



HAZARDOUS MATERIALS SURVEY

1057-1059 Dayton Avenue
Saint Paul, Minnesota

Prepared For:
Ramsey County Tax Forfeited Lands

May 1, 2014

HAZARDOUS MATERIALS SURVEY
1057-1059 DAYTON AVENUE
SAINT PAUL, MINNESOTA

Prepared For:

Ramsey County Tax Forfeited Lands
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Saint Paul, Minnesota 55107

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May 1, 2014

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1.0 INTRODUCTION

Peer Engineering, Inc. (Peer) was retained by the Ramsey County Tax Forfeited Lands to perform a hazardous materials survey of the property located at 1057-1059 Dayton Avenue in Saint Paul, Minnesota (the Site). Peer understands that Ramsey County is planning to sell the current structure.

Site Structure(s) Description	
Date of Construction:	1922
Description of Structure(s):	The Site Building is a two story duplex residential structure with a basement. It includes plaster and gypsum interior walls, shingled roof and stucco on the exterior. A detached garage with shingled roof and stucco exterior exist to the north of the house.

The work performed as part of this project was completed to meet the following objectives:

1. Identify friable and non-friable 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).
2. Identify regulated ACM (friable or non-friable) at the Site that could become friable during renovation/demolition activities, and according to current State and Federal regulations, would require abatement prior to initiating renovation/demolition activities.
3. Inventory potentially hazardous materials that should be removed and properly disposed prior to initiating renovation activities.
4. Identify lead-based paint (LBP) surfaces that have the potential to be disturbed during renovation/demolition activities, and if classified as lead-based paint, require abatement and/or special management prior to renovation activities.

This report summarizes the findings of our hazardous materials survey.

2.0 SURVEY INFORMATION

Mr. Steve Luth and Rich Fonz, MDH Certified Asbestos Inspectors and Lead Risk Assessor, completed the building survey and associated sampling activities on April 21, 2014. Non-destructive survey techniques were utilized during the survey. Destructive sampling was not authorized at the time of the survey.

2.1 ASBESTOS

2.1.1 General Information and Definitions

For the purpose of this assessment, the structures were considered one functional area as defined by the Asbestos Hazard Emergency Response Act (AHERA). Upon completion of the reconnaissance, the suspect ACM was assessed, inventoried, and sampled for laboratory analysis. The following definitions apply to this report:

- ◆ The EPA defines ACM as any material that contains greater than one percent asbestos. Materials found to contain one percent or less asbestos are not regulated as ACM.
- ◆ 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 demolition or demolition if it is in a condition where the demolition/demolition 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 non-friable ACM is not allowed to remain in place during demolition if it has a high probability of becoming crumbled, pulverized, or reduced to a powder during demolition, transport, or disposal.

2.1.2 Sampling and Analytical Testing

Suspect asbestos-containing materials (ACMs) were surveyed and grouped by homogeneous area (HA), which is characterized as surfacing material, thermal system insulation (TSI), or miscellaneous material that is uniform in use, colors, appearance, pattern, texture, and date of installation.

Non-Suspect Material

The following materials were determined to be non-suspect ACM and were not targeted for sampling during this inventory:

- ◆ Wood floors and ceilings
- ◆ Concrete floors and walls
- ◆ Foam pipe insulation
- ◆ Glass
- ◆ Metal
- ◆ Fiberglass insulation

Suspect ACM Targeted for Sampling

Suspect ACM inventoried and subsequently sampled are listed in **Table 1** (Room-by-Room Material Inventory) and **Table 2** (Asbestos Sample Summary).

Sample Analysis

	Collected	Analyzed (including layers)	Held
Number of Samples:	51	52	8
Analytical Protocol:	EPA-600 R93/116		
Laboratory:	EMSL of South Portland, Maine		
Number of Samples Submitted for Point Count Analysis:	0		

EMSL maintains an in-house Quality Assurance (QA) Program and third party accreditation including the American Industrial Hygiene Association (AIHA) and the EPA's National Voluntary Laboratory Approval Program (NVLAP) [accreditation number 500094-0].

Materials that were analyzed and found to contain **one percent or less** asbestos are considered "non-asbestos" per current State and Federal regulations. Materials that were found to contain **greater than one percent** asbestos are considered to be ACM.

Under current Federal regulations, if the PLM results detect asbestos at a concentration of less than 10% in one or more of the samples from any sample unit, the owner or operator of the building may (1) elect to assume the amount to be greater than 1% and treat the material as ACM or (2) require verification of the amount by utilizing the Point-Count Method. If the Point-Count Method analysis determines that the concentration of asbestos is greater than one percent, the material will be determined to be regulated ACM. If the Point-Count Method analysis determines that the concentration of asbestos is one percent or less, the material will be determined to be unregulated and non-asbestos containing.

Copies of the analytical laboratory report are included as **Appendix A**.

2.1.3 Results

ACM (Confirmed by Sampling and Analysis)

The following building materials sampled from the structure were determined to be ACM based on the definitions provided in current State and Federal regulations:

- ◆ Stucco on south wall of porch and sunroom (samples 19-21)
- ◆ Stucco, small on detached garage (samples 22-24)
- ◆ 0"-4" TSI line, Air-O-Cell (sample 25-27)
- ◆ 0"-4" TSI pipe fittings (sample 28-30)

Assumed ACM

- ◆ None

Specific details regarding locations and quantities of identified ACM and suspect ACM are provided in **Table 1** and **Table 2**. Sample location diagrams are included in **Appendix B**.

2.1.4 Limitations

There is a potential for encountering unidentified suspect ACM in interstitial spaces behind walls and ceilings and/or beneath slabs during renovation/demolition activities. Peer did not disassemble furnaces, water heaters, or household equipment or appliances. There is a potential for ACM components (in addition to those sampled) to be present inside of these components.

Based on these limitations, the quantities listed in this survey reflect the visibility available at the time of the survey. All quantities in this survey are estimations and should not be considered exact measurements when used for obtaining abatement bids.

2.2 HAZARDOUS MATERIALS

2.2.1 General Information

A walk-through reconnaissance of the structures was conducted to identify and inventory potential hazardous materials or materials that have special disposal requirements that should be removed prior to renovation/demolition activities. These materials include, but are not limited to, hazardous substances, petroleum products, PCB-containing light ballasts, mercury-containing lights and switches, and refrigerants.

2.2.2 Observations & Results

The potential hazardous equipment and materials and potential environmental concerns are identified in **Table 3** (Hazardous Material Inventory Table) and **Table 4** (Room-by-Room Bulbs and Ballast Inventory).

2.2.3 Limitations

The method of the hazardous materials inventory consisted of walking through all areas of the structure and making observations for components that typically contain hazardous substances that are incidental to the structure. Peer recommends that these materials and any associated containers for these materials be removed prior to initiating renovation/demolition activities. As previously discussed, Peer did not disassemble furnaces, water heaters, other appliances, electrical equipment, or operational equipment. There is a potential for mercury switches to be part of this equipment.

2.3 LEAD-BASED PAINT

2.3.1 General Information and Definitions

Peer conducted LBP testing of representative painted/coated interior and exterior surfaces in poor/damaged condition that are expected to be disturbed by the potential future renovation/demolition activities. The results of the targeted LBP testing may be used by the renovation/demolition contractor to develop options for disposal, recycling, or re-use of building materials with LBP. The data will also be used to determine the degree to which lead-safety construction practices under the new U.S. Environmental Protection Agency (EPA) Lead Renovation, Repair, and Painting Rule will potentially apply to the project.

Based on current regulatory definitions, LBP is defined as paint containing lead concentrations equal to or greater than 1.0 milligrams per square centimeter (mg/cm²) when using a Niton XL X-ray fluorescence (XRF) analyzer. The XRF provides the measured lead concentration in weight of lead per unit area. Calibration checks of the XRF were frequently conducted and are recorded with the data on file at Peer.

2.3.2 Observations & Results

Painted surfaces in poor or damaged condition were identified and tested. LBP was identified at the time of the survey and is summarized in the XRF testing results included in **Table 5** (Lead-Based Paint Sample Results). Sample location diagrams are included in **Appendix C**.

2.3.3 Limitations

The testing conducted was not intended to represent a lead paint inspection as defined in accordance with the U.S. Department of Housing and Urban Development (HUD) document entitled “Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing – Chapter 7: Lead-Based Paint Inspection, 1997 Revision”. In addition, the observations and testing conducted were not intended to represent a comprehensive survey of all painted surfaces and was not intended to represent regulated lead work as defined by the MDH.

3.0 CONCLUSIONS AND RECOMMENDATIONS

The following recommendations are provided based on the results of this hazardous materials inventory:

- ◆ A copy of this report should be provided to the buyer as part of the sale of the property.
- ◆ ACM was identified at the Site as listed in Section 2.1.4 and as summarized in **Table 1** and **Table 2**.
- ◆ Friable and Non-Friable Category II ACM must be removed by a licensed asbestos abatement contractor prior to initiating building renovation/demolition.
- ◆ Any unidentified suspect ACM encountered during renovation/demolition activities should be assumed to be asbestos-containing until they are sampled and tested to determine the asbestos content.
- ◆ Prior to renovation/demolition activities, all hazardous materials and regulated waste as summarized in **Table 3** and **Table 4** needs to be removed and properly disposed.
- ◆ Surfaces determined to be LBP as listed in Section 2.3.2 and summarized in **Table 5** should be stabilized and managed appropriately prior to building renovation/demolition.

4.0 STANDARD OF CARE & QUALIFICATIONS

Services performed by Peer have been conducted in accordance with generally recognized industry standards and current MPCA and MDH guidelines, where applicable. The services performed by Peer have been conducted with the level of care and skill ordinarily exercised by reputable members of the profession, practicing in the same locality under similar budget and time constraints. No other warranty is made or intended.


A summary of corporate and individual qualifications for Peer and the individuals associated with this project is included in **Appendix C**.

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TABLES

Table 1 - Room-by-Room Material Inventory



Project No.: 24048

Project Name: Ramsey County Hazmat Survey

Address: 1057-1059 Dayton Avenue
St. Paul, Minnesota

Date of Survey: 4/21/2014

LOCATION	ROOM	MATERIAL	CONDITION	SAMPLE REFERENCE	QUANTITY	UNIT
Basement	Main	Concrete floors	NS	-	-	-
		Wood deck	NS	-	-	-
		Concrete masonry (CMU) walls	NA	34	NA	NA
		Chimney patch, white	NA	31-33	10	SF
		0"-4" TSI line, Air-O-Cell	D	25-27	185	LF
		0"-4" TSI pipe fittings	SD	28-30	55	EA
		Ceiling and wall paper, black	NA	35	NA	NA
		Window glaze, white	NA	38	NA	NA
1st Floor	Living room	Plaster, flat	NA	1-7	NA	NA
		Plaster, ceiling swirl pattern	NA	8-12	NA	NA
		Gypsum and joint compound	NA	37	NA	NA
		Wood floor underlayment	NA	36	NA	NA
	Bathroom	Plaster, flat	NA	1-7	NA	NA
		Gypsum and joint compound	NA	37	NA	NA
		Window caulk, white hard	NA	47	NA	NA
		Bath caulk, white	NA	48	NA	NA
		Sheet flooring, 12x12 brown pattern	NA	45	NA	NA
		Flooring under sheetflooring	NA	46	NA	NA

NA - Not Applicable, NS - Not Suspect, EA - Each, SF - Square Feet, LF - Linear Feet, G - Good, D-Damaged, SD - Significantly Damaged

Table 1 - Room-by-Room Material Inventory



Project No.: 24048

Project Name: Ramsey County Hazmat Survey

Address: 1057-1059 Dayton Avenue
St. Paul, Minnesota

Date of Survey: 4/21/2014

LOCATION	ROOM	MATERIAL	CONDITION	SAMPLE REFERENCE	QUANTITY	UNIT
1st Floor	Kitchen	Plaster, flat	NA	1-7	NA	NA
		Gypsum and joint compound	NA	37	NA	NA
		Wainscott plaster, brick pattern	NA	13	NA	NA
		Cabinet backing , paper	NA	40	NA	NA
		12x12 floor tile on cabinets, white	NA	41	NA	NA
		Splash guard adhesive yellow	NA	42	NA	NA
		Plaster, ceiling swirl pattern	NA	8-12	NA	NA
		Sheet flooring. Mosaic	NA	43	NA	NA
		Under sheet flooring (2 layers)	NA	44	NA	NA
		Wood floor underlayment	NA	36	NA	NA
	Bedroom 1	Plaster, flat	NA	1-7	NA	NA
		Wood floor underlayment	NA	36	NA	NA
	Bedroom 2	Plaster, flat	NA	1-7	NA	NA
		Wood floor underlayment	NA	36	NA	NA
	Bedroom 3	Plaster, flat	NA	1-7	NA	NA
		Wood floor underlayment	NA	36	NA	NA
		Plaster, ceiling swirl pattern	NA	8-12	NA	NA
Stairwell, back porches	Plaster, flat	NA	1-7	NA	NA	
	12x12 floor tile, self stick, tan/brown	NA	49	NA	NA	

NA - Not Applicable, NS - Not Suspect, EA - Each, SF - Square Feet, LF - Linear Feet, G - Good, D-Damaged, SD - Significantly Damaged

Table 1 - Room-by-Room Material Inventory



Project No.: 24048

Project Name: Ramsey County Hazmat Survey

Address: 1057-1059 Dayton Avenue
St. Paul, Minnesota

Date of Survey: 4/21/2014

LOCATION	ROOM	MATERIAL	CONDITION	SAMPLE REFERENCE	QUANTITY	UNIT	
1st Floor	Stairwell, back porches	Gypsum and joint compound	NA	37	NA	NA	
both		Gypsum and joint compound	NA	37	NA	NA	
		Stucco on south wall	G	19-21	300	SF	
2nd Floor		Living room	Sheet flooring, 9x9 pattern	NA	50	NA	NA
			Door window glaze, white	NA	39	NA	NA
	Living room	Plaster, flat	NA	1-7	NA	NA	
		Plaster, ceiling swirl pattern	NA	8-12	NA	NA	
		Gypsum and joint compound	NA	37	NA	NA	
		Wood floor underlayment	NA	36	NA	NA	
	Bathroom	Plaster, flat	NA	1-7	NA	NA	
		Gypsum and joint compound	NA	37	NA	NA	
		Window caulk, white hard	NA	47	NA	NA	
		Bath caulk, white	NA	48	NA	NA	
		Sheet flooring. Mosaic	NA	43	NA	NA	
		Flooring under sheetflooring	NA	44	NA	NA	
	Kitchen	Plaster, flat	NA	1-7	NA	NA	
Gypsum and joint compound		NA	37	NA	NA		
Plaster, ceiling swirl pattern		NA	8-12	NA	NA		
Sheet flooring. Mosaic		NA	43	NA	NA		

NA - Not Applicable, NS - Not Suspect, EA - Each, SF - Square Feet, LF - Linear Feet, G - Good, D-Damaged, SD - Significantly Damaged

Table 1 - Room-by-Room Material Inventory



Project No.: 24048
 Project Name: Ramsey County Hazmat Survey
 Address: 1057-1059 Dayton Avenue
St. Paul, Minnesota
 Date of Survey: 4/21/2014

LOCATION	ROOM	MATERIAL	CONDITION	SAMPLE REFERENCE	QUANTITY	UNIT
2nd Floor	Kitchen	Wood floor underlayment	NA	36	NA	NA
	Bedroom 1	Plaster, flat	NA	1-7	NA	NA
		Wood floor underlayment	NA	36	NA	NA
	Bedroom 2	Plaster, flat	NA	1-7	NA	NA
		Wood floor underlayment	NA	36	NA	NA
	Bedroom 3	Plaster, flat	NA	1-7	NA	NA
		Wood floor underlayment	NA	36	NA	NA
		Plaster, ceiling swirl pattern	NA	8-12	NA	NA
	Exterior	Exterior	Stucco walls, soffits	NA	14-18	NA
Roof		Shingles	NA	51	NA	NA
Garage		Stucco, small	G	22-24	300	SF
		Shingles	NA	51	NA	NA

NA - Not Applicable, NS - Not Suspect, EA - Each, SF - Square Feet, LF - Linear Feet, G - Good, D-Damaged, SD - Significantly Damaged

Table 2 - Asbestos Sample Summary



Project No.: 24048

Project Name: Ramsey County Hazmat Survey

Address: 1057-1059 Dayton Avenue
St. Paul, Minnesota

Date of Survey: 4/21/2014

SAMPLE NUMBER	MATERIAL DESCRIPTION	MATERIAL	LOCATION	% ASBESTOS	CATEGORY	TOTAL QUANTITY	UNIT
		TSI/Surfacing/ Misc	(Include all locations where the material was observed)		Friable, Non-Friable Cat. I or II		
1-7	Plaster, flat	Surfacing	Throughout	ND	NA	NA	NA
8-12	Plaster, ceiling swirl pattern	Surfacing	Throughout	ND	NA	NA	NA
13	Wainscott plaster, brick pattern	Surfacing	1st floor kitchen	ND	NA	NA	NA
14-18	Stucco	Surfacing	Exterior	NA	NA	NA	NA
19-21	Stucco on south wall	Surfacing	Porch and sunroom	4% Chrysotile Not analyzed Not analyzed	Non-Friable Cat II	300	SF
22-24	Stucco small	Surfacing	Garage	4% Chrysotile Not analyzed Not analyzed	Non-Friable Cat II	400	SF
25-27	0"-4" TSI line, Air-O-Cell	TSI	Basement	10% Chrysotile Not analyzed Not analyzed	Friable	185	LF
28-30	0"-4" TSI pipe fittings	TSI	Basement	35% Chrysotile Not analyzed Not analyzed	Friable	55	EA
31-33	Chimney patch	TSI	Basement	ND	NA	NA	NA
34	Concrete masonry (CMU) walls	Misc.	Basement	ND	NA	NA	NA
35	Ceiling and wall paper, black	Misc.	Basement	ND	NA	NA	NA

Table 2 - Asbestos Sample Summary



Project No.: 24048
Project Name: Ramsey County Hazmat Survey
Address: 1057-1059 Dayton Avenue
St. Paul, Minnesota
Date of Survey: 4/21/2014

SAMPLE NUMBER	MATERIAL DESCRIPTION	MATERIAL	LOCATION	% ASBESTOS	CATEGORY	TOTAL QUANTITY	UNIT
		TSI/Surfacing/ Misc	(Include all locations where the material was observed)		Friable, Non-Friable Cat. I or II		
36	Wood floor underlayment	Misc.	Throughout	ND	NA	NA	NA
37	Gypsum and joint compound	Misc.	Throughout	ND	NA	NA	NA
38	Window glaze, white	Misc.	Basement	ND	NA	NA	NA
39	Door window glaze, white	Misc.	Stariwell, back	ND	NA	NA	NA
40	Cabinet backing , paper	Misc.	1st floor, kitchen	ND	NA	NA	NA
41	12x12 floor tile on cabinets, white	Misc.	1st floor, kitchen	ND	NA	NA	NA
42	Splash guard adhesive yellow	Misc.	1st floor, kitchen	ND	NA	NA	NA
43	Sheet flooring. Mosaic	Misc.	Kitchens, 2nd floor bathroom	ND	NA	NA	NA
44	Under sheet flooring, mosaic (2 layers)	Misc.	Kitchens	ND	NA	NA	NA
45	Sheet flooring, 12x12 pattern	Misc.	1st floor bathroom	ND	NA	NA	NA
46	Under sheet flooring, 12x12 pattern	Misc.	Bathrooms	ND	NA	NA	NA
47	Window caulk, white hard	Misc.	1st floor bathroom	ND	NA	NA	NA
48	Bath caulk, white	Misc.	Bathrooms	ND	NA	NA	NA
49	12x12 floor tile, self-stick, tan/brown	Misc.	1st floor stairwell, back	ND	NA	NA	NA
50	Sheet flooring, 9x9 pattern	Misc.	2nd floor stairwell, back	ND	NA	NA	NA
51	Shingle, red	Misc.	Roof	ND	NA	NA	NA

Table 3 - Hazardous Material Summary



Project No.: 24048

Project Name: Ramsey County Hazmat Survey

Address: 1057-1059 Dayton Avenue
St. Paul, Minnesota

Date of Survey: 4/21/2014

LOCATION	ROOM	EQUIPMENT OR MATERIAL	HAZARD	QUANTITY	UNIT
1st Floor	Living Room	Mercury thermostat	Mercury	1	EA
	Bathroom	None	-	-	-
	Kitchen	Range	Mercury	1	EA
	Kitchen	Refrigerator	ODC	1	EA
	Bedrooms	Window air conditioner	ODC	1 @ 5	lbs
	Hallway	Smoke detector	Circuitry	1	EA
Basement	Main	Boilers	Mercury	2	EA
		Water heater	Mercury	2	EA
		Smoke detector	Circuitry	1	EA
		Tank, fuel oil	Chemicals	2 @ 10	GA
		Sump pump	Circuitry/chemicals	1	EA
2nd Floor	Living Room	Mercury thermostat	Mercury	1	EA
	Living Room	Smoke detector	Circuitry	1	EA
	Bathroom	None	-	-	-
	Kitchen	Range	Mercury	1	EA
	Kitchen	Refrigerator	ODC	1	EA
	Bedrooms	None	-	-	-

Table 4 - Bulbs and Ballast Summary



Project No.: 24048

Project Name: Ramsey County Hazmat Survey

Address: 1057-1059 Dayton Avenue
St. Paul, Minnesota

Date of Survey: 4/21/2014

LOCATION	ROOM	FIXTURES	BALLAST	FLUORESCENT BULBS					HID	HALOGEN	Other _____
				CFL	< 4'	4 Foot	8 Foot	U/Circ.			
1st Floor	Living Room	9		12							
	Bathroom	2		3							
	Kitchen	1		2							
	Bedroom 1	1		1							
	Bedroom 2	1		2							
	Bedroom 3	1		2							
	Back stairwell	1		-							
	Porch	1		2							
Basement	Main	8		6							
2nd Floor	Living Room	5		4							
	Bathroom	2		4							
	Kitchen	1		2							
	Bedrooms	3		6							
	Porch	-		-							
TOTAL											



Project No.: 24048

Name: Ramsey County Hazmat Survey

Address: 1057-1059 Dayton Avenue
St. Paul, Minnesota

Survey: 4/21/2014

Reading No	EsclECT	COMPONENT	SUBSTRATE	SIDE	CONDITION	FLOOR	ROOM	MISC1	Results	PbC	PbC Error	PbL	PbL Error	PbK	PbK Error
1	2.35									1.04	0	0.19	0	0	0
2		cal1							Positive	1.1	0.1	1.1	0.1 < LOD		0.6
3		cal1							Positive	1.1	0.1	1.1	0.1 < LOD		0.55
4		cal1							Positive	1.1	0.1	1.1	0.1 < LOD		0.45
5		WALL	PLASTER	A	INTACT	FIRST	LIVING ROOM		Positive	2.6	1.6 < LOD		0.78	2.6	1.6
6		WALL	DRYWALL	B	INTACT	FIRST	LIVING ROOM		Positive	3.2	1.7	3.2	1.7 < LOD		4.2
7		WALL	PLASTER	C	INTACT	FIRST	LIVING ROOM		Positive	2.3	1 < LOD		0.6	2.3	1
8		WALL	PLASTER	D	INTACT	FIRST	LIVING ROOM		Positive	2.3	1	1	0.6	2.3	1
9		CEILING	PLASTER	CEILING	FAIR	FIRST	LIVING ROOM		Negative	< LOD	0.75 < LOD		0.21 < LOD		0.75
10		CEILING	PLASTER	CEILING	FAIR	FIRST	LIVING ROOM		Negative	< LOD	0.6 < LOD		0.08 < LOD		0.6
11		CROWN MOLDING	WOOD	CEILING	INTACT	FIRST	LIVING ROOM		Negative	< LOD	0.09 < LOD		0.09 < LOD		1.74
12		TRIM	WOOD	CEILING	INTACT	FIRST	LIVING ROOM		Negative	< LOD	0.08 < LOD		0.08 < LOD		1.91
13		CABINET	WOOD	C	INTACT	FIRST	LIVING ROOM		Negative	< LOD	0.11 < LOD		0.11 < LOD		1.86
14		WINDOW CASING	WOOD	D	INTACT	FIRST	LIVING ROOM		Negative	< LOD	0.09 < LOD		0.09 < LOD		1.91
15		WINDOW SILL	WOOD	D	INTACT	FIRST	LIVING ROOM		Negative	< LOD	0.09 < LOD		0.09 < LOD		1.92
16		RADIATOR	METAL	D	POOR	FIRST	LIVING ROOM		Positive	2	1	2	1 < LOD		8.1
17		LIGHT FIXTURE	METAL	CEILING	INTACT	FIRST	LIVING ROOM		Negative	< LOD	0.03 < LOD		0.03 < LOD		2.56
18		WALL	PLASTER	A	INTACT	FIRST	LIVING ROOM		Negative	< LOD	0.09 < LOD		0.09 < LOD		2.16
19		WALL	PLASTER	C	INTACT	FIRST	LIVING ROOM		Negative	< LOD	0.03 < LOD		0.03 < LOD		1.65
20		WALL	CERAMIC	D	INTACT	FIRST	LIVING ROOM		Negative	< LOD	0.03 < LOD		0.03 < LOD		1.2
21		WINDOW CASING	WOOD	D	POOR	FIRST	LIVING ROOM		Positive	5.6	3.7 < LOD		1.35	5.6	3.7
22		WINDOW SILL	WOOD	D	POOR	FIRST	LIVING ROOM		Negative	0.5	0.3	0.5	0.3 < LOD		2.4
23		WINDOW SILL	WOOD	D	POOR	FIRST	LIVING ROOM		Positive	5.4	3.5 < LOD		0.12	5.4	3.5
24		CABINET	WOOD	C	POOR	FIRST	BATHROOM		Positive	< LOD	8.25 < LOD		1.78 < LOD		8.25
25		INSIDE CAB.	WOOD	C	POOR	FIRST	BATHROOM		Positive	< LOD	8.1 < LOD		10.65 < LOD		8.1
26		RADIATOR	WOOD	C	POOR	FIRST	BATHROOM		Negative	< LOD	0.1 < LOD		0.1 < LOD		4.2
27		RADIATOR	WOOD	C	POOR	FIRST	BATHROOM		Negative	< LOD	0.05 < LOD		0.05 < LOD		4.04
28		DOOR CASING	WOOD	D	INTACT	FIRST	BATHROOM		Positive	< LOD	8.25 < LOD		1.27 < LOD		8.25
29		DOOR	WOOD	D	INTACT	FIRST	BATHROOM		Positive	< LOD	9.3 < LOD		1.52 < LOD		9.3
30		WALL	PLASTER	A	INTACT	FIRST	KITCHEN		Negative	< LOD	0.03 < LOD		0.03 < LOD		0.9
31		WALL	PLASTER	B	INTACT	FIRST	KITCHEN		Negative	< LOD	0.03 < LOD		0.03 < LOD		1.8
32		WALL	PLASTER	C	INTACT	FIRST	KITCHEN		Negative	< LOD	0.03 < LOD		0.03 < LOD		2.69
33		WALL	PLASTER	D	INTACT	FIRST	KITCHEN		Negative	< LOD	0.03 < LOD		0.03 < LOD		2.68
34		WALL BELOW	PLASTER	C	POOR	FIRST	KITCHEN		Negative	< LOD	0.03 < LOD		0.03 < LOD		2.08
35		CEILING	PLASTER	CEILING	INTACT	FIRST	KITCHEN		Negative	< LOD	0.03 < LOD		0.03 < LOD		0.96
36		CABINET	PLASTER	CEILING	INTACT	FIRST	KITCHEN		Negative	< LOD	0.18 < LOD		0.18 < LOD		1.95
37		CABINET	WOOD	CEILING	INTACT	FIRST	KITCHEN	INSIDE	Negative	< LOD	0.11 < LOD		0.11 < LOD		2.45
38		WINDOW CASING	WOOD	CEILING	INTACT	FIRST	KITCHEN	INSIDE	Negative	< LOD	0.17 < LOD		0.17 < LOD		1.95



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Survey: 4/21/2014

Reading No	EsclCT	COMPONENT	SUBSTRATE	SIDE	CONDITION	FLOOR	ROOM	MISC1	Results	PbC	PbC Error	PbL	PbL Error	PbK	PbK Error
39		RADIATOR	METAL	C	POOR	FIRST	KITCHEN	INSIDE	Null	< LOD	3.15 < LOD	3.15 < LOD	3.15 < LOD		10.35
40		RADIATOR	METAL	C	POOR	FIRST	KITCHEN	INSIDE	Positive	< LOD	3.15 < LOD	1.35 < LOD	1.35 < LOD		3.15
41		WALL	PLASTER	A	POOR	FIRST	BEDROOM1		Positive	2.1	1 < LOD	0.52	2.1		1
42		WALL	PLASTER	B	POOR	FIRST	BEDROOM1		Negative	< LOD	0.06 < LOD	0.06 < LOD	0.06 < LOD		2.19
43		WALL	PLASTER	C	POOR	FIRST	BEDROOM1		Positive	2.9	1.9 < LOD	0.94	2.9		1.9
44		WALL	PLASTER	D	POOR	FIRST	BEDROOM1		Positive	2.9	1.8 < LOD	0.73	2.9		1.8
45		CEILING	PLASTER	CEILING	INTACT	FIRST	BEDROOM1		Positive	< LOD	2 < LOD	1.95 < LOD	1.95 < LOD		2
46		CROWN MOLDING	WOOD	CEILING	INTACT	FIRST	BEDROOM1		Positive	< LOD	3.45 < LOD	1.65 < LOD	1.65 < LOD		3.45
47		BASEBOARD	WOOD	D	INTACT	FIRST	BEDROOM1		Positive	5	3.3 < LOD	1.65	5		3.3
48		WINDOW CASING	WOOD	D	INTACT	FIRST	BEDROOM1		Positive	6	3.6 < LOD	2.85	6		3.6
49		WINDOW SILL	WOOD	D	INTACT	FIRST	BEDROOM1		Positive	< LOD	4.65 < LOD	2.25 < LOD	2.25 < LOD		4.65
50		WINDOW CASING	WOOD	B	INTACT	FIRST	BEDROOM2		Positive	< LOD	3.6 < LOD	1.8 < LOD	1.8 < LOD		3.6
51		WALL	WOOD	B	INTACT	FIRST	BEDROOM2		Positive	2.3	1 < LOD	0.43	2.3		1
52		WALL	WOOD	A	INTACT	FIRST	BEDROOM2		Positive	1.6	0.6 < LOD	0.21	1.6		0.6
53		RADIATOR	METAL	B	POOR	FIRST	BEDROOM2		Positive	2.4	1.2	2.7	1.4	2.4	1.2
54		DOOR CASING	WOOD	D	INTACT	FIRST	BEDROOM2		Positive	< LOD	4.95 < LOD	3 < LOD	3 < LOD		4.95
55		DOOR	WOOD	D	INTACT	FIRST	BEDROOM2		Negative	< LOD	0.13 < LOD	0.13 < LOD	0.13 < LOD		1.62
56		WALL	PLASTER	C	INTACT	FIRST	BEDROOM3		Positive	2.1	1 < LOD	0.26	2.1		1
57		WINDOW CASING	WOOD	C	INTACT	FIRST	BEDROOM3		Positive	< LOD	8.4 < LOD	2.85 < LOD	2.85 < LOD		8.4
58		WINDOW SILL	WOOD	C	POOR	FIRST	BEDROOM3		Positive	5	3.2 < LOD	2.1	5		3.2
59		BASEBOARD	WOOD	A	INTACT	FIRST	BEDROOM3		Positive	< LOD	4.65 < LOD	1.18 < LOD	1.18 < LOD		4.65
60		RADIATOR	METAL	A	INTACT	FIRST	BEDROOM3		Negative	< LOD	0.75 < LOD	0.75 < LOD	0.75 < LOD		3
61		RADIATOR	METAL	A	POOR	FIRST	BEDROOM3		Null	1.2	0.4	0.6	0.1	1.2	0.4
62		DOOR	WOOD	D	INTACT	FIRST	BEDROOM3		Positive	5.8	3.6 < LOD	4.8	5.8		3.6
63		WALL	CONCRETE	A	INTACT	BASEMENT			Negative	< LOD	0.03 < LOD	0.03 < LOD	0.03 < LOD		1.2
64		FLOOR	WOOD	A	INTACT	BASEMENT		SUMP CC	Negative	< LOD	0.03 < LOD	0.03 < LOD	0.03 < LOD		1.5
65		WALL	WOOD	B	POOR	BASEMENT			Positive	< LOD	5.1 < LOD	5.1 < LOD	5.1 < LOD		16.35
66		WALL	WOOD	B	POOR	BASEMENT			Positive	3.5	2.3	3.5	2.3 < LOD		10.8
67		WALL	WOOD	B	POOR	BASEMENT			Null	< LOD	0.28 < LOD	0.28 < LOD	0.28 < LOD		6.15
68		WALL	WOOD	B	POOR	BASEMENT			Negative	< LOD	0.04 < LOD	0.04 < LOD	0.04 < LOD		1.93
69		DOOR	WOOD	B	INTACT	BASEMENT			Positive	< LOD	7.35 < LOD	7.35 < LOD	7.35 < LOD		17.55
70		DOOR	WOOD	D	INTACT	BASEMENT			Positive	< LOD	11.1 < LOD	11.1 < LOD	11.1 < LOD		18.6
71		COLUMN	WOOD	C	INTACT	BASEMENT			Positive	2.8	1.7	2.8	1.7 < LOD		8.4
72		COLUMN	WOOD	B	INTACT	BASEMENT			Positive	3.1	1.7	3.1	1.7 < LOD		6.3
73		BEAM	WOOD	CEILING	INTACT	BASEMENT			Negative	< LOD	0.03 < LOD	0.03 < LOD	0.03 < LOD		1.65
74		DECK	WOOD	CEILING	INTACT	BASEMENT			Negative	< LOD	0.03 < LOD	0.03 < LOD	0.03 < LOD		1.66
75		WALL	CONCRETE	B	INTACT	BASEMENT			Negative	< LOD	0.03 < LOD	0.03 < LOD	0.03 < LOD		2.06
76		WINDOW SASH	WOOD	B	POOR	BASEMENT			Positive	< LOD	5.4 < LOD	5.4 < LOD	5.4 < LOD		15.6



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77		WINDOW JAMB	WOOD	B	POOR	BASEMENT			Positive	< LOD	11.4 < LOD	11.4 < LOD	11.4 < LOD	11.4 < LOD	21.3
78		WALL	CONCRETE	C	INTACT	BASEMENT			Negative	< LOD	0.03 < LOD	0.03 < LOD	0.03 < LOD	0.03 < LOD	1.2
79		FLOOR	CONCRETE	FLOOR	POOR	BASEMENT			Negative	< LOD	0.05 < LOD	0.05 < LOD	0.05 < LOD	0.05 < LOD	1.35
80		WALL	WOOD	D	INTACT	BASEMENT			Negative	< LOD	0.03 < LOD	0.03 < LOD	0.03 < LOD	0.03 < LOD	1.35
81		WALL	WOOD	C	INTACT	BASEMENT			Negative	< LOD	2.75 < LOD	0.21 < LOD	0.21 < LOD	0.21 < LOD	2.75
82		PIPE	METAL	C	POOR	BASEMENT			Negative	< LOD	0.06 < LOD	0.06 < LOD	0.06 < LOD	0.06 < LOD	4.05
83		POST	WOOD	C	POOR	BASEMENT			Negative	< LOD	0.06 < LOD	0.06 < LOD	0.06 < LOD	0.06 < LOD	1.8
84		LUNDRY CHUTE	WOOD	C	POOR	BASEMENT			Negative	< LOD	0.03 < LOD	0.03 < LOD	0.03 < LOD	0.03 < LOD	1.69
85		STAIR TREAD	WOOD	FLOOR	POOR	BASEMENT	STAIRWELL		Negative	< LOD	0.04 < LOD	0.04 < LOD	0.04 < LOD	0.04 < LOD	2.04
86		STAIR RISER	WOOD	FLOOR	POOR	BASEMENT	STAIRWELL		Negative	< LOD	0.25 < LOD	0.25 < LOD	0.25 < LOD	0.25 < LOD	2.17
87		WALL	PLASTER	A	INTACT	BASEMENT	STAIRWELL		Positive	3.5	2	3.5	2 < LOD	2 < LOD	4.65
88		CEILING	PLASTER	CEILING	INTACT	BASEMENT	STAIRWELL		Positive	3.2	1.9	3.2	1.9 < LOD	1.9 < LOD	4.8
89		WALL	PLASTER	A	INTACT	SECOND	LIVING ROOM		Positive	< LOD	3.9 < LOD	1.05 < LOD	1.05 < LOD	1.05 < LOD	3.9
90		WALL	PLASTER	B	INTACT	SECOND	LIVING ROOM		Positive	2.6	1.6 < LOD	0.29	0.29	2.6	1.6
91		WALL	PLASTER	C	INTACT	SECOND	LIVING ROOM		Positive	< LOD	4.5 < LOD	1.2 < LOD	1.2 < LOD	1.2 < LOD	4.5
92		WALL	PLASTER	D	INTACT	SECOND	LIVING ROOM		Positive	< LOD	2.6 < LOD	1.95 < LOD	1.95 < LOD	1.95 < LOD	2.6
93		WALL	WOOD	C	INTACT	SECOND	LIVING ROOM		Negative	< LOD	0.09 < LOD	0.09 < LOD	0.09 < LOD	0.09 < LOD	1.8
94		WINDOW CASING	WOOD	D	INTACT	SECOND	LIVING ROOM		Negative	< LOD	0.12 < LOD	0.12 < LOD	0.12 < LOD	0.12 < LOD	1.95
95		WINDOW SILL	WOOD	D	INTACT	SECOND	LIVING ROOM		Negative	< LOD	0.09 < LOD	0.09 < LOD	0.09 < LOD	0.09 < LOD	1.8
96		RADIATOR	METAL	D	INTACT	SECOND	LIVING ROOM		Negative	< LOD	0.75 < LOD	0.75 < LOD	0.75 < LOD	0.75 < LOD	3.76
97		RADIATOR	METAL	D	INTACT	SECOND	LIVING ROOM		Negative	< LOD	0.37 < LOD	0.37 < LOD	0.37 < LOD	0.37 < LOD	3.99
98		CEILING	PLASTER	CEILING	INTACT	SECOND	LIVING ROOM		Null	< LOD	5.55 < LOD	0.41 < LOD	0.41 < LOD	0.41 < LOD	5.55
99		CEILING	PLASTER	CEILING	INTACT	SECOND	LIVING ROOM		Positive	2.4	1 < LOD	0.22	0.22	2.4	1
100		FLOOR	WOOD	FLOOR	INTACT	SECOND	LIVING ROOM		Negative	< LOD	0.16 < LOD	0.16 < LOD	0.16 < LOD	0.16 < LOD	2.25
101		DOOR CASING	WOOD	B	INTACT	SECOND	LIVING ROOM		Negative	< LOD	0.08 < LOD	0.08 < LOD	0.08 < LOD	0.08 < LOD	1.95
102		DOOR	WOOD	B	INTACT	SECOND	LIVING ROOM		Negative	< LOD	0.13 < LOD	0.13 < LOD	0.13 < LOD	0.13 < LOD	1.83
103		WALL	PLASTER	A	POOR	SECOND	BATHROOM		Positive	< LOD	12 < LOD	11.55 < LOD	11.55 < LOD	11.55 < LOD	12
104		WALL	PLASTER	C	POOR	SECOND	BATHROOM		Positive	2.1	0.9 < LOD	0.03	0.03	2.1	0.9
105		CHAIR RAIL	WOOD	C	INTACT	SECOND	BATHROOM		Positive	6.2	3.8 < LOD	2.25	2.25	6.2	3.8
106		WINDOW CASING	WOOD	D	POOR	SECOND	BATHROOM		Positive	2.9	1.8	2.9	1.8	6.2	3.8
107		CABINET	WOOD	A	POOR	SECOND	BATHROOM		Positive	< LOD	4.05 < LOD	0.59 < LOD	0.59 < LOD	0.59 < LOD	4.05
108		CEILING	PLASTER	CEILING	POOR	SECOND	BATHROOM		Positive	< LOD	12.75 < LOD	7.65 < LOD	7.65 < LOD	7.65 < LOD	12.75
109		WALL	PLASTER	A	INTACT	SECOND	BATHROOM		Positive	< LOD	3.6 < LOD	0.59 < LOD	0.59 < LOD	0.59 < LOD	3.6
110		WALL	PLASTER	B	INTACT	SECOND	BATHROOM		Positive	< LOD	4.05 < LOD	0.98 < LOD	0.98 < LOD	0.98 < LOD	4.05
111		CEILING	PLASTER	CEILING	INTACT	SECOND	BATHROOM		Positive	< LOD	3.9 < LOD	0.03 < LOD	0.03 < LOD	0.03 < LOD	3.9
112		WINDOW CASING	PLASTER	D	INTACT	SECOND	KITCHEN		Negative	< LOD	0.09 < LOD	0.09 < LOD	0.09 < LOD	0.09 < LOD	1.95
113		WINDOW SILL	PLASTER	D	INTACT	SECOND	KITCHEN		Negative	< LOD	0.24 < LOD	0.24 < LOD	0.24 < LOD	0.24 < LOD	1.85
114		CABINET	WOOD	D	INTACT	SECOND	KITCHEN		Negative	< LOD	0.04 < LOD	0.04 < LOD	0.04 < LOD	0.04 < LOD	1.95



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115		CABINET	WOOD	D	INTACT	SECOND	KITCHEN	INSIDE	Null	0.5	0.1	0.5	0.1	1.2	0.3
116		WAINSCOT	WOOD	B	INTACT	SECOND	KITCHEN	INSIDE	Negative	< LOD	0.16 < LOD		0.16 < LOD		3.15
117		CHAIR RAIL	WOOD	B	INTACT	SECOND	KITCHEN	INSIDE	Negative	< LOD	0.03 < LOD		0.03 < LOD		2.4
118		BASEBOARD	WOOD	C	INTACT	SECOND	KITCHEN	INSIDE	Negative	< LOD	0.07 < LOD		0.07 < LOD		1.97
119		DOOR CASING	WOOD	C	INTACT	SECOND	KITCHEN	INSIDE	Negative	< LOD	0.03 < LOD		0.03 < LOD		1.98
120		DOOR	WOOD	C	INTACT	SECOND	KITCHEN	INSIDE	Negative	< LOD	0.16 < LOD		0.16 < LOD		1.61
121		WALL	WOOD	B	INTACT	SECOND	BEDROOM1		Positive	< LOD	4.65 < LOD		3.45 < LOD		4.65
122		WALL	WOOD	C	INTACT	SECOND	BEDROOM1		Positive	3.1	2 < LOD		2.85	3.1	2
123		DOOR CASING	WOOD	D	INTACT	SECOND	BEDROOM1		Null	< LOD	17.7 < LOD		3.9 < LOD		17.7
124		DOOR CASING	WOOD	D	INTACT	SECOND	BEDROOM1		Positive	< LOD	3.45 < LOD		1.5 < LOD		3.45
125		WINDOW CASING	WOOD	D	INTACT	SECOND	BEDROOM1		Positive	< LOD	4.5 < LOD		1.09 < LOD		4.5
126		WINDOW SILL	WOOD	D	INTACT	SECOND	BEDROOM1		Negative	0.7	0.3	0.7	0.3 < LOD		0.6
127		BASEBOARD	WOOD	B	INTACT	SECOND	BEDROOM1		Positive	< LOD	7.05 < LOD		2.4 < LOD		7.05
128		RADIATOR	METAL	B	INTACT	SECOND	BEDROOM1		Positive	< LOD	4.8 < LOD		1.8 < LOD		4.8
129		CEILING	PLASTER	CEILING	INTACT	SECOND	BEDROOM1		Positive	4.6	2.8	4.6	2.8 < LOD		4.5
130		WALL	PLASTER	A	INTACT	SECOND	SUN ROOM		Negative	< LOD	0.1 < LOD		0.1 < LOD		2.18
131		WALL	DRYWALL	B	INTACT	SECOND	SUN ROOM		Negative	< LOD	0.03 < LOD		0.03 < LOD		1.35
132		WALL	DRYWALL	C	INTACT	SECOND	SUN ROOM		Negative	< LOD	0.03 < LOD		0.03 < LOD		1.99
133		WALL	DRYWALL	D	INTACT	SECOND	SUN ROOM		Negative	< LOD	0.03 < LOD		0.03 < LOD		1.39
134		CEILING	DRYWALL	CEILING	INTACT	SECOND	SUN ROOM		Negative	< LOD	0.03 < LOD		0.03 < LOD		0.75
135		FLOOR	WOOD	FLOOR	INTACT	SECOND	SUN ROOM		Negative	< LOD	0.04 < LOD		0.04 < LOD		1.76
136		DOOR CASING	WOOD	A	INTACT	SECOND	SUN ROOM		Positive	< LOD	4.95 < LOD		4.95 < LOD		7.2
137		DOOR	WOOD	A	INTACT	SECOND	SUN ROOM		Negative	< LOD	0.06 < LOD		0.06 < LOD		1.65
138		WALL	PLASTER	D	INTACT	SECOND	STAIRWELL		Positive	5	3.3	5	3.3 < LOD		4.8
139		WALL	PLASTER	C	POOR	SECOND	STAIRWELL		Positive	< LOD	7.8 < LOD		7.8 < LOD		5.1
140		CEILING	PLASTER	CEILING	INTACT	SECOND	STAIRWELL		Positive	< LOD	4.05 < LOD		4.05 < LOD		5.1
141		CAI2				SECOND	STAIRWELL		Positive	1.2	0.2	1.2	0.2 < LOD		1.05
142		CAI2				SECOND	STAIRWELL		Positive	1.1	0.1	1.1	0.1	0.5	0.3
143		CAI2				SECOND	STAIRWELL		Positive	1	0.1	1	0.1	0.5	0.2
144		CAI2				SECOND	STAIRWELL		Positive	1.2	0.2	1.2	0.2 < LOD		0.9
145	2.34									1.11	0	0.25	0	0	0
146		cal3							Positive	1.1	0.1	1.1	0.1	0.8	0.5
147		cal3							Positive	1.1	0.1	1.1	0.1	1	0.4
148		cal3							Positive	1.1	0.1	1.1	0.1	1	0.5
149		WALL	stucco	A	INTACT				Negative	0.13	0.05	0.13	0.05 < LOD		1.35
150		WALL	stucco	B	INTACT		EXTERIOR		Negative	0.12	0.05	0.12	0.05 < LOD		1.35
151		WALL	stucco	C	INTACT		EXTERIOR		Negative	0.1	0.04	0.1	0.04 < LOD		1.2

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152			WALL	stucco	D	INTACT		EXTERIOR		Negative	0.18	0.05	0.18	0.05 < LOD		1.05
153			WINDOW CASING	WOOD	D	INTACT		EXTERIOR		Positive	2	1	2	1 < LOD		3.15
154			WINDOW SILL	WOOD	D	INTACT		EXTERIOR		Positive	< LOD	12.15 < LOD		9.15 < LOD		12.15
155			foundation	CONCRETE	D	POOR		EXTERIOR		Negative	< LOD	0.03 < LOD		0.03 < LOD		2.22
156			foundation	CONCRETE	A	POOR		EXTERIOR		Negative	< LOD	0.04 < LOD		0.04 < LOD		1.35
157			WINDOW CASING	WOOD	A	POOR		EXTERIOR		Positive	< LOD	8.1 < LOD		8.1 < LOD		11.85
158			WINDOW SILL	WOOD	A	POOR		EXTERIOR		Positive	1.6	0.6	1.6	0.6 < LOD		3
159			RAILING	METAL	A	POOR		EXTERIOR		Null	< LOD	0.26 < LOD		0.26 < LOD		8.4
160			RAILING	METAL	A	POOR		EXTERIOR		Negative	< LOD	0.18 < LOD		0.18 < LOD		4.26
161			GUTTER	METAL	B	INTACT		EXTERIOR		Negative	< LOD	0.32 < LOD		0.32 < LOD		2.57
162			DOOR CASING	WOOD	A	POOR		EXTERIOR		Positive	< LOD	5.55 < LOD		5.55 < LOD		9
163			DOOR JAM-TRIM	WOOD	A	POOR		EXTERIOR		Positive	< LOD	11.25 < LOD		11.25 < LOD		14.85
164			DOOR	WOOD	A	POOR		EXTERIOR		Negative	< LOD	0.13 < LOD		0.13 < LOD		1.9
165			DOOR THRESHOLD	WOOD	A	POOR		EXTERIOR		Positive	< LOD	10.95 < LOD		9.6 < LOD		10.95
166			ENTRY CAP	CONCRETE	A	INTACT		EXTERIOR		Negative	< LOD	0.07 < LOD		0.07 < LOD		2.51
167			WALL	STUCCO	A	INTACT		GARAGE		Negative	< LOD	0.1 < LOD		0.1 < LOD		1.65
168			WALL	STUCCO	B	INTACT		GARAGE		Null	< LOD	0.04 < LOD		0.04 < LOD		4.65
169			WALL	STUCCO	B	INTACT		GARAGE		Null	< LOD	0.03 < LOD		0.03 < LOD		2.7
170			WALL	STUCCO	B	INTACT		GARAGE		Negative	< LOD	0.03 < LOD		0.03 < LOD		1.05
171			FASCIA	WOOD	B	INTACT		GARAGE		Negative	< LOD	0.03 < LOD		0.03 < LOD		1.78
172			TRIM	WOOD	B	POOR		GARAGE		Negative	< LOD	0.16 < LOD		0.16 < LOD		1.5
173			DOOR CASING	WOOD	C	POOR		GARAGE		Positive	2.2	0.8	2.2	0.8 < LOD		3
174			DOOR	WOOD	C	POOR		GARAGE		Negative	< LOD	0.03 < LOD		0.03 < LOD		1.89
175			FASCIA	WOOD	D	POOR		GARAGE		Positive	< LOD	9.3 < LOD		9.3 < LOD		12.3
176			BOARD	WOOD	A	POOR		GARAGE		Negative	< LOD	0.03 < LOD		0.03 < LOD		1.61
177			CLOTHS LINE	METAL	C	POOR		GARAGE		Negative	< LOD	0.39 < LOD		0.39 < LOD		4.35
178			GUTTER	METAL	C	POOR		GARAGE		Negative	< LOD	0.21 < LOD		0.21 < LOD		2.4
179			CAL4					GARAGE		Positive	1.1	0.1	1.1	0.1	0.9	0.4
180			CAL4					GARAGE		Positive	1.1	0.1	1.1	0.1	1	0.5
181			CAL4					GARAGE		Positive	1.2	0.2	1.2	0.2 < LOD		1.05



APPENDIX A



EMSL Analytical, Inc.

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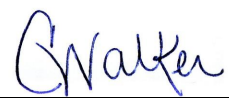
EMSL Order:	621400426
CustomerID:	PEER50
CustomerPO:	
ProjectID:	

Attn: Steve Luth Peer Engineering 7615 Golden Triangle Drive Suite N Eden Prairie, MN 55344	Phone: (952) 831-3341 Fax: (952) 831-4552 Received: 04/29/14 7:57 AM Analysis Date: 4/29/2014 Collected: 4/21/2014
Project: RAMSEY COUNTY - 1057-1059-DAYTON/24048	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
1-Skim Coat 621400426-0001	THROUGHOUT - PLASTER, FLAT	White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected
1-Plaster 621400426-0001A	THROUGHOUT - PLASTER, FLAT	Gray Non-Fibrous Homogeneous	2% Hair	98% Non-fibrous (other)	None Detected
2-Skim Coat 621400426-0002	THROUGHOUT - PLASTER, FLAT	White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected
2-Plaster 621400426-0002A	THROUGHOUT - PLASTER, FLAT	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
3-Skim Coat 621400426-0003	THROUGHOUT - PLASTER, FLAT	White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected
3-Plaster 621400426-0003A	THROUGHOUT - PLASTER, FLAT	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
4-Skim Coat 621400426-0004	THROUGHOUT - PLASTER, FLAT	White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected
4-Plaster 621400426-0004A	THROUGHOUT - PLASTER, FLAT	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s)
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 Christina Walker (9)


 Christina Walker, Laboratory Manager
 or other approved signatory

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Initial report from 04/29/2014 17:17:41



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Received: 04/29/14 7:57 AM
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Project: **RAMSEY COUNTY - 1057-1059-DAYTON/24048**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
5-Skim Coat 621400426-0005	THROUGHOUT - PLASTER, FLAT	White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected
5-Plaster 621400426-0005A	THROUGHOUT - PLASTER, FLAT	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
6-Skim Coat 621400426-0006	THROUGHOUT - PLASTER, FLAT	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
6-Plaster 621400426-0006A	THROUGHOUT - PLASTER, FLAT	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
7-Skim Coat 621400426-0007	THROUGHOUT - PLASTER, FLAT	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
7-Plaster 621400426-0007A	THROUGHOUT - PLASTER, FLAT	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
8 621400426-0008	THROUGHOUT - PLASTER, CEILING SWIRL PATTERN	Tan/White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected
9 621400426-0009	THROUGHOUT - PLASTER, CEILING SWIRL PATTERN	Tan/White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected

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Project: **RAMSEY COUNTY - 1057-1059-DAYTON/24048**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
10 621400426-0010	THROUGHOUT - PLASTER, CEILING SWIRL PATTERN	Tan/White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (other)	None Detected
11 621400426-0011	THROUGHOUT - PLASTER, CEILING SWIRL	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
12 621400426-0012	THROUGHOUT - PLASTER, CEILING SWIRL PATTERN	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
13-Skim Coat 621400426-0013	1ST FLOOR KITCHEN - WAINSCOT PLASTER, BRICK PATTERN	White/Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
13-Plaster 621400426-0013A	1ST FLOOR KITCHEN - WAINSCOT PLASTER, BRICK PATTERN	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
14 621400426-0014	EXTERIOR - STUCCO	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
15 621400426-0015	EXTERIOR - STUCCO	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
16 621400426-0016	EXTERIOR - STUCCO	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
17 621400426-0017	EXTERIOR - STUCCO	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
18 621400426-0018	EXTERIOR - STUCCO	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
19 621400426-0019	GARAGE - STUCCO SMALL	Gray Non-Fibrous Homogeneous		96% Non-fibrous (other)	4% Chrysotile
20 621400426-0020	GARAGE - STUCCO SMALL				Stop Positive (Not Analyzed)
21 621400426-0021	GARAGE - STUCCO SMALL				Stop Positive (Not Analyzed)
22 621400426-0022	PORCH / SUNROOM - STUCCO ON THE SOUTH WALL	Gray Non-Fibrous Homogeneous		96% Non-fibrous (other)	4% Chrysotile
23 621400426-0023	PORCH / SUNROOM - STUCCO ON THE SOUTH WALL				Stop Positive (Not Analyzed)

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
24 621400426-0024	PORCH / SUNROOM - STUCCO ON THE SOUTH WALL				Stop Positive (Not Analyzed)
25 621400426-0025	BASEMENT - 0"-4" TSI LINE, AIR-O-CELL	Gray/Green Fibrous Homogeneous	60% Cellulose	30% Non-fibrous (other)	10% Chrysotile
26 621400426-0026	BASEMENT - 0"-4" TSI LINE, AIR-O-CELL				Stop Positive (Not Analyzed)
27 621400426-0027	BASEMENT - 0"-4" TSI LINE, AIR-O-CELL				Stop Positive (Not Analyzed)
28 621400426-0028	BASEMENT - 0"-4" TSI PIPE FITTINGS	Gray Fibrous Homogeneous		65% Non-fibrous (other)	35% Chrysotile
29 621400426-0029	BASEMENT - 0"-4" TSI PIPE FITTINGS				Stop Positive (Not Analyzed)
30 621400426-0030	BASEMENT - 0"-4" TSI PIPE FITTINGS				Stop Positive (Not Analyzed)
31 621400426-0031	BASEMENT - CHIMNEY PATCH	Gray Fibrous Homogeneous	5% Glass 15% Min. Wool	80% Non-fibrous (other)	None Detected

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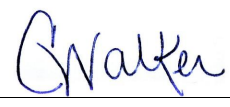
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
32 621400426-0032	BASEMENT - CHIMNEY PATCH	Gray Fibrous Homogeneous	15% Min. Wool 5% Glass	80% Non-fibrous (other)	None Detected
33 621400426-0033	BASEMENT - CHIMNEY PATCH	Gray Fibrous Homogeneous	25% Min. Wool 5% Cellulose	70% Non-fibrous (other)	None Detected
34 621400426-0034	BASEMENT - CONCRETE MASONRY (CMU) WALLS	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
35 621400426-0035	BASEMENT - CEILING AND WALL PAPER, BLACK	Black Fibrous Homogeneous	85% Cellulose	15% Non-fibrous (other)	None Detected
36 621400426-0036	THROUGHOUT - WOOD FLOOR UNDERLAYMENT	Brown Fibrous Homogeneous	65% Cellulose 10% Synthetic	25% Non-fibrous (other)	None Detected
37 621400426-0037	THROUGHOUT - GYPSUM AND JOINT COMPOUND	White Non-Fibrous Homogeneous	6% Cellulose 2% Glass	92% Non-fibrous (other)	None Detected
38 621400426-0038	BASEMENT - WINDOW GLAZE, WHITE	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
39 621400426-0039	STAIRWELL, BACK - DOOR WINDOW GLAZE, WHITE	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
40 621400426-0040	1ST FLOOR KITCHEN - CABINET BACKING, PAPER	Various Fibrous Homogeneous	50% Cellulose 25% Synthetic	25% Non-fibrous (other)	None Detected
41 621400426-0041	1ST FLOOR, KITCHEN - 12X12 FLOOR TILE ON CABINETS, WHITE	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
42 621400426-0042	1ST FLOOR, KITCHEN - SPASH GUARD ADHESIVE YELLOW	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
43 621400426-0043	KITCHENS, 2ND FLOOR BATHROOM - SHEET FLOORING, MOSAIC	Various Non-Fibrous Homogeneous	5% Glass	95% Non-fibrous (other)	None Detected
44-Top Layer 621400426-0044	KITCHENS - UNDER SHEET FLOORING, MOSAIC (2 LAYERS)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
44-Bottom Layer 621400426-0044A	KITCHENS - UNDER SHEET FLOORING, MOSAIC (2 LAYERS)	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
45 621400426-0045	1ST FLOOR BATHROOM - SHEET FLOORING, 12X12 PATTERN	White Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
46 621400426-0046	BATHROOMS - UNDER SHEET FLOORING, 12X12 PATTERN	Yellow Fibrous Homogeneous	30% Cellulose	70% Non-fibrous (other)	None Detected
47 621400426-0047	1ST FLOOR BATHROOM - WINDOW CAULK, WHITE HARD	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
48 621400426-0048	BATHROOMS - BATH CAULK, WHITE	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
49 621400426-0049	STAIRWELL, BACK - 12X12 FLOOR TILE, SELF-STICK TAN/BROWN	Brown/Tan Non-Fibrous Homogeneous	5% Glass	95% Non-fibrous (other)	None Detected
50 621400426-0050	STAIRWELL, BACK - SHEET FLOORING, 9X9 PATTERN	Tan Non-Fibrous Homogeneous	5% Glass	95% Non-fibrous (other)	None Detected
51 621400426-0051	ROOF AND GARAGE ROOF - SHINGLE, RED	Black Fibrous Homogeneous	25% Glass 20% Cellulose	55% Non-fibrous (other)	None Detected

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Initial report from 04/29/2014 17:17:41



ANALYTICAL

CHAIN OF CUSTODY

ASBESTOS

021400426

EMSL Representative:	EMSL Reference #:
Your Company Name: <u>Peer Engineering, Inc.</u>	EMSL-Bill to: <u>Same</u>
Street: <u>7615 Golden Triangle Drive, Suite N</u>	Street:
Box #:	Box #:
City/State: <u>Eden Prairie</u> Zip: <u>55344</u>	City/State: Zip:
Results to: <u>Steve Luth</u>	Email Results to: <u>Sluth@peerengineering.com</u>
Telephone #: <u>952-452-3826</u> <i>24048</i>	Or Fax Results #:
Project Name/Number: <u>Ramsey county-1057-1059 Dayton/</u>	Purchase Order #:

MATRIX	TURNAROUND TIME
<input type="checkbox"/> Air <input type="checkbox"/> Floor Tile <input type="checkbox"/> Soil <input type="checkbox"/> Wipe <input checked="" type="checkbox"/> Bulk <input type="checkbox"/> Drinking Water <input type="checkbox"/> Dust <input type="checkbox"/> Waste water	<input type="checkbox"/> RUSH <input type="checkbox"/> 6 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> Contact Lab <input checked="" type="checkbox"/> 3 Days <input type="checkbox"/> 5 Days <input type="checkbox"/> 6-10 days

PCM <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> MN Dept of Health <input type="checkbox"/> Other:	PLM <input checked="" type="checkbox"/> EPA 600/R-93/116 <input type="checkbox"/> Comments: <input type="checkbox"/> NOB <input type="checkbox"/> Point Count (400 point) <input checked="" type="checkbox"/> Test Until Positive <input type="checkbox"/> Other:
--	---

TEM AIR <input type="checkbox"/> AHERA <input type="checkbox"/> EPA Level II <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> MN Dept of Health	TEM BULK <input type="checkbox"/> Chatfield <input type="checkbox"/> NOB <input type="checkbox"/> Micro Vac-Quantitative <input type="checkbox"/> Micro Vac-Qualitative <input type="checkbox"/> Drop Mount-Qualitative	TEM WATER <input type="checkbox"/> EPA 100.1 (all fibers) <input type="checkbox"/> EPA 100.2 (Long fibers >10um) <input type="checkbox"/> NY 198.2	TEM WIPE <input type="checkbox"/> Quantitative <input type="checkbox"/> Qualitative
			TEM DUST <input type="checkbox"/> ASTM D-5755-95 <input type="checkbox"/> Qualitative

Client Sample # (s) <u>1</u> - <u>51</u>	Total Samples: <u>51</u>
Relinquished: <u>[Signature]</u> Date: <u>4-24-14</u> Time: _____	
Received: <u>[Signature]</u> Date: <u>4/25/14</u> Time: <u>3:50 C</u>	
Received: <u>[Signature]</u> Date: <u>4-29-14</u> Time: <u>10:00 AM</u>	

SAMPLE DATE	SAMPLE NUMBER	LOCATION	DESCRIPTION OF MATERIAL	NOTES (If Applicable)
4/21/14	1-7	Throughout	Plaster, flat	Test till positive
4/21/14	8-12	Throughout	Plaster, ceiling swirl pattern	Test till positive
4/21/14	13	1st Floor kitchen	Wainscot plaster, brick pattern	
4/21/14	14-18	Exterior	Stucco	Test till positive
4/21/14	19-21	Garage	Stucco small	Test till positive
4/21/14	22-24	Porch/ sunroom	Stucco on the south wall	Test till positive
4/21/14	25-27	Basement	0"-4" TSI line, Air-O-Cell	Test till positive
4/21/14	28-30	Basement	0"-4" TSI pipe fittings	Test till positive
4/21/14	31-33	Basement	Chimney patch	Test till positive
4/21/14	34	Basement	Concrete masonry (CMU) walls	
4/21/14	35	Basement	Ceiling and wall paper, black	
4/21/14	36	Throughout	Wood floor underlayment	
4/21/14	37	Throughout	Gypsum and joint compound	
4/21/14	38	Basement	Window glaze, white	

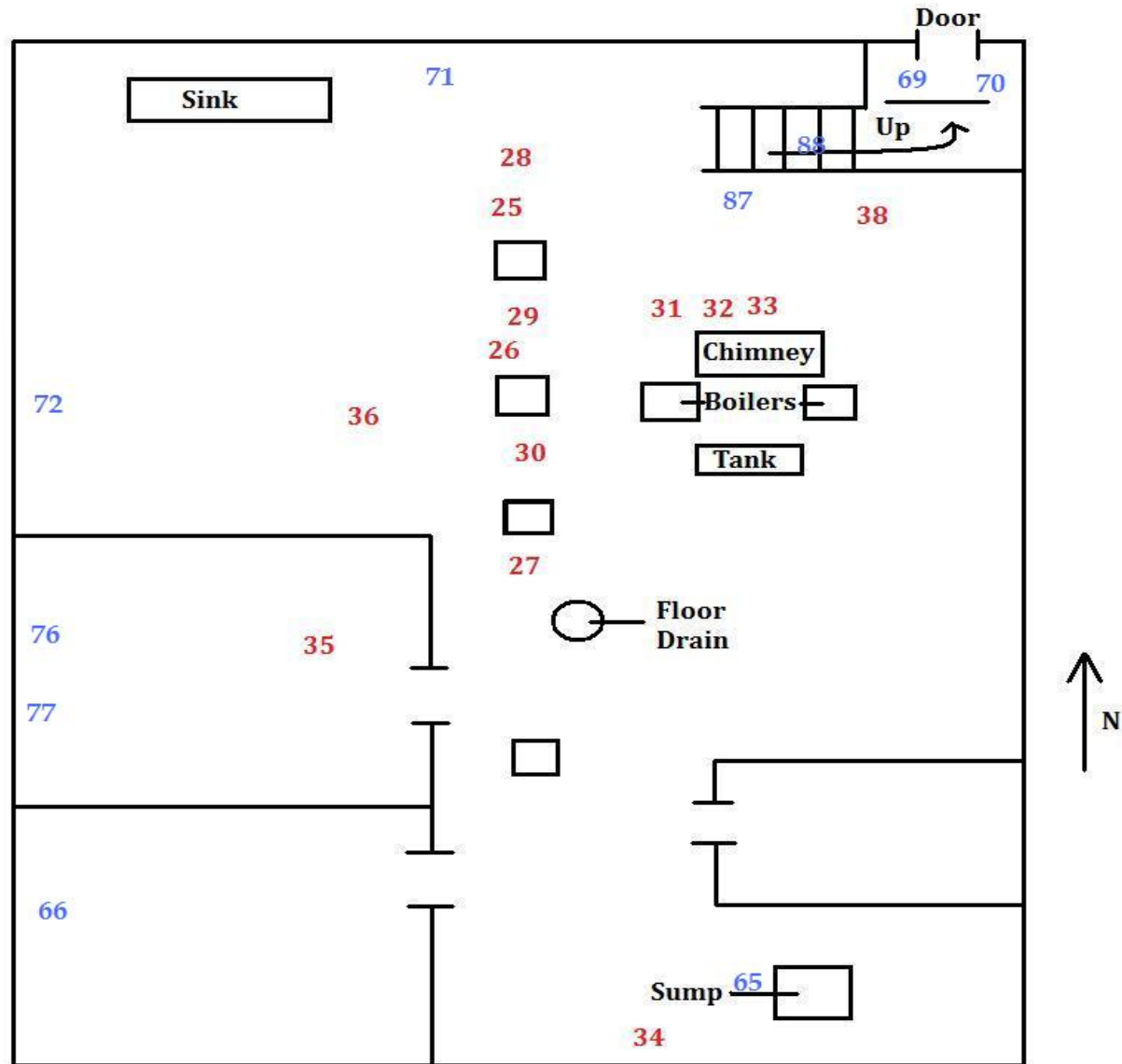


APPENDIX B

-Not to Scale-

Basement (Apt. # 1057-1059)

- Asbestos Samples
- Lead Positive Readings



7615 Golden Triangle Dr., Suite N
Eden Prairie, MN 55344
(952) 831-3341 · (952)831-4552

Project Number: 24048.00
Project Name: Ramsey County
Houses

Title: 1057-1059 Dayton Ave., St. Paul, MN –
Sample Location Map - Basement

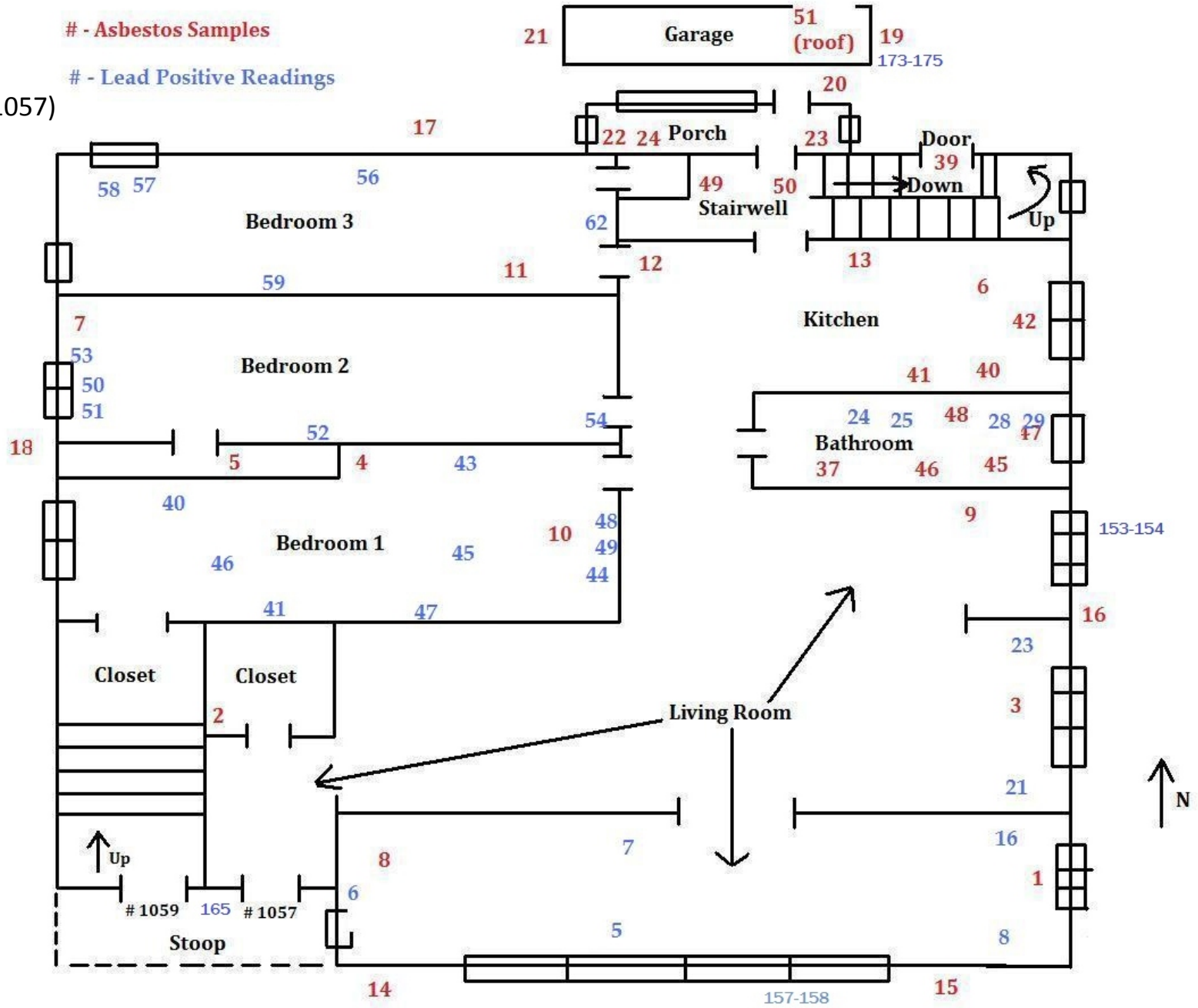
Date: 04/21/14

Figure Number: 1

1st Floor (Apt. # 1057)

- Asbestos Samples

- Lead Positive Readings



7615 Golden Triangle Dr., Suite N
Eden Prairie, MN 55344
(952) 831-3341 · (952)831-4552

Project Number: 24048.00
Project Name: Ramsey
County Houses

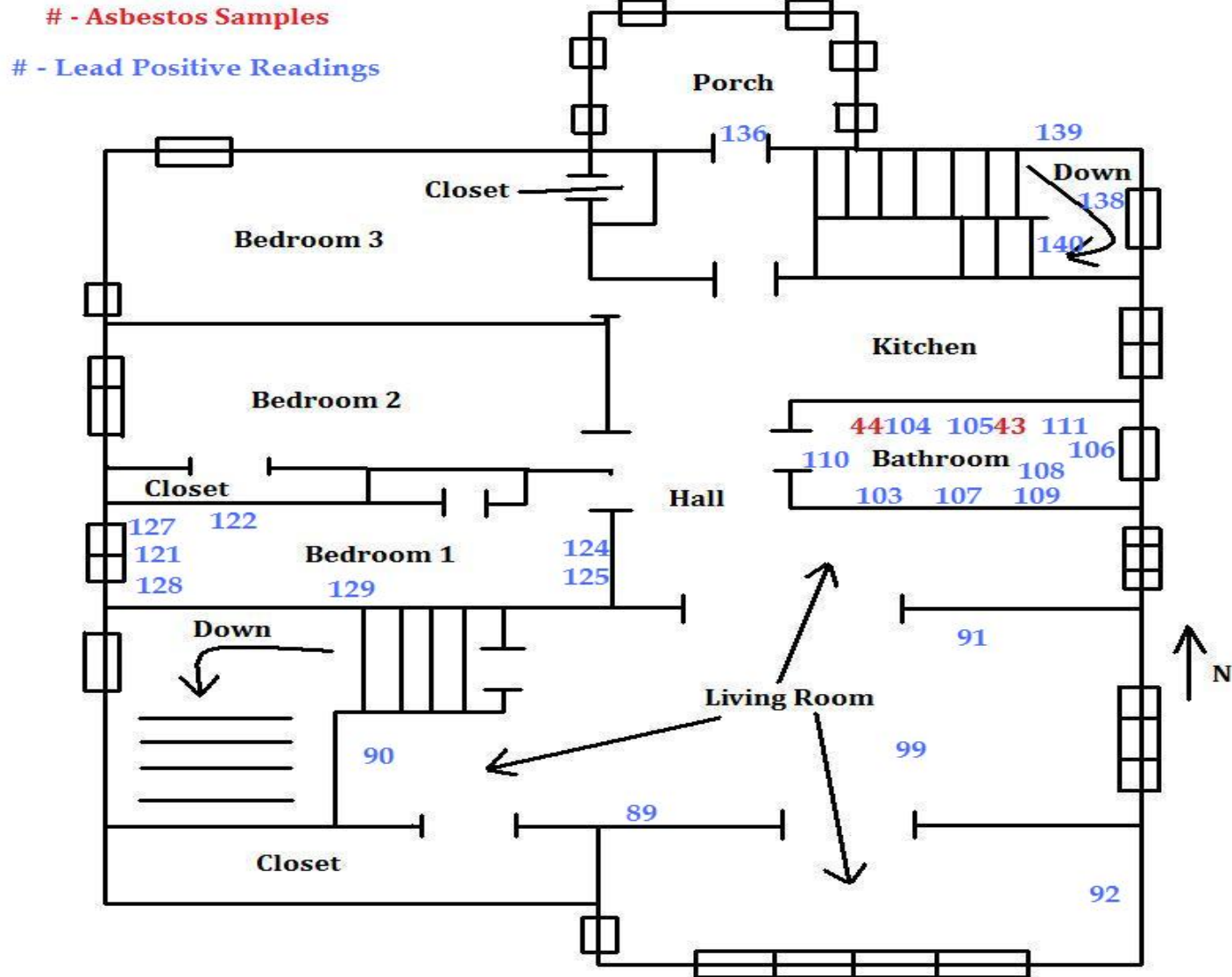
Title: 1057-1059 Dayton Ave., St. Paul, MN –
Sample Location Map 1st Floor

Date: 04/21/14

Figure Number: 2

-Not to Scale-

2nd Floor (Apt. # 1059)



7615 Golden Triangle Dr., Suite N
Eden Prairie, MN 55344
(952) 831-3341 · (952)831-4552

Project Number: 24048.00
Project Name: Ramsey County
Houses

Title: 1057-1059 Dayton Ave., St. Paul, MN –
Sample Location Map- 2nd Floor
Date: 04/22/14
Figure Number: 3



APPENDIX C

QUALIFICATIONS AND EXPERIENCE

Peer was incorporated in the State of Minnesota in March 1991. The company is owned and operated by Stephen T. Jansen, M.S., P.G., Kenneth A. Larsen, P.E., P.G., Mark F. Johnson, P.G., and Robert J. Rykken, P.E., P.G. Peer specializes in providing environmental consulting and engineering services to public and private clients for property transaction, redevelopment and construction projects. We provide a full range of environmental services including Phase I and Phase II Environmental Site Assessments (ESA); site investigations; Response Action Plan (RAP) preparation; feasibility and treatability studies; asbestos, lead-based paint and other hazardous materials identification and abatement oversight; operations and maintenance (O&M) program development; radon measurement and mitigation design; underground storage tank identification, abandonment and removal oversight; and environmental monitoring, sampling, testing and documentation related to RAP/construction implementation.

Peer has completed Phase I Environmental Site assessments of all types of properties including undeveloped, agricultural, single family, multi-family, and commercial office, retail and industrial. Peer has conducted hydrogeologic investigations/studies, and soil/water quality assessments at hundreds of sites located in a vast array of geographical and environmental settings.

Peer has a highly integrated, multi-disciplinary staff of professionals with the qualifications and experience needed to complete all required Phase I ESA scopes of work. Peer has completed hundreds of Phase I Environmental Site Assessments of properties using scopes of work designed by HUD, Fannie Mae, Freddie Mac and numerous other lending entities. Our professional staff includes several licensed engineers and geologists, a hydrogeologist and chemist, a soil/materials scientist, a GIS/computer specialist, and sampling technicians who design, perform and directly oversee our projects. Our personnel are licensed as asbestos inspectors, asbestos management planners, lead paint inspectors and lead risk assessors. All technical personnel have completed OSHA 40 hour health and safety training with 8 hour annual refresher courses.



Peer's corporate office is located in Eden Prairie, Minnesota and has a branch office located in Moorhead, Minnesota. We have 23 full-time employees. Twenty-one are professionals with education, post-graduate training and experience directly related to the environmental field. Two employees are administrative support staff. Being relatively smaller in size, Peer is able to respond quickly to our client's site specific individual needs, yet still provide cost-effective "big picture" services. Our clients also receive direct attention/input from Peer's owners and principals, so there are no unforeseen surprises at the end of the project.

QUALIFICATIONS AND EXPERIENCE

■ SERVICES OVERVIEW

Property Transaction

- Phase I & Phase II Environmental Site Assessments
- Regulatory Assurance Letters
- Property Condition Assessments
- Appraisal Support
- Geotechnical Evaluation

Soil and Groundwater Sampling and Remediation

- Risk-Based Cleanup Design
- Cleanup Grant Preparation & Administration
- Petroleum Cleanup Reimbursement
- Regulatory Approvals & Assurance Letters
- Environmental Permits
- Remediation Plans & Specifications
- Remediation & Construction Management
- General Contracting
- Turnkey Remediation

Compliance

- RCRA Permitting & Closure
- Compliance Audits
- Waste Characterization & Disposal
- Petroleum & Chemical Storage Tank System Design
- NPDES Stormwater Permits & Pollution Prevention Plans
- Wastewater Discharge Permits
- Stormwater, Wastewater, & Groundwater Monitoring

Building Demolition & Decontamination

- Asbestos & Lead Paint Surveys
- Hazardous Materials Inventories (electrical equipment, refrigerants)
- Building Contaminant Assessment (PCBs, mercury, mold, radon)
- Abatement Alternative Analysis
- Abatement Plans & Specifications
- Abatement Contractor Management
- Turnkey Abatement

STEPHEN A. LUTH

ENVIRONMENTAL PROFESSIONAL

EDUCATION

*Bachelor of Science Degree, Geography, 2006,
Minnesota State University-Mankato, Mankato,
Minnesota.*

*Masters of Business Administration, 2011, Globe
University, Minneapolis/St. Paul, Minnesota.*

REGISTRATIONS/CERTIFICATIONS

*OSHA 40 Hour Hazardous Waste Operations Training
(29 CFR 1910.120)*

*Minnesota Department of Health Asbestos Building
Inspector*

*Minnesota Department of Health Asbestos Site
Supervisor*

Minnesota Department of Health Lead Risk Assessor

North Dakota Department of Health Asbestos Inspector

*NIOSH 582 Sampling and Evaluation of Airborne
Asbestos*

Niton X-Ray Fluorescence Analyzer Certification

*OSHA 8-Hour Hazards of Confined Space Entry (29 CFR
1910.146)*

SUMMARY

Mr. Luth is an environmental professional with 6 years of environmental consulting experience. He has managed projects which have included property transfer environmental assessments, asbestos and lead-based paint surveys, and indoor air quality investigations. Mr. Luth has also provided on-site project management of asbestos and microbial abatement projects, oversight of drilling projects, excavation monitoring, and related data acquisition involving collection of soil samples and ground water samples, and water infiltration assessments.

SELECTED EXPERIENCE

Mr. Luth has conducted asbestos assessments, sampling and abatement managing following AHERA, OSHA and EPA guidelines and regulations for numerous industrial/commercial entities and school districts. He has conducted over one hundred pre-demolition hazardous materials surveys for residential, public, commercial, and industrial properties; prepared reports presenting survey and sampling results, protocols and recommendations for abatement measures and asbestos management. Mr. Luth has also completed several lead risk assessment of residential properties for public entities; prepared reports presenting the assessment results and recommendations for managing lead hazards.

Performed Phase I Environmental Assessments of industrial and manufacturing facilities, commercial and residential properties for property owners and managers, prospective buyers, insurers, lenders and investors. Provided comprehensive reports, following ASTM protocol, including recommendations, when appropriate for waste management, compliance audits and Phase II investigations.

Performed Phase II Environmental Assessments of commercial properties for property owners and managers, prospective buyers, insurers, lenders and investors. Provided comprehensive reports, following required protocols, including recommendations, when appropriate for underground storage tank removals and groundwater monitoring well sampling. Duties included soil and groundwater sampling.



7615 Golden Triangle Dr., Suite N, Eden Prairie, MN 55344



**ASBESTOS
INSPECTOR**

**Certified by:
State of Minnesota
Department of Health**

Expires: 02/04/2015

**Stephen A Luth
6598 154th St W
Apple Valley, MN 55124**

SP Luth
Director, Env. Health Div.

No. A110702 Issued: 02/12/2014



7615 Golden Triangle Dr., Suite N, Eden Prairie, MN 55344



MINNESOTA
MDH **LEAD**
DEPARTMENT **Risk Assessor**

Licensed by:
State of Minnesota
Department of Health
License No. **LR3835**
Expires **09/19/2014**

Stephen A Luth
6598 154th St W
Apple Valley, MN 55124

Truda S. Benninger
Director, Env. Health Div.



**ASBESTOS
INSPECTOR**

Certified by:
State of Minnesota
Department of Health

Expires: 05/03/2014

Richard M Fons
9269 Boston Rd
Woodbury, MN 55129

Jenna L. Busenow
Director, Env. Health Div.

No. AI12025 Issued: 05/08/2013