge, MINNESOTA**

IDENTIFICATION NUMBER: MEC/LRAR 0843

Expiration Date: August 25, 2012

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 Risk Assessor Independent Examination**

RA-0040

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. Blomgren".

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-48

*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.

✓ MN 831 Sponsored Educational Resource Center  
✓ National Institute of Environmental Health Sciences  
✓ U.S. EPA Regional Lead Training Center  
✓ Great Lakes OSHA Training Consortium

*James F. Goro*  
Course Director

Return 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 MN Board of Nursing for 20  
contact hours

3.0 Maintenance of certification points from the American Board of  
Industrial Hygiene

Approval has been granted for 12 contact hours for continuing education by  
the MN Board of Registration as an Environmental Health Specialist/Sanitarian

This course offers 2.0 Continuing Education Units (CEUs) from the Midwest  
Center for Occupational Health and Safety

Form OSHA-100 (Rev. 11-199)  
Midwest Center for Occupational Health and Safety

*James [Signature]*

**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*

*President & CEO - NITON*



ASBESTOS  
INSPECTOR

Certified by:  
State of Minnesota  
Department of Health

**Expires: 07/21/2012**

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

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

No. AI2289

Issued: 07/29/2011

Certificate No: 5LM07211105IR

Expiration Date: July 21, 2012

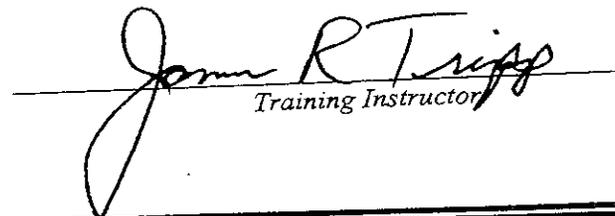
This is to certify that  
**Greg Myers**  
has attended and successfully completed an  
**ASBESTOS INSPECTOR  
REFRESHER TRAINING COURSE**

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 21, 2011**  
**Examination Date: July 21, 2011**

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

  
Training Instructor

# Tufts University

Greg Myers

Has attended and satisfactorily passed  
an examination covering the contents of the course:

## “Asbestos Abatement for Inspectors”

conducted by the

Asbestos Information Center  
Center for Environmental Management

8801-03-032  
Certificate Number

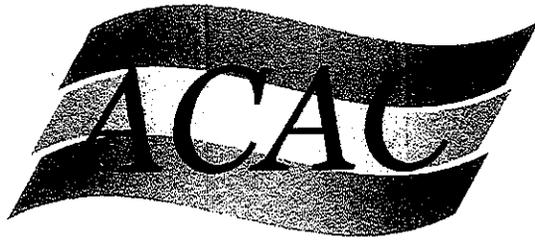
January 25-27, 1988  
Date of Course

January 27, 1989  
Expiration Date



Penda Cole  
Training and Education Coordinator

Anthony D. Cortese  
Director  
Center For Environmental Management



# American Council for Accredited Certification

hereby certifies that

**Greg A. Myers**

has met all the specific standards and qualifications of the re-certification process,  
including continued professional development, and is hereby re-certified as a

**CMC**

**Council-certified  
Microbial Consultant**

This certificate expires on October 31, 2013.

*Charles F. Wiles*

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Charles F. Wiles, Executive Director

0710009

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Certificate Number

This certificate remains the property of the American Council for Accredited Certification.

INDOOR AIR QUALITY ASSOCIATION

# Membership Certificate

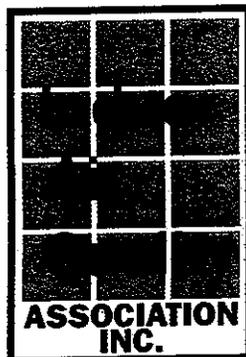
THIS DOCUMENT IS TO CERTIFY THAT

*Greg Myers*

Membership ID #: 15240

IS A MEMBER IN GOOD STANDING AND ENTITLED TO ALL RIGHTS &  
PRIVILEGES OF ASSOCIATION MEMBERSHIP

EXPIRES 12/1/2012



A handwritten signature in black ink, appearing to read "G. E. Fellman".

Glenn E. Fellman, Executive Director

# 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

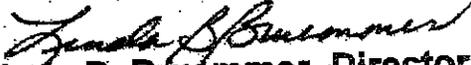
## Certified Lead Firm

License No: LF551

Expires 03/28/2013

This certificate is nontransferable.

---

  
Linda B. Bruemmer, Director  
Division of Environmental Health





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## ASBESTOS LABORATORY REPORT

Prepared for

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

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**PROJECT:** 856 / 0512B; 216 & 218 Bates Avenue, St. Paul  
MN

**CEI LAB CODE:** A12-3974

**DATE REPORTED:** 05/09/12

**TOTAL SAMPLES ANALYZED:** 21

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

**TEL: 866-481-1412**

[www.ceilabs.com](http://www.ceilabs.com)



# Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 856 / 0512B; 216 & 218 Bates Avenue, St. Paul

Paul

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

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
856/0512B-B1		A1287039	Brown, Off-white	Drywall / Tape	None Detected
856/0512B-B2		A1287040	Brown, White	Plaster	None Detected
856/0512B-B3		A1287041	White, Tan	Styrofoam Glue	None Detected
856/0512B-B4		A1287042	White, Grey	2'x4' Ceiling Tile	None Detected
856/0512B-B5		A1287043	White, Grey	2'x4' Ceiling Tile	None Detected
856/0512B-B6		A1287044	White, Grey	2'x4' Ceiling Tile	None Detected
856/0512B-B7		A1287045A	Grey	Floor Tile	None Detected
		A1287045B	Tan, Brown	Mastic	None Detected
856/0512B-B8		A1287046	Brown, Off-white	Ceiling Material	None Detected
856/0512B-B9		A1287047	Brown, Off-white	Drywall/Mud & Tape	None Detected
856/0512B-B10		A1287048A	Off-white, Blue	Floor Tile	None Detected
		A1287048B	Yellow, Clear	Mastic	None Detected
856/0512B-B11		A1287049	Grey	Window Caulking	None Detected
856/0512B-B12		A1287050	Tan	Plaster	None Detected
856/0512B-B13		A1287051	White, Grey	Window Glazing	None Detected
856/0512B-B14		A1287052	Grey	Window Caulking	None Detected
856/0512B-B15		A1287053	Black	Roof Membrane	None Detected
856/0512B-B16		A1287054	Black	Flashing Sealant	None Detected
856/0512B-B17		A1287055	Grey, White	Stucco	None Detected
856/0512B-B18		A1287056	Grey	Stucco Sealant	None Detected
856/0512B-B19	Layer 1	A1287057	Black	Flashing Sealant	Chrysotile 10%
	Layer 2	A1287057	Black	Flashing Sealant	None Detected
	Layer 3	A1287057	Grey	Flashing Sealant	None Detected
856/0512B-B20		A1287058	Black	Roof Membrane	None Detected
856/0512B-B21		A1287059	Grey	Chimney Mortar	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:** A12-3974

**Date Received:** 05-08-12

**Date Reported:** 05-09-12

**Project:** 856 / 0512B; 216 & 218 Bates Avenue, St. Paul  
MN

## ASBESTOS BULK PLM, EPA 600 METHOD

SAMPLE ID	Description	Type / Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS
			Fibrous	Non-Fibrous	
856/0512B- B21 A1287059	Chimney Mortar	Homogeneous	80%	Silicates	None Detected
		Grey	20%	Calc Carb	
		Non-fibrous 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:** A12-3974

**Date Received:** 05-08-12

**Date Reported:** 05-09-12

**Project:** 856 / 0512B; 216 & 218 Bates Avenue, St. Paul  
 MN

## ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %	
			Fibrous	Non-Fibrous			
856/0512B- B1 A1287039	Drywall / Tape	Heterogeneous	15%	Cellulose	70%	Gypsum	None Detected
		Brown, Off-white			15%	Silicates	
		Fibrous					
		Loosely Bound					
856/0512B- B2 A1287040	Plaster	Heterogeneous			70%	Silicates	None Detected
		Brown, White			20%	Binder	
		Non-fibrous			10%	Paint	
		Bound					
856/0512B- B3 A1287041	Styrofoam Glue	Heterogeneous			90%	Foam	None Detected
		White, Tan			10%	Mastic	
		Non-fibrous					
		Loosely Bound					
856/0512B- B4 A1287042	2'x4' Ceiling Tile	Heterogeneous	65%	Cellulose	20%	Perlite	None Detected
		White, Grey	10%	Fiberglass	5%	Paint	
		Fibrous					
		Loosely Bound					
856/0512B- B5 A1287043	2'x4' Ceiling Tile	Heterogeneous	65%	Cellulose	20%	Perlite	None Detected
		White, Grey	10%	Fiberglass	5%	Paint	
		Fibrous					
		Loosely Bound					
856/0512B- B6 A1287044	2'x4' Ceiling Tile	Heterogeneous	65%	Cellulose	20%	Perlite	None Detected
		White, Grey	10%	Fiberglass	5%	Paint	
		Fibrous					
		Loosely Bound					
856/0512B- B7 A1287045A	Floor Tile	Homogeneous			60%	Vinyl	None Detected
		Grey			25%	Calc Carb	
		Non-fibrous			15%	Silicates	
		Bound					
A1287045B	Mastic	Heterogeneous	5%	Cellulose	75%	Mastic	None Detected
	Tan, Brown			20%	Silicates		
	Non-fibrous						
	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:** A12-3974

**Date Received:** 05-08-12

**Date Reported:** 05-09-12

**Project:** 856 / 0512B; 216 & 218 Bates Avenue, St. Paul  
MN

## ASBESTOS BULK PLM, EPA 900 METHOD

CLIENT ID	SAMPLE DESCRIPTION	TEXTURE	COLOR	ASBESTOS COMPONENTS			ASBESTOS	
				PERCENT	MINERAL	PERCENT		
<b>856/0512B-B8</b> A1287046	Ceiling Material	Heterogeneous	Brown, Off-white	95%	Cellulose	5%	Paint	<b>None Detected</b>
		Fibrous						
		Loosely Bound						
<b>856/0512B-B9</b> A1287047	Drywall/Mud & Tape	Heterogeneous	Brown, Off-white	15%	Cellulose	45%	Gypsum	<b>None Detected</b>
		Fibrous				25%	Calc Carb	
		Loosely Bound				15%	Silicates	
<b>856/0512B-B10</b> A1287048A	Floor Tile	Homogeneous	Off-white, Blue			60%	Vinyl	<b>None Detected</b>
		Non-fibrous				25%	Calc Carb	
		Bound				15%	Silicates	
A1287048B	Mastic	Homogeneous	Yellow, Clear	5%	Cellulose	75%	Mastic	<b>None Detected</b>
		Non-fibrous				20%	Silicates	
		Bound						
<b>856/0512B-B11</b> A1287049	Window Caulking	Heterogeneous	Grey	5%	Cellulose	90%	Binder	<b>None Detected</b>
		Non-fibrous				5%	Paint	
		Bound						
<b>856/0512B-B12</b> A1287050	Plaster	Homogeneous	Tan	<1%	Hair	75%	Silicates	<b>None Detected</b>
		Fibrous				25%	Binder	
		Bound						
<b>856/0512B-B13</b> A1287051	Window Glazing	Heterogeneous	White, Grey			40%	Binder	<b>None Detected</b>
		Non-fibrous				45%	Calc Carb	
		Bound				15%	Silicates	
<b>856/0512B-B14</b> A1287052	Window Caulking	Heterogeneous	Grey	5%	Cellulose	90%	Binder	<b>None Detected</b>
		Non-fibrous				5%	Paint	
		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:** A12-3974

**Date Received:** 05-08-12

**Date Reported:** 05-09-12

**Project:** 856 / 0512B; 216 & 218 Bates Avenue, St. Paul  
 MN

## ASBESTOS BULK PLM EPA 900 METHOD

CLIENT ID	LAYER	LAYER DESCRIPTION	TEXTURE	NON-ASBESTOS COMPONENTS			ASBESTOS
				FIBROS	CELLULOSE	NON-FIBROS	
856/0512B-B15 A1287053	Roof Membrane		Heterogeneous	30%	Cellulose	35%	None Detected
			Black	20%	Fiberglass	15%	
			Fibrous				
			Bound				
856/0512B-B16 A1287054	Flashing Sealant		Heterogeneous	20%	Cellulose	70%	None Detected
			Black			10%	
			Non-fibrous				
			Bound				
856/0512B-B17 A1287055	Stucco		Heterogeneous			70%	None Detected
			Grey,White			25%	
			Non-fibrous			5%	
			Bound				
856/0512B-B18 A1287056	Stucco Sealant		Homogeneous			100%	None Detected
			Grey				
			Non-fibrous				
			Bound				
856/0512B-B19 Layer 1 A1287057	Flashing Sealant		Heterogeneous			75%	10% Chrysotile
			Black			15%	
			Non-fibrous				
			Bound				
Layer 2 A1287057	Flashing Sealant		Heterogeneous	10%	Cellulose	75%	None Detected
			Black			15%	
			Non-fibrous				
			Bound				
Layer 3 A1287057	Flashing Sealant		Heterogeneous			75%	None Detected
			Grey			25%	
			Non-fibrous				
			Bound				
856/0512B-B20 A1287058	Roof Membrane		Heterogeneous	30%	Cellulose	40%	None Detected
			Black	20%	Fiberglass	10%	
			Fibrous				
			Bound				



\*\*\*  
T\*\*\*



**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 Myrski

1 of 2

A12-3974 (21)

**CHAIN OF CUSTODY**

A12-3974 A/287059

Project Number: 856/0512B

Client: St Croix Environmental/ City

Project: 216+216 Ruter Avenue, St. Paul, MN

Phone/Fax: \_\_\_\_\_

Sample ID	Sample Description	Collection Date/Time	Matrix (Vol./Area)	Analysis Requested
856/0512B-B1	<sup>main level (2B)</sup> Drywall / <sup>toxic</sup> compound	05/02/12 2:00	Throughout	PLM Asbestos
B2	Plaster walls - south wall		Scattered throughout	
B3	Stump foam glue <sup>between</sup> west wall		west wall	
B4	2'x4' ceiling tile <sup>toxic</sup> south side		198 ft <sup>2</sup>	
B5	" " " "		—	
B6	" " " "		—	
B7	North office <sup>clear glue</sup> Floor tile 1'x1' grey		156 ft <sup>2</sup>	
B8	Ceiling above <sup>fiberglass</sup> south wall			
B9	Apt level drywall <sup>East wall</sup> toxic compound		Throughout	
B10	Apt Bath - Floor tile 1'x1' <sup>blue</sup> pattern		17 ft <sup>2</sup>	
B11	Apt west window <sup>grey</sup> caulk		2 windows	
B12	Apt Plaster ceiling above drywall		throughout	
B13	Apt window glaze - south window		1 window	
B14	Apt window <sup>white</sup> caulk east		Scattered outside	

Sampled by: Greg Myrski Date: 05/17 Time: \_\_\_\_\_

Delivered by: Greg Myrski Date: 05/07/12 Time: \_\_\_\_\_

Received by: Christy P. Date: \_\_\_\_\_ Time: 9:45 AM

Delivered by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by Lab: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

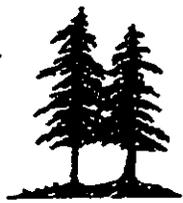
Disposition of Samples: \_\_\_\_\_

Notes: Analyze unit 1001 live (B4, B5, B6)

Analyze @ 24 hour turnaround

2042

A/2-7974



### 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: 856/0512B

Client: Midwest Environmental / City of St. Paul

Project: 216-24 Bates Ave. St. Paul, MN

Phone/Fax: \_\_\_\_\_

Sample ID	Sample Description	Collection Date/Time	Matrix (Vol./Area)	Analysis Requested
856/0512B-815	North roof membrane <sup>multiple layers</sup> with <del>flashing</del>	05/07/12		PLM Asbestos
816	North roof flashing <sup>black sealant</sup>			
817	North complex east wall stucco			
818	North complex stucco <sup>white rubbers</sup> <del>flashing</del>			
819	South roof flashing <sup>black sealant</sup>			
<del>820</del> 820	South roof membrane <sup>multiple layers</sup>			
821	Chimney mortar			

Sampled by: Greg Myers Date: 5/07/12 Time: 2:00 - 4:00p Delivered by: Fed Ex Date: 05/17/12 Time: \_\_\_\_\_

Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Delivered by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by Lab: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Disposition of Samples: \_\_\_\_\_

Notes:

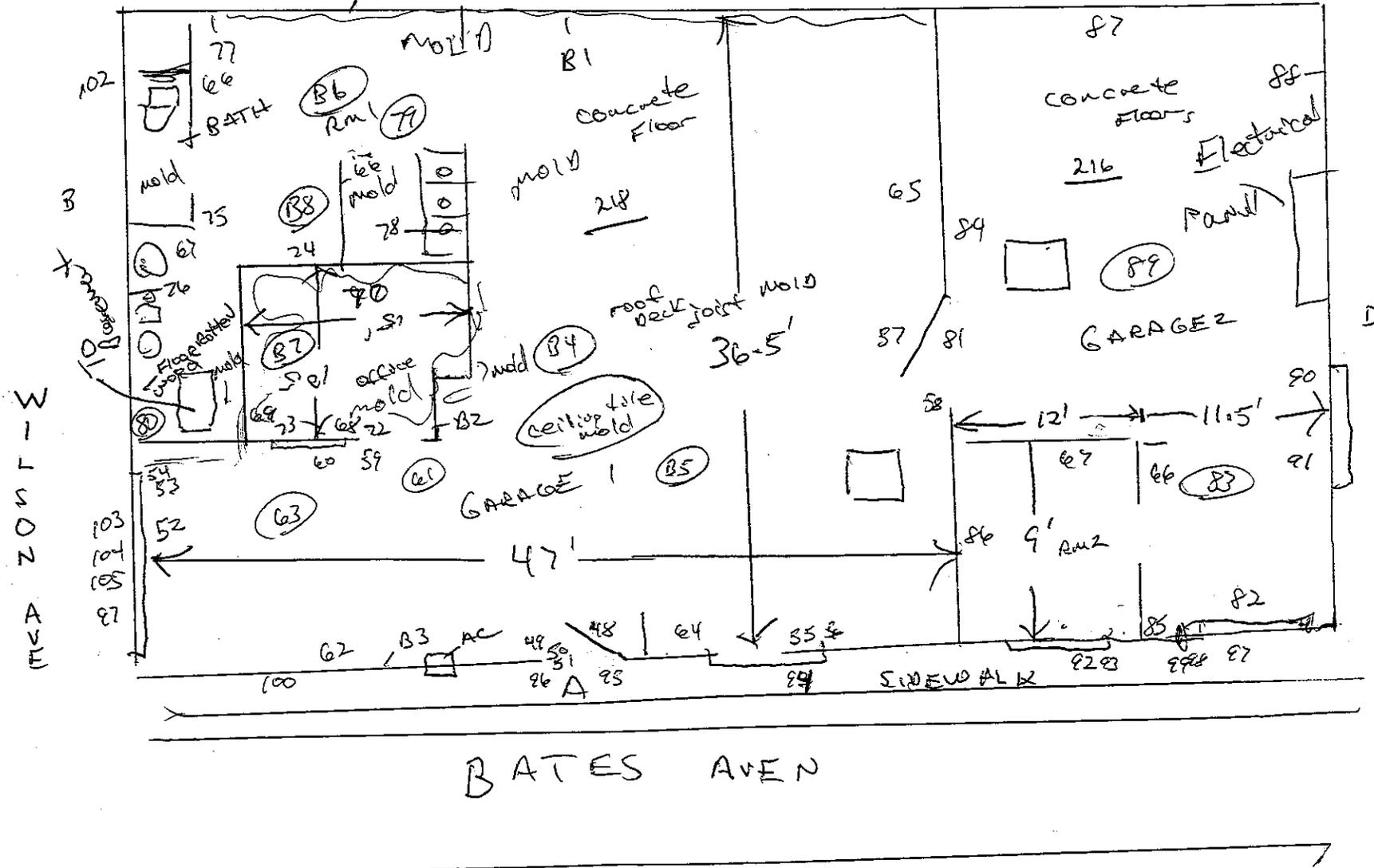
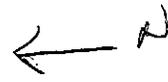
Please analyze @ 24 hour turnaround

**APPENDIX B**

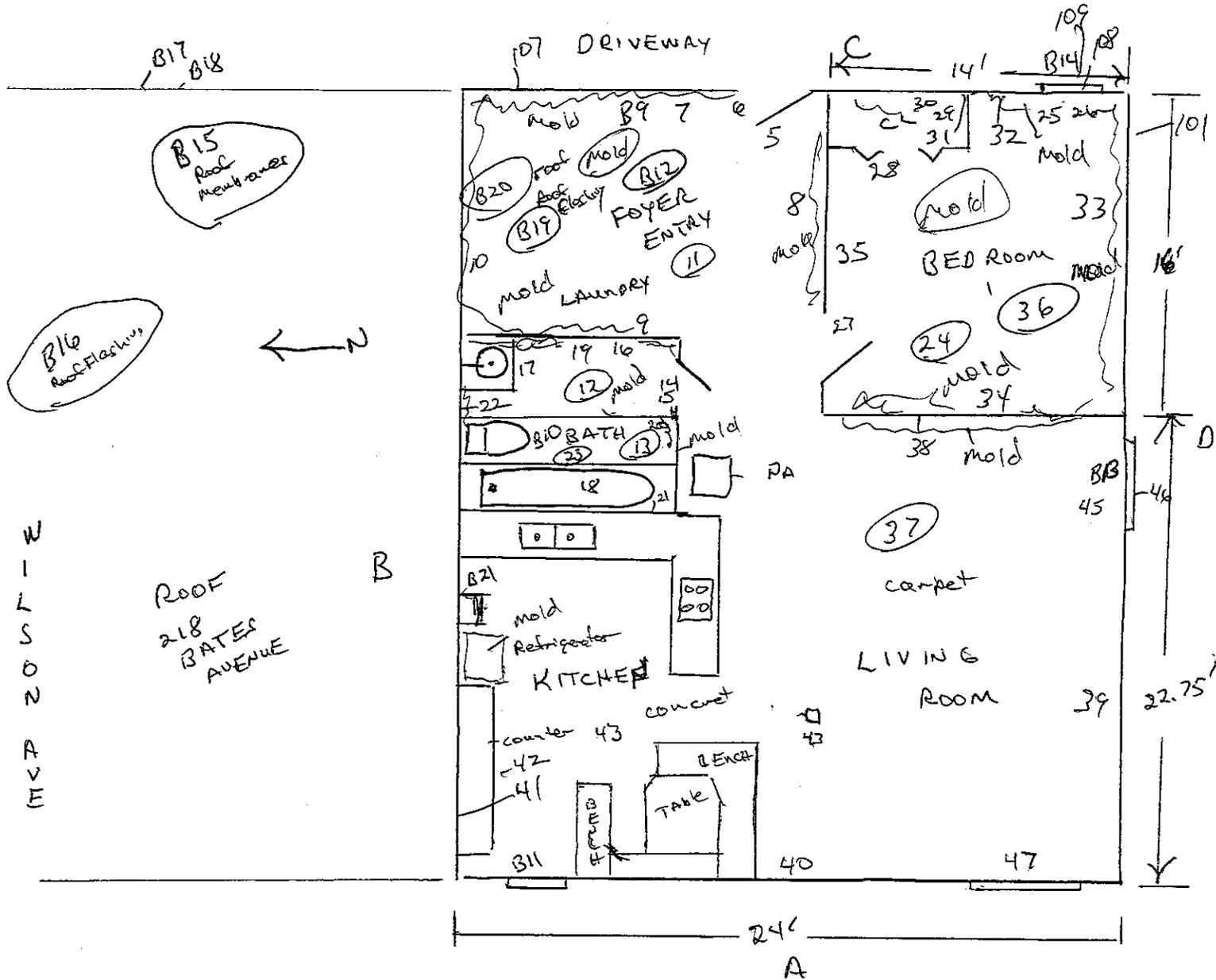
**XRF TEST RESULTS  
SAMPLING MAPS  
DATA PAGES  
CALIBRATION DATA**

MAIN LEVEL  
 216-218 BATES AVENUE  
 ST PAUL, MINNESOTA  
 SKETCH NOT TO SCALE  
 DRAWN BY: GREG MYERS  
 MIDWEST ENVIRONMENTAL CONSULTING  
 DATE: MAY 7 2012  
 106

216-218 Bates



RESIDENTIAL

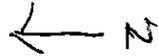


2ND FLOOR  
 218 BATES AVENUE  
 ST PAUL, MINNESOTA  
 SKETCH NOT TO SCALE  
 DRAWN BY GREG MYERS  
 MIDWEST ENVIRONMENTAL  
 CONSULTING LLC  
 DATE: MAY 7, 2012

RESIDENTIAL

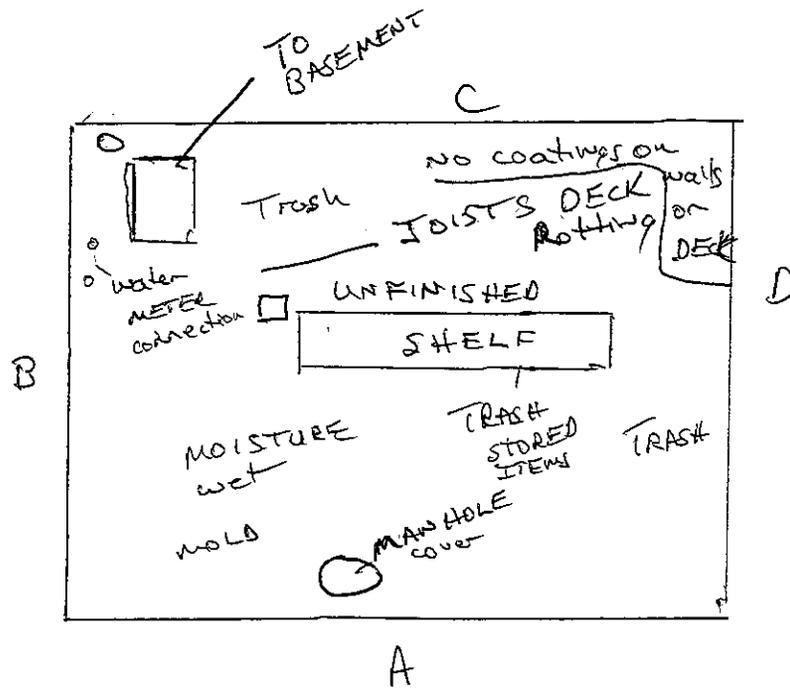
BATES AVENUE

BASEMENT LEVEL  
218 BATES AVENUE  
ST PAUL, MINNESOTA  
SKETCH NOT TO SCALE  
DRAWN BY: GREG MYERS  
MIDWEST ENVIRONMENTAL  
CONSULTING LLC



DATE: MAY 7, 2012

NOTE: CAST IRON  
WASTE LINES  
OFTEN HAVE  
Asbestos oakum  
and lead joints  
not tested - Assumed



St. Croix Environmental  
 216/218 Bates Avenue  
 St. Paul MN

Site: St. Croix Environmental - 216/218 Bates Ave., St. Paul MN																	
Date: May 8, 2012																	
XRF: Xlp 303A, Serial #26848																	
Site	XRF	Date/Time	Floor	Room	Unit	Stds	Component	Substrate	Condition	Color	Results	PbC	Pb	PbK	Duration	Depth	Resp
	1	5/8/2012 13:55										6.09	1.14	0	44.26		AM
216 BATES	2	5/8/2012 14:03					CALIBRATE				POS	1.1	1.1	< LOD	12.3	1.11	AM
216 BATES	3	5/8/2012 14:03					CALIBRATE				POS	1	1	0.8	22.92	1.07	AM
216 BATES	4	5/8/2012 14:04					CALIBRATE				POS	1	1	< LOD	24.63	1.08	AM
216 BATES	5	5/8/2012 14:05	2	ENTRY	Apt	C	DOOR	METAL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	13.46	1	AM
216 BATES	6	5/8/2012 14:06	2	ENTRY	Apt	C	DOOR JAMB	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	9.52	1	AM
216 BATES	7	5/8/2012 14:06	2	ENTRY	Apt	C	WALL	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	6.68	1.29	AM
216 BATES	8	5/8/2012 14:07	2	ENTRY	Apt	D	WALL	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	6.67	1	AM
216 BATES	9	5/8/2012 14:07	2	ENTRY	Apt	D	WALL	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	7.82	1	AM
216 BATES	10	5/8/2012 14:07	2	ENTRY	Apt	B	WALL	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	6.7	1	AM
216 BATES	11	5/8/2012 14:08	2	ENTRY	Apt		CEILING	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	11.13	5.25	AM
216 BATES	12	5/8/2012 14:11	2	BATHROOM	Apt		CEILING	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.6	1	AM
216 BATES	13	5/8/2012 14:11	2	BATHROOM	Apt		CEILING	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	2.22	1	AM
216 BATES	14	5/8/2012 14:11	2	BATHROOM	Apt	D	DOOR	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	9.48	1	AM
216 BATES	15	5/8/2012 14:12	2	BATHROOM	Apt	D	DOOR JAMB	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.59	1	AM
216 BATES	16	5/8/2012 14:12	2	BATHROOM	Apt	C	RADIATOR	METAL	POOR	TAN	Neg	< LOD	< LOD	< LOD	6.16	5.67	AM
216 BATES	17	5/8/2012 14:13	2	BATHROOM	Apt	B	CABINET	WOOD	POOR	VARNISH	Neg	< LOD	< LOD	< LOD	5.57	1	AM
216 BATES	18	5/8/2012 14:13	2	BATHROOM	Apt	A	TUB	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	8.39	1	AM
216 BATES	19	5/8/2012 14:14	2	BATHROOM	Apt	C	WALL	vinyl	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	5.59	1	AM
216 BATES	20	5/8/2012 14:14	2	BATHROOM	Apt	D	WALL	vinyl	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	5.04	1	AM
216 BATES	21	5/8/2012 14:14	2	BATHROOM	Apt	A	WALL	vinyl	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	5.6	1	AM
216 BATES	22	5/8/2012 14:14	2	BATHROOM	Apt	B	WALL	vinyl	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	5.59	1	AM
216 BATES	23	5/8/2012 14:15	2	BATHROOM	Apt		FLOOR	vinyl	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	6.72	1.51	AM
216 BATES	24	5/8/2012 14:16	2	BEDROOM	Apt		FLOOR	CONCRETE	POOR	grey	Neg	0.06	0.06	< LOD	7.8	1.65	AM
216 BATES	25	5/8/2012 14:17	2	BEDROOM	Apt	C	WINDOW	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.04	1.31	AM
216 BATES	26	5/8/2012 14:17	2	BEDROOM	Apt	C	WINDOW	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.58	1	AM
216 BATES	27	5/8/2012 14:18	2	BEDROOM	Apt	B	DOOR jamb	WOOD	POOR	varnish	Neg	< LOD	< LOD	< LOD	5.01	1	AM
216 BATES	28	5/8/2012 14:18	2	BEDROOM	Apt	C	CLOSET dr	WOOD	POOR	varnish	Neg	< LOD	< LOD	< LOD	5.57	1	AM
216 BATES	29	5/8/2012 14:19	2	BEDROOM	Apt	C	CLOSET shelf	WOOD	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	5.6	1.75	AM
216 BATES	30	5/8/2012 14:19	2	BEDROOM	Apt	C	Clst shelf support	WOOD	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	6.69	1	AM
216 BATES	31	5/8/2012 14:19	2	BEDROOM	Apt	C	CLOSET wall	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	6.15	1	AM
216 BATES	32	5/8/2012 14:20	2	BEDROOM	Apt	C	WALL	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	7.81	1	AM
216 BATES	33	5/8/2012 14:20	2	BEDROOM	Apt	D	WALL	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.58	1.15	AM
216 BATES	34	5/8/2012 14:20	2	BEDROOM	Apt	A	WALL	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.57	1	AM
216 BATES	35	5/8/2012 14:20	2	BEDROOM	Apt	B	WALL	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	7.27	1	AM
216 BATES	36	5/8/2012 14:21	2	BEDROOM	Apt		CEILING	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.6	1.02	AM

St. Croix Environmental  
 216/218 Bates Avenue  
 St. Paul MN

Site	APR	Date/Time	Floor	Room	Unit	Side	Component	Substrate	Condition	Color	Results	DLG	DLG	DLG	Duration	Depth	Insp.
216 BATES	37	5/8/2012 14:22	2	Living Rm/Kitchen	Apt		CEILING	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	6.72	1	AM
216 BATES	38	5/8/2012 14:22	2	Living Rm/Kitchen	Apt	C	WALL	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.62	1	AM
216 BATES	39	5/8/2012 14:22	2	Living Rm/Kitchen	Apt	D	WALL	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	7.28	1	AM
216 BATES	40	5/8/2012 14:22	2	Living Rm/Kitchen	Apt	A	WALL	DRYWALL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	6.11	1	AM
216 BATES	41	5/8/2012 14:23	2	Living Rm/Kitchen	Apt	B	WALL	WOOD	POOR	VARNISH	Neg	< LOD	< LOD	< LOD	5.6	1	AM
216 BATES	42	5/8/2012 14:24	2	Living Rm/Kitchen	Apt	B	CABINET	WOOD	POOR	VARNISH	Neg	< LOD	< LOD	< LOD	5.6	1	AM
216 BATES	43	5/8/2012 14:25	2	Living Rm/Kitchen	Apt		FLOOR	CONCRETE	POOR	GREY	Neg	0.1	0.1	< LOD	7.84	1.39	AM
216 BATES	44	5/8/2012 14:25	2	Living Rm/Kitchen	Apt	C	COLUMN	WOOD	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	5.01	1	AM
216 BATES	45	5/8/2012 14:26	2	Living Rm/Kitchen	Apt	D	WINDOW	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	6.17	2.15	AM
216 BATES	46	5/8/2012 14:26	2	Living Rm/Kitchen	Apt	D	WINDOW	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.6	1.84	AM
216 BATES	47	5/8/2012 14:26	2	Living Rm/Kitchen	Apt	D	WINDOW	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.59	4.83	AM
216 BATES	48	5/8/2012 14:33	1	RM 1	Garage	A	DOOR	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	3.38	1	AM
216 BATES	49	5/8/2012 14:33	1	RM 1	Garage	A	DOOR	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.61	1.88	AM
216 BATES	50	5/8/2012 14:33	1	RM 1	Garage	A	DOOR jamb	WOOD	POOR	WHITE	Null	< LOD	< LOD	< LOD	1.12	5.47	AM
216 BATES	51	5/8/2012 14:34	1	RM 1	Garage	A	DOOR jamb	WOOD	POOR	WHITE	POS	3.9	3.9	4.1	6.15	5.37	AM
216 BATES	52	5/8/2012 14:34	1	RM 1	Garage	B	overhead dr	WOOD	POOR	WHITE	POS	5.1	5.1	< LOD	2.24	5.34	AM
216 BATES	53	5/8/2012 14:34	1	RM 1	Garage	B	overhead dr jamb	WOOD	POOR	WHITE	Null	< LOD	< LOD	< LOD	0.56	5.31	AM
216 BATES	54	5/8/2012 14:34	1	RM 1	Garage	B	overhead dr jamb	WOOD	POOR	WHITE	POS	3.8	3.8	4	5.05	4.56	AM
216 BATES	55	5/8/2012 14:35	1	RM 1	Garage	A	WINDOW	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.03	1.24	AM
216 BATES	56	5/8/2012 14:36	1	RM 1	Garage	A	WINDOW	WOOD	POOR	WHITE	POS	2.9	2.9	4.3	5.01	2	AM
216 BATES	57	5/8/2012 14:36	1	RM 1	Garage	D	DOOR	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	6.71	1.83	AM
216 BATES	58	5/8/2012 14:37	1	RM 1	Garage	D	DOOR jamb	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.58	1.56	AM
216 BATES	59	5/8/2012 14:37	1	RM 1	Garage	C	DOOR casing	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.6	1.26	AM
216 BATES	60	5/8/2012 14:38	1	RM 1	Garage	C	WINDOW	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.56	2.13	AM
216 BATES	61	5/8/2012 14:41	1	RM 1	Garage		CEILING	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	4.46	1	AM
216 BATES	62	5/8/2012 14:41	1	RM 1	Garage	A	upper trim	WOOD	POOR	WHITE	POS	10	6.2	10	5.05	2	AM
216 BATES	63	5/8/2012 14:42	1	RM 1	Garage		FLOOR	CONCRETE	POOR	grey	Neg	< LOD	< LOD	< LOD	7.84	2.1	AM
216 BATES	64	5/8/2012 14:43	1	RM 1	Garage	A	WALL	BRICK	POOR	WHITE	Neg	0.12	0.12	< LOD	7.84	2.93	AM
216 BATES	65	5/8/2012 14:44	1	RM 1	Garage	D	WALL	BRICK	POOR	WHITE	Neg	0.12	0.12	< LOD	11.73	3.7	AM
216 BATES	66	5/8/2012 14:44	1	RM 1	Garage	B	WALL	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	6.67	4.18	AM
216 BATES	67	5/8/2012 14:44	1	RM 1	Garage	C	WALL	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.57	2.17	AM
216 BATES	68	5/8/2012 14:45	1	OFFICE	Garage	A	WALL	WOOD	POOR	WHITE	Neg	0.08	0.08	< LOD	5.6	2.72	AM
216 BATES	69	5/8/2012 14:46	1	OFFICE	Garage	B	WALL	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.61	2.06	AM
216 BATES	70	5/8/2012 14:46	1	OFFICE	Garage	C	WALL	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	6.71	1.68	AM
216 BATES	71	5/8/2012 14:47	1	OFFICE	Garage	D	WALL	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.59	1	AM
216 BATES	72	5/8/2012 14:47	1	OFFICE	Garage	A	DOOR JAMB	WOOD	POOR	BROWN	Neg	< LOD	< LOD	< LOD	5.6	1.27	AM
216 BATES	73	5/8/2012 14:47	1	OFFICE	Garage	A	WINDOW	WOOD	POOR	BROWN	Neg	< LOD	< LOD	< LOD	5.6	3.21	AM
216 BATES	74	5/8/2012 14:49	1	BACK RM	Garage	A	WALL	METAL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.58	6.59	AM
216 BATES	75	5/8/2012 14:50	1	BACK RM	Garage	B	WALL	BRICK	POOR	GREY	Neg	0.4	0.4	< LOD	12.34	1.24	AM
216 BATES	76	5/8/2012 14:51	1	BACK RM	Garage	B	WALL	BRICK	POOR	GREY	POS	1.6	1.6	1.6	7.26	2.52	AM

St. Croix Environmental  
 216/218 Bates Avenue  
 St. Paul MN

Site	XREF	Date/Time	Floor	Room	Unit	Side	Component	Substrate	Condition	Color	Moist	PDC	PD	PDI	Durability	Capit	ASP	
216 BATES	77	5/8/2012 14:51	1	BACK RM	Garage	C	WALL	CONCRETE	POOR	WHITE	Neg	< LOD	< LOD	< LOD	7.78	1	AM	
216 BATES	78	5/8/2012 14:52	1	BACK RM	Garage	D	WALL	METAL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.62	2.91	AM	
216 BATES	79	5/8/2012 14:52	1	BACK RM	Garage		FLOOR	CONCRETE	POOR	GREY	Neg	< LOD	< LOD	< LOD	10.63	1.43	AM	
216 BATES	80	5/8/2012 14:53	1	BACK RM	Garage		FLOOR	WOOD	POOR	RED	Neg	0.2	0.2	< LOD	5.6	1.39	AM	
216 BATES	81	5/8/2012 14:54	1	RM 2	Garage	B	DOOR	WOOD	POOR	BROWN	Neg	< LOD	< LOD	< LOD	6.13	1.75	AM	
216 BATES	82	5/8/2012 14:55	1	RM 2	Garage	A	OVERHEAD DR	WOOD	POOR	GREY	Neg	< LOD	< LOD	< LOD	5.6	4.9	AM	
216 BATES	83	5/8/2012 14:55	1	RM 2	Garage		FLOOR	CONCRETE	POOR	GREY	Neg	0.03	0.03	< LOD	9.49	1.97	AM	
216 BATES	84	5/8/2012 14:56	1	RM 2	Garage	B	WALL	BRICK	POOR	BLUE	Neg	< LOD	< LOD	< LOD	7.83	2.05	AM	
216 BATES	85	5/8/2012 14:56	1	RM 2	Garage	A	WALL	BRICK	POOR	BLUE	Neg	< LOD	< LOD	< LOD	7.27	2.13	AM	
216 BATES	86	5/8/2012 14:57	1	RM 2	Garage	B	WALL	BRICK	POOR	BROWN	Neg	0.04	0.04	< LOD	3.93	1.14	AM	
216 BATES	87	5/8/2012 14:57	1	RM 2	Garage	C	WALL	BRICK	POOR	WHITE	Neg	< LOD	< LOD	< LOD	7.83	1.39	AM	
216 BATES	88	5/8/2012 14:58	1	RM 2	Garage	D	WALL	BRICK	POOR	WHITE	Neg	< LOD	< LOD	< LOD	3.89	3.09	AM	
216 BATES	89	5/8/2012 14:58	1	RM 2	Garage		CEILING	CONCRETE	POOR	BROWN	Neg	< LOD	< LOD	< LOD	6.71	1	AM	
216 BATES	90	5/8/2012 14:59	1	RM 2	Garage	D	WINDOW	WOOD	POOR	BROWN	Neg	< LOD	< LOD	< LOD	9.5	1.85	AM	
216 BATES	91	5/8/2012 15:00	1	RM 2	Garage	D	WINDOW	WOOD	POOR	BROWN	Neg	0.07	0.07	< LOD	5.59	1.67	AM	
216 BATES	92	5/8/2012 15:01		OUTSIDE		A	WINDOW	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	5.58	2.53	AM	
216 BATES	93	5/8/2012 15:01		OUTSIDE		A	WINDOW	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	5.02	1.25	AM	
216 BATES	94	5/8/2012 15:01		OUTSIDE		A	WINDOW	WOOD	POOR	BLUE	Neg	< LOD	< LOD	< LOD	5.03	1.64	AM	
216 BATES	95	5/8/2012 15:01		OUTSIDE		A	DOOR	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	8.93	2.67	AM	
216 BATES	96	5/8/2012 15:02		OUTSIDE		A	DOOR CASING	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	5.55	1.14	AM	
216 BATES	97	5/8/2012 15:02		OUTSIDE		A	OVERHEAD DR	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	5.58	1	AM	
216 BATES	98	5/8/2012 15:03		OUTSIDE		A	OVERHEAD DR	METAL	INTACT	WHITE	Neg	< LOD	< LOD	< LOD	5.03	2.57	AM	
216 BATES	99	5/8/2012 15:03		OUTSIDE		A	DOOR BUMPER	CONCRETE	POOR	RED	Neg	0.4	0.4	< LOD	5.6	1.82	AM	
216 BATES	100	5/8/2012 15:04		OUTSIDE		A	SIDING	METAL	INTACT	BLUE	Neg	< LOD	< LOD	< LOD	5.61	1	AM	
216 BATES	101	5/8/2012 15:05		OUTSIDE		D	SIDING	METAL	INTACT	BLUE	Neg	< LOD	< LOD	< LOD	5.64	1	AM	
216 BATES	102	5/8/2012 15:06		OUTSIDE		B	SIDING	METAL	INTACT	BLUE	Neg	< LOD	< LOD	< LOD	5.6	7.17	AM	
216 BATES	103	5/8/2012 15:07		OUTSIDE		B	OVERHEAD DR	WOOD	POOR	WHITE	POS		3	3	2.6	7.27	7.19	AM
216 BATES	104	5/8/2012 15:07		OUTSIDE		B	OVERHEAD DR	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.57	1	AM	
216 BATES	105	5/8/2012 15:07		OUTSIDE		B	OVERHEAD DR	WOOD	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.58	2.57	AM	
216 BATES	106	5/8/2012 15:09		OUTSIDE		C	SIDING	STUCCO	POOR	WHITE	Neg	< LOD	< LOD	< LOD	11.74	2.18	AM	
216 BATES	107	5/8/2012 15:10		OUTSIDE		C	SIDING	METAL	POOR	BLUE	Neg	< LOD	< LOD	< LOD	5.59	1	AM	
216 BATES	108	5/8/2012 15:10		OUTSIDE		C	WINDOW	METAL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	8.93	1	AM	
216 BATES	109	5/8/2012 15:10		OUTSIDE		C	WINDOW	METAL	POOR	WHITE	Neg	< LOD	< LOD	< LOD	5.57	1	AM	
216 BATES	110	5/8/2012 15:12					CALIBRATE				POS	1	1	< LOD	36.32	1.06	AM	
216 BATES	111	5/8/2012 15:13					CALIBRATE				POS	1	1	< LOD	33.11	1.07	AM	
216 BATES	112	5/8/2012 15:13					CALIBRATE				POS	1	1	0.7	20.7	1.09	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**.