

[U31-12104]

August 22, 2012

Ms. Kathleen A. Beattie, Treasurer  
Houghton County  
401 E. Houghton Avenue  
Houghton, MI 49931

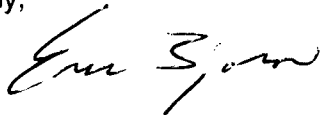
**RE: ASBESTOS SURVEY, LEAD AND CADMIUM CONTAINING PAINT SAMPLING OF  
THE BUILDING LOCATED AT 1219 12<sup>th</sup> STREET  
LAKE LINDEN, MICHIGAN**

Dear Ms. Beattie:

As authorized, U.P. Engineers & Architects, Inc. (UPEA) has completed the referenced asbestos survey, and lead and cadmium containing paint sampling. UPEA has enclosed an asbestos survey, and a lead and cadmium containing paint sampling report, which includes procedures and methodologies, analytical laboratory results, and applicable conclusions and recommendations.

UPEA appreciates the opportunity to perform these services for the Houghton County Land Bank Authority. If you have any questions or comments regarding the information presented in this report, or if we can be of further assistance please contact me at (906) 482-4810.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric Bjorn". The signature is written in a cursive, flowing style.

Eric Bjorn,  
Michigan Certified Asbestos Inspector, Accreditation Number A41646

Enclosures

**BUILDING LOCATED AT  
1219 12<sup>th</sup> STREET  
LAKE LINDEN, MICHIGAN**

**ASBESTOS SURVEY & LEAD  
AND CADMIUM CONTAINING PAINT  
SAMPLING REPORT**

**Prepared for:  
Houghton County Land Bank Authority  
401 E. Houghton Avenue  
Houghton, Michigan 49931**

**Prepared By:  
U.P. ENGINEERS & ARCHITECTS, INC.  
100 Portage Street  
Houghton, Michigan 49931**

**August 2012**

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## **I. PURPOSE AND SCOPE**

The purpose of this project was to conduct an asbestos survey and lead & cadmium containing paint sampling at the Building located at 1219 12<sup>th</sup> St., Lake Linden, Michigan. The survey and sampling will identify asbestos containing material (ACM), presumed ACM (PACM), and lead and cadmium containing paint throughout the Building. The survey and sampling will be referred to by staff and personnel during demolition operations. Material or items not comprised of ACM or PACM may be removed, repaired or replaced by general maintenance staff or contractors. However, ACM or PACM items must be handled and disposed of by properly trained personnel. Lead and cadmium containing paint may be disposed of as demolition debris, if the proper procedures are followed.

The scope of this project includes:

1. Building walk through
2. Identification of suspect ACM, Lead & Cadmium Containing Paint
3. Collection and analysis of bulk samples of suspect ACM
4. Collection of suspect Lead & Cadmium Containing Paint samples
5. Quantification of ACM and PACM
6. Asses current condition of ACM and PACM, and identify the potential for disturbance of ACM and PACM.

## **II. ASBESTOS CONTAINING MATERIAL SURVEY**

An asbestos survey was conducted for the Building located at 1219 12<sup>th</sup> St. Lake Linden, Michigan. The asbestos survey was performed by Eric Bjorn; a State of Michigan licensed Asbestos Building Inspector (License # A41646) on August 10th, 2012. A copy of the building inspector accreditation is included in Appendix A.

The asbestos survey consisted of five phases: 1) conduct a visual inspection of the Building; 2) identify homogeneous areas; 3) sample selected suspect ACM from different homogeneous areas; 4) quantify ACM and PACM; 5) assess current conditions of sampled suspect ACM and the potential for disturbance of the ACM identified.

Prior to collecting any samples, a sampling strategy was developed based on the layout of the Building and the construction periods associated with each section of the Building. Based on the sampling strategy, the Building was divided into different homogeneous areas, from which samples would be collected. A homogeneous area can be described as one or more areas of material that are similar in appearance and that have the same construction/installation date and function. Bulk samples of identified suspect asbestos containing material (ACM) were collected in individual containers and sent to a National Voluntary Lab Accreditation Program (NVLAP)/American Industrial Hygiene Association (AIHA) accredited laboratory for analysis. The number of samples collected from each homogeneous area may vary depending on the professional judgment of the inspector and the type of material present.

A. SAMPLING STRATEGY

In planning the asbestos survey, the approach was taken to test and catalog all visible areas of the Building presumed to be asbestos containing. Since the Building is scheduled to be demolished, any materials presumed to be asbestos containing must also be removed prior to demolition activities.

The asbestos survey was conducted according to AHERA guidelines utilizing a minimum number of samples collected from each homogeneous area. The number of samples collected depends on the category that the suspect asbestos containing building material (ACBM) falls under and the amount of suspect material present. The following table outlines the AHERA sampling Guidelines:

Bulk Sampling Requirements	
Type of Material	Samples Required
<b>Friable Surfacing Material:</b>	
Area ≤ 1,000 sq. feet	3
Area > 1,000 sq. feet but ≤ 5,000 sq. feet	5
Area > 5,000 sq. feet	7
<b>Thermal System Insulation (TSI)</b>	
TSI not assumed to be ACBM	3
Patched TSI not assumed to be ACBM (if patched section < 6 linear or sq. feet)	1
<b>Miscellaneous Materials</b>	
Each insulated mechanical system not assumed to be ACBM where cement or plaster is used on fittings such as tees, elbows, or valves	Samples in a manner sufficient to determine if material is or is not ACBM*
Friable Miscellaneous Material not Assumed to be ACBM	Samples in a manner sufficient to determine if material is or is not ACBM*
Nonfriable Suspected ACBM not assumed to be ACSM	Samples in a manner sufficient to determine if material is or is not ACBM*

\* EPA recommends that three samples be taken to meet this requirement.

Miscellaneous materials require sufficient sampling, which requires at least one sample per homogeneous material, with three samples typically collected. The number of samples collected is determined by the building inspector, typically based on observations such as quantity, condition, and friability of material present.

B. SUSPECT ASBESTOS CONTAINING MATERIAL

Six (6) samples (1-Roof, 5-Interior) of suspect ACM were collected from the Building and analyzed by Polarized Light Microscopy (PLM). Table 1 shows the confirmed ACMs. Table 2 presents the sample analysis results. The confirmed ACMs are reported in bold text. Appendix B contains a copy of the building floor plans. Copies of the analytical results are included in Appendix C. Appendix D contains a copy of the laboratory accreditation.

*This asbestos survey was completed with limited destructive testing. Therefore,*

*hidden materials may be discovered in walls or ceilings that contain asbestos. If such materials are encountered, all work shall stop immediately until proper testing is conducted to determine the content of the material.*

TABLE 1  
ASBESTOS CONTAINING MATERIALS

FLOOR	LOCATION	MATERIAL	QUANTITY	FRIABLE
1 <sup>ST</sup> Floor	Interior	Wall-Floor-Ceil	None	NO
1 <sup>ST</sup> Floor	Exterior	Roofing	None	NO

### III. LEAD AND CADMIUM CONTAINING PAINT SAMPLING

Five (5) samples (4-Exterior, 1-Interior) of suspect lead and cadmium containing paint from the Building were collected and submitted for analysis by an accredited laboratory. The following tables (Table 3 & Table 4) present the sample analysis results. The confirmed lead-containing and cadmium-containing paint samples are reported in bold text. Copies of the lead and cadmium analytical results are included in Appendix E.

### IV. CONCLUSIONS AND RECOMMENDATIONS

#### **Asbestos:**

The results of the asbestos survey conducted on August 10th, 2012 at the Building located at 1219 12<sup>th</sup> St., Lake Linden, Michigan, indicate the Building does not contain asbestos.

Material or items not comprised of ACM or PACM may be removed, repaired or replaced by general maintenance staff or contractors. However, ACM or PACM items must be handled and disposed of by properly trained personnel.

#### **Lead and Cadmium-Containing Paint:**

The results of the lead and cadmium-containing paint sampling conducted on August 10th, 2012, indicate the Building does contain lead containing paint. Of the tested materials, lead containing paint was identified on the storage shed, entrance porch and deck/steps of the exterior of the trailer.

*Since lead paint is present, air monitoring and or proper personal protective equipment will be required during demolition, dependant upon worse case scenario.*

## V. LIMITATIONS

Identification and testing of PACM was conducted by a trained professional licensed in the State of Michigan. Professional judgment was used in the selection of materials to be tested and the number of samples of each homogeneous material tested.

This report documents testing of ACM or PACM based on sampling strategies and priorities as described herein, and on the dates and at locations identified in this report. Modifications to the Building or its interior through renovations, remodeling, building additions or changes to fixtures, facilities or furnishings that occur subsequent to the date of this report may add or remove ACM or PACM not identified in this report.

This report was completed to aid the Building owner, maintenance staff, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances should this report be utilized as a bidding document or as a project specification document.

This report was completed with limited destructive testing. Therefore, materials may be discovered in walls or ceilings that contain asbestos. If such materials are encountered, all work shall stop immediately until proper testing may be conducted to determine the content of the material.

**TABLE 2  
SUMMARY OF ASBESTOS ANALYTICAL RESULTS**

**BUILDING LOCATED AT  
1219 12th STREET  
LAKE LINDEN, MICHIGAN**

SAMPLE LOCATION	SAMPLE NUMBER	MATERIAL (CLASSIFICATION)	DESCRIPTION OF MATERIAL	ESTIMATED QUANTITY	FRIABLE YES / NO	ASBESTOS CONTENT
Exterior	A-1	Trailer Roof	Black /Silver	N/A	No	.23 CHRYSOTILE
		Mastic				
Interior	A-2	Bathroom Shower	Multi-color	N/A	No	None
		Wall Board				
Interior	A-3	Bath Floor & Hall	Brown / Green	N/A	No	None
		Sheet Vinyl				
Interior	A-4	Furnace Room	Beige	N/A	No	None
		Wall Board				
Interior	A-5	Typical Ceiling Tile	Brown	N/A	Yes	None
		Throughout				
Exterior	A-6	Window Sealant	White	N/A	No	None
		Above Windows Typ.				

NOTE: Material containing less than 1 percent asbestos is not classified as ABM Asbestos Containing Material.



**TABLE 3  
SUMMARY OF LEAD-CONTAINING PAINT ANALYTICAL RESULTS**

**BUILDING LOCATED AT  
1219 12<sup>TH</sup> STREET  
LAKE LINDEN, MICHIGAN**

SAMPLE LOCATION	SAMPLE NUMBER	SAMPLE DESCRIPTION	COLOR	TOTAL LEAD (ug)	LEAD CONC (% by wt)
<b>EXTERIOR</b>	<b>L-1</b>	<b>Storage Shed</b>	<b>Grey</b>	<b>7.76</b>	<b>0.002</b>
INTERIOR	L-2	Tile Ceiling	White	2.97	<0.001
EXTERIOR	L-3	Siding	White	<2.0	<0.003
<b>EXTERIOR</b>	<b>L-4</b>	<b>Porch</b>	<b>White</b>	<b>79.18</b>	<b>0.024</b>
<b>EXTERIOR</b>	<b>L-5</b>	<b>Steps/Deck</b>	<b>Grey</b>	<b>9.26</b>	<b>0.003</b>

**NOTE: BOLD INDICATES LEAD CONCENTRATION ABOVE ACTION LIMIT**

**TABLE 4**  
**SUMMARY OF CADMIUM-CONTAINING PAINT ANALYTICAL RESULTS**

**BUILDING LOCATED AT**  
**1219 12<sup>TH</sup> STREET**  
**LAKE LINDEN, MICHIGAN**

SAMPLE LOCATION	SAMPLE NUMBER	SAMPLE DESCRIPTION	COLOR	TOTAL CADMIUM (ug)	CADMIUM CONC (% by wt)
EXTERIOR	L-1	Storage Shed	Grey	<2.0	<0.001
INTERIOR	L-2	Tile Ceiling	White	<2.0	<0.001
EXTERIOR	L-3	Siding	White	<2.0	<0.003
EXTERIOR	L-4	Porch	White	3.1	<0.001
EXTERIOR	L-5	Steps/Deck	Grey	<2.0	<0.001

**NOTE: BOLD INDICATES CADMIUM CONCENTRATION ABOVE ACTION LIMIT**