



P.O. Box 13216  
Lansing, MI 48901  
Phone: 888.449.4566  
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www.redcedarconsulting.net

September 8, 2015

Ms. Roxanne Case  
Office Manager  
Ingham County Land Bank  
3024 Turner St.  
Lansing, MI 48906

**RE: *Asbestos Containing Material and Hazardous Materials Inspection***  
***626 Mifflin St., Lansing, MI 48912***  
***Parcel ID: 33-01-01-14-381-202***

Dear Ms. Case:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 626 Mifflin St., Lansing, Michigan (Subject Property). This inspection was completed at the request of the Ingham County Land Bank to comply with the United States Environmental Protection Agency (USEPA) requirements for demolition and renovation set forth under the National Emissions Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Part 61). This inspection was also completed to comply with the Occupational Safety and Health Administration (OSHA) Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

### **SUBJECT PROPERTY**

The Subject Property is comprised of a .23 acre residential parcel which contains an approximate 772 square foot residential building (the Building) constructed in 1936. The Building was constructed on a concrete block basement with two aboveground floors. The exterior walls of the Building were finished with Transite siding over fiberboard over a vapor barrier while the roof was sealed with asphalt shingles. The Building can be further divided into a front entry, living room, dining room, kitchen, bathroom, bedroom and a rear entry on the first floor while the second floor contains one bedroom. Please note that the structural integrity of this Building is extremely poor. The roof is significantly damaged and is falling through to the 1st floor in multiple locations on the West end of the Building. This has caused the floor on the west end of the Building (rear entry), as well as in the bathroom where ACM floor tile was identified to be structurally unsafe as it is currently falling into the Basement.

## **VISUAL INSPECTION AND SAMPLING**

### **Asbestos Containing Materials Inspection**

Mr. Aaron Paquet of Red Cedar Consulting (Red Cedar), an accredited State Of Michigan/EPA Asbestos Building Inspector (Accreditation Number A30955) whom completed training per the Michigan Asbestos Workers Accreditation Act 440 completed an inspection of the Subject Property on August 31, 2015 for suspected asbestos containing building materials.

This inspection, and subsequent sample collection was completed in accordance with the USEPA Asbestos Hazard Emergency Response Act (AHERA) (40 CFR Part 763) assessment and sampling protocol.

During the completion of the inspection, each area of the Subject Property was visually inspected for asbestos containing building materials (ACBM). Following the completion of the visual inspection, Red Cedar staff identified each suspect area of friable and non-friable ACBM and sorted them into one of three homogenous categories for sampling purposes. AHERA defines friable as a material that when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. A homogenous area is defined by OSHA as an area of surfacing, thermal system insulation (TSI) or miscellaneous material that is uniform in color and texture. Surfacing materials are most commonly found in sprayed-on, troweled-on or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members. TSI refers to materials applied to pipes, fittings, boilers, ductwork, or other components to prevent heat loss or gain, or condensation. Any material that does not fall under the surfacing or TSI category, such as floor tile, drywall, and acoustical ceiling tile are placed into the miscellaneous materials category.

Following the completion of the visual inspection, Red Cedar staff identified the following materials as suspect ACBM:

- Asphalt Shingle
- Fiberboard
- Vapor Barrier
- 12"x12" Vinyl Tile
- Linoleum
- 2'x4' Ceiling Tile
- Drywall
- Glazing
- Plaster

Red Cedar staff collected twenty three samples of suspect ACBM separated into eleven distinct homogenous groups for laboratory analysis. Samples were collected and submitted to APEX Research Inc. Laboratories (APEX) (Accreditation Number 102118-0) for laboratory analysis. Analysis was completed utilizing polarized light microscopy (PLM) which is the Environmental Protection Agency (EPA) approved method for analysis of bulk materials for asbestos. PLM analysis completed pursuant to method (EPA 600/M4-82-020) identifies asbestos fiber bundles by the visual properties displayed when the sample is treated with various dispersion staining liquids. The laboratory report completed following the sample analysis indicates if asbestos is present, and at what percentage along with a description and percentage of other fibrous and non-fibrous materials and sample color. Chain-of-custody documentation

was followed from sample collection through shipping and receiving of the samples at the designated laboratory. The documentation assures that samples will meet the quality assurance/quality control measures defined by AHERA. The laboratory analytical report prepared by APEX for the twenty three samples is included as Attachment A.

### **Hazardous Materials Inspection**

On August 31, 2015 the Subject Property was also inspected for the presence of hazardous materials which include but are not limited to polychlorinated biphenyls (PCBs) and potential mercury containing equipment and any items or containers that may contain or be classified as a hazardous or regulated material. Each material, if identified, was documented along with the approximate location. Any materials identified as hazardous are included in Table 1.

### **INSPECTION RESULTS AND RECOMMENDATIONS**

During the completion of the asbestos inspection, twenty three samples of suspect ACM were collected and are documented in Table 2 along with the Red Cedar sample number, description, friability, material type, ACM classification, sample location, material quantity and laboratory analytical results.

ACM, as defined by the USEPA NESHAP is “any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763 Section 1, Polarized Light Microscopy”.

Friable ACM is defined by NESHAP as any material containing more than 1 percent asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is a concern due the ease of unintentionally disturbing the ACM which may result in “visible emissions” which is known as a Fiber Release Episode.

Non-friable asbestos-containing material is defined as “material containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable ACM’s are separated into Category I and Category II ACM. Category I ACM is any asbestos containing packing’s, gaskets, resilient floor coverings (vinyl floor tile and linoleum are examples of these) and asphalt roofing products. Category II ACM is stated by NESHAP as any material excluding Category I non-friable ACM such as drywall, plaster or fiberboard insulation.

### **Presumed Asbestos Containing Material**

Presumed Asbestos Containing Materials (PACM) are suspect surfacing, TSI and miscellaneous materials found in buildings constructed prior to 1980 which are classified as and due to the age of the structure, are assumed to be ACM and do not require sample collection and analysis. OSHA dictates that PACM may be “rebutted” following a complete inspection pursuant to AHERA protocol.

The Cementitious “Transite” Siding on the Building was classified as PACM due to the age of the structure and samples were not collected.

Table 3 lists the location, material description, friability, condition, material type (surfacing, thermal or miscellaneous) and approximate quantity of all PACM documented at the Subject Property.

Table 4 provides a summary all ACM documented at the Subject Property which includes the material location, description, and approximate quantity.

### **Friable ACM's**

No friable ACM's were identified during the completion of this inspection.

### **Category I ACM**

Category I roofing materials were identified during the inspection of the Subject Property and found to contain up to 1.75% Chrysotile asbestos. The assessment to quantify the extent of this material on August 31, 2015 identified approximately 1,540 sq. ft. of roofing materials on the Building.

Two types of resilient floor covering (White 12"x12" Vinyl Tile and Beige 12"x12" Vinyl Tile-Multilayer) located within the front entry and bathroom were found to contain up to 7% Chrysotile asbestos. The assessment to quantify the extent of this material on August 31, 2015 identified approximately 176 sq. ft. of White 12"x12" Vinyl Tile and Beige 12"x12" Vinyl Tile-Multilayer within the Building.

### **Category II ACM**

The cementitious "Transite" siding located on the exterior of the Building was classified as PACM and no samples were collected. The visual assessment to quantify the extent of this material completed on August 31, 2015 identified 963 sq. ft. of cementitious (Transite) siding on the Building.

## **RECOMMENDATIONS**

### **Asbestos Containing Materials**

Transite siding was identified on the exterior of the Building and must be abated prior to completion of any demolition activities at the Subject Property. In demolition, all cementitious ACM must be removed prior to demolition due to the likelihood of becoming regulated due to the demolition process.

The Category I roofing materials and resilient floor coverings (White 12"x12" Vinyl Tile and Beige 12"x12" Vinyl Tile-Multilayer) are in good condition and may be left in place as long as they will not be subjected to sanding, grinding, cutting, or abrading during the renovation/demolition activities.

### **Hazardous Materials**

Hazardous Materials identified at the Subject Property and documented in Table 1 which require proper removal and disposal consist of the following items:

- Smoke Detector (1)
- Thermostat (1)
- Television (5)
- Gallon Container Misc. Paint (3)
- Refrigerator (1)

## **REGULATORY REQUIREMENTS**

Regulated asbestos containing materials per NESHAP (40 CFR Part 61) which falls into any of the following categories are ACM's that must be removed prior to any renovation/demolition activities at the Subject Property.

- Friable asbestos material.
- Category I non-friable ACM that has become friable.
- Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading.
- Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of renovation or demolition operations.

A Notification of intent to Renovate/Demolish form must be filed with the Michigan Department of Environmental Quality- Air Quality Division at least 10 working days prior to any renovation or demolition activities at a site.

The Notification of Intent to Renovate/Demolish form must also be completed and submitted to the MIOSHA-Asbestos Program whenever demolition, encapsulation and/or renovation activities at a site involving greater than ten lineal feet and/or fifteen square feet of ACM will be completed.

Asbestos abatement should only be performed by a certified asbestos abatement contractor licensed to complete abatement work. The contractor must also follow the standards and requirements set forth per the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61).

Project No.: 13-1043  
Ingham County Land Bank  
Parcel ID: 33-01-01-14-381-202

**DISCLAIMER**

Red Cedar Consulting performed destructive testing methods in an attempt to access and inspect all areas of the Building. Unfortunately, due to the age of construction along with multiple additions/renovations that may have been completed on the Building, additional inspections may be required if suspect ACM material not documented within this report is encountered during renovation/demolition activities.

This report was prepared at the request and for exclusive use by the Ingham County Land Bank and may not be reproduced or sold without written permission from Red Cedar Consulting.

We appreciate the opportunity to provide the requested services. Please contact us at (888) 449-4566 with any questions or concerns.

Sincerely,  
**Red Cedar Consulting**



Aaron Paquet  
Michigan/EPA Certified Asbestos Building Inspector  
(A30955)

Red Cedar Consulting

***Attachment 1***  
***APEX Research Laboratory Analytical Results***



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 626 Mifflin St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60768  
Date Collected: 08/31/15  
Date Received: 09/01/15  
Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60768 - 01 Cust. #: MS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 4	Asbestos Present: <b>NO</b> No Asbestos Observed	Fiberglass - 15% Other - 85%
Lab ID #: 60768 - 01a Cust. #: MS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 4	Asbestos Present: <b>NO</b> No Asbestos Observed	Fiberglass - 15% Other - 85%
Lab ID #: 60768 - 01b Cust. #: MS-HM-01A Material: Shingle Location: Appearance: black, fibrous, nonhomogenous Layer: 3 of 4	Asbestos Present: <b>YES</b> Chrysotile - 1.25%  POINT COUNT RESULT	Cellulose - 20% Other - 78.75%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0





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Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60768 - 01c Cust. #: MS-HM-01A Material: Shingle Location: Appearance: black, fibrous, nonhomogenous Layer: 4 of 4	Asbestos Present: <b>YES</b> Chrysotile - 1.75%  POINT COUNT RESULT	Cellulose - 20% Other - 78.25%
Lab ID #: 60768 - 02 Cust. #: MMS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 4	Asbestos Present: <b>NO</b> No Asbestos Observed	Fiberglass - 15% Other - 85%
Lab ID #: 60768 - 02a Cust. #: MMS-HM-01B Material: Shingle Location: Appearance: black, fibrous, nonhomogenous Layer: 2 of 4	Asbestos Present: <b>NO</b> Chrysotile - Trace  POINT COUNT RESULT	Fiberglass - 15% Other - 85%

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Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60768 - 02b Cust. #: MMS-HM-01B Material: Shingle Location: Appearance: black, fibrous, nonhomogenous Layer: 3 of 4	Asbestos Present: <b>YES</b> Chrysotile - 1.5%  POINT COUNT RESULT	Cellulose - 20% Other - 78.5%
Lab ID #: 60768 - 02c Cust. #: MMS-HM-01B Material: Shingle Location: Appearance: black, fibrous, nonhomogenous Layer: 4 of 4	Asbestos Present: <b>YES</b> Chrysotile - 1.75%  POINT COUNT RESULT	Cellulose - 20% Other - 78.25%
Lab ID #: 60768 - 03 Cust. #: MS-HM-02A Material: Fiberboard Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 85% Other - 15%

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Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60768 - 04 Cust. #: MS-HM-02B Material: Fiberboard Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 85% Other - 15%
Lab ID #: 60768 - 05 Cust. #: MS-HM-03A Material: Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 60768 - 06 Cust. #: MS-HM-03B Material: Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Other - 60%

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Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60768 - 07 Cust. #: MS-HM-04A Material: White 12x12 Vinyl Tile Location: Appearance: beige, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>YES</b> Chrysotile - 6%	Other - 94%
Lab ID #: 60768 - 07a Cust. #: MS-HM-04A Material: Mastic Location: Appearance: clear, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 60768 - 08 Cust. #: MS-HM-04B Material: White 12x12 Vinyl Tile Location: Appearance: beige, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>YES</b> Chrysotile - 7%	Other - 93%

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Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60768 - 08a Cust. #: MS-HM-04B Material: Mastic Location: Appearance: clear, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 60768 - 09 Cust. #: MS-HM-05A Material: Stone Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 30% Fiberglass - 5% Wollastonite - 2% Other - 63%
Lab ID #: 60768 - 10 Cust. #: MS-HM-05B Material: Stone Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 30% Fiberglass - 5% Wollastonite - 2% Other - 63%

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Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60768 - 11 Cust. #: MS-HM-06A Material: Beige 12x12 Vinyl Tile Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 8	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60768 - 11a Cust. #: MS-HM-06A Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 8	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60768 - 11b Cust. #: MS-HM-06A Material: Beige Floor Tile Location: Appearance: beige,nonfibrous,homogenous Layer: 3 of 8	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%

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Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60768 - 11c Cust. #: MS-HM-06A Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 4 of 8	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60768 - 11d Cust. #: MS-HM-06A Material: Red Floor Tile Location: Appearance: red,fibrous,homogenous Layer: 5 of 8	Asbestos Present: <b>YES</b> Chrysotile - 7%	Other - 93%
Lab ID #: 60768 - 11e Cust. #: MS-HM-06A Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 6 of 8	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60768 - 11f Cust. #: MS-HM-06A Material: Beige Floor Tile Location: Appearance: beige, fibrous, homogenous Layer: 7 of 8	Asbestos Present: <b>YES</b> Chrysotile - 3.75%  POINT COUNT RESULT	Other - 96.25%
Lab ID #: 60768 - 11g Cust. #: MS-HM-06A Material: Mastic Location: Appearance: yellow, nonfibrous, homogenous Layer: 8 of 8	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60768 - 12 Cust. #: MS-HM-06B Material: Beige 12x12 Vinyl Tile Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 6	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60768 - 12a Cust. #: MS-HM-06B Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 6	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60768 - 12b Cust. #: MS-HM-06B Material: Red Floor Tile Location: Appearance: red,fibrous,homogenous Layer: 3 of 6	Asbestos Present: <b>YES</b> Chrysotile - 6%	Other - 94%
Lab ID #: 60768 - 12c Cust. #: MS-HM-06B Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 4 of 6	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 626 Mifflin St.

**Report To:**  
Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60768  
Date Collected: 08/31/15  
Date Received: 09/01/15  
Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60768 - 12d Cust. #: MS-HM-06B Material: Beige Floor Tile Location: Appearance: beige, fibrous, homogenous Layer: 5 of 6	Asbestos Present: <b>YES</b> Chrysotile - 3.5%  POINT COUNT RESULT	Other - 96.5%
Lab ID #: 60768 - 12e Cust. #: MS-HM-06B Material: Mastic Location: Appearance: yellow, nonfibrous, homogenous Layer: 6 of 6	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60768 - 13 Cust. #: MS-HM-07A Material: White 2x4 Ceiling Tile Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 35% Mineral Wool - 5% Fiberglass - 35% Other - 25%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 626 Mifflin St.

**Report To:**

Mr. Aaron Paquet  
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P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60768  
Date Collected: 08/31/15  
Date Received: 09/01/15  
Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60768 - 14 Cust. #: MS-HM-07B Material: White 2x4 Ceiling Tile Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 35% Mineral Wool - 5% Fiberglass - 35% Other - 25%
Lab ID #: 60768 - 15 Cust. #: MS-HM-08A Material: Drywall Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Fiberglass - 2% Other - 78%
Lab ID #: 60768 - 16 Cust. #: MS-HM-08B Material: Drywall Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Fiberglass - 2% Other - 78%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 626 Mifflin St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60768  
Date Collected: 08/31/15  
Date Received: 09/01/15  
Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60768 - 16a Cust. #: MS-HM-08B Material: Joint Compound Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60768 - 17 Cust. #: MS-HM-09A Material: Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Wollastonite - 1% Other - 99%
Lab ID #: 60768 - 18 Cust. #: MS-HM-09B Material: Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Wollastonite - 2% Other - 98%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 626 Mifflin St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60768  
Date Collected: 08/31/15  
Date Received: 09/01/15  
Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60768 - 19 Cust. #: MS-HM-10A Material: Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Wollastonite - 2% Other - 98%
Lab ID #: 60768 - 20 Cust. #: MS-HM-10B Material: Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Wollastonite - 2% Other - 98%
Lab ID #: 60768 - 21 Cust. #: MS-HS-01A Material: Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 626 Mifflin St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60768  
Date Collected: 08/31/15  
Date Received: 09/01/15  
Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60768 - 21a Cust. #: MS-HS-01A Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 60768 - 22 Cust. #: MS-HS-01B Material: Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60768 - 22a Cust. #: MS-HS-01B Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 1% Other - 98%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 626 Mifflin St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60768  
Date Collected: 08/31/15  
Date Received: 09/01/15  
Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60768 - 23 Cust. #: MS-HS-01C Material: Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60768 - 23a Cust. #: MS-HS-01C Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0

***Tables***



**Table 1 - Summary of Hazardous Materials, 626 Mifflin St., Lansing, Michigan**

<b>Hazardous Materials Description and Location</b>		
<b>Location</b>	<b>Material Description</b>	<b>Quantity</b>
Exterior	Television	4
Dining	Thermostat	1
Dining	Gallon Container Misc. Paint	1
Kitchen	Gallon Container Misc. Paint	1
Front Porch	Gallon Container Misc. Paint	1
Kitchen	Refrigerator	1
2 <sup>nd</sup> Floor	Smoke Detector	1
Basement	Television	1

**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 626 Mifflin St., Lansing, Michigan**

Sample Number	Sample Description				% Asbestos Laboratory Result	Sample Location	Approx. Quantity
		Friable	Material Type	ACM Classification			
MS-HM-01A	Multilayer Shingle	No	M	Category I	ND/ND/1.25%CH 1.75%CH	Exterior	1,540 sq. ft.
MS-HM-01B	Multilayer Shingle	No	M	Category I	ND/Trace CH 1.5%CH/1.75%CH	Exterior	See Sample MS-HM-01A
MS-HM-02A	Fiberboard	Yes	M	Category II	ND	Exterior	NA
MS-HM-02B	Fiberboard	Yes	M	Category II	ND	Exterior	NA
MS-HM-03A	Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
MS-HM-03B	Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
MS-HM-04A	White 12"x12" Vinyl Tile	No	M	Category I	6%CH/ND	Front Entry	120 sq. ft.
MS-HM-04B	White 12"x12" Vinyl Tile	No	M	Category I	7%CH/ND	Front Entry	See Sample MS-HM-04A
MS-HM-05A	Stone Linoleum	No	M	Category I	ND	Kitchen	NA
MS-HM-05B	Stone Linoleum	No	M	Category I	ND	Kitchen	NA
MS-HM-06A	Beige 12"x12" Vinyl Tile Multilayer	No	M	Category I	ND/ND/ND/ND 7%CH/ND 3.75%CH/ND	Bathroom	56 sq. ft.
MS-HM-06B	Beige 12"x12" Vinyl Tile Multilayer	No	M	Category I	ND/ND/6%CH ND/3.5%CH/ND	Bathroom	See Sample MS-HM-06A
MS-HM-07A	White 2'x4' Ceiling Tile	Yes	M	Category II	ND	Living	NA
MS-HM-07B	White 2'x4' Ceiling Tile	Yes	M	Category II	ND	Living	NA
MS-HM-08A	Drywall	No	M	Category II	ND	Kitchen	NA
MS-HM-08B	Drywall	No	M	Category II	ND/ND	2 <sup>nd</sup> Floor	NA
MS-HM-09A	Glazing	Yes	M	Category II	ND	Living	NA
MS-HM-09B	Glazing	Yes	M	Category II	ND	Living	NA
MS-HM-10A	Glazing	Yes	M	Category II	ND	Front Porch	NA
MS-HM-10B	Glazing	Yes	M	Category II	ND	Front Porch	NA
MS-HS-01A	Plaster	No	S	Category II	ND/ND	Living Wall	NA
MS-HS-01B	Plaster	No	S	Category II	ND/ND	Bedroom Wall	NA
MS-HS-01C	Plaster	No	S	Category II	ND/ND	Living Ceiling	NA

Notes:

**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 626 Mifflin St., Lansing, Michigan**

Material Types

M = Miscellaneous building material  
TSI = Thermal System Insulation  
S = Surfacing Material

Abbreviations

NQ = Not quantified  
NA = Not applicable  
ND = Not detected. Laboratory result is less than 1 % asbestos  
lin. ft. = linear feet  
sq. ft. = square feet  
CH = Chrysotile Asbestos  
PC = Point Count Analysis

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy. All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 3 - Summary of Presumed Asbestos Containing Materials, 626 Mifflin St., Lansing, Michigan**

Asbestos Containing Material Description and Location					Approx. Quantity
Location	Material Description	Friable	Condition	Material Type	
Building Exterior	Transite Siding	No	Fair	M	963 sq. ft.

**Notes:**

Material Types

- M = Miscellaneous building material
- TSI = Thermal System Insulation
- S = Surfacing Material

Abbreviations

- lin. ft. = linear feet
- sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 4 - Summary of All Asbestos Containing Materials, 626 Mifflin St., Lansing, Michigan**

<b>Exterior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Building Roof	Asphalt Shingles (Multilayer)	No	1,540 sq. ft.
<b>Total</b>			<b>1,540 sq. ft.</b>
<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Front Porch	White 12"x12" Vinyl Tile	No	120 sq. ft.
Bathroom	Beige 12"x12" Vinyl Tile (Multilayer)	No	56 sq. ft.
<b>Total</b>			<b>176 sq. ft.</b>
<b>Exterior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Building Exterior	Transite Siding	No	963 sq. ft.
<b>Total</b>			<b>963 sq. ft.</b>

**Notes:**

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Shaded/Bolded** =Material must be properly abated prior to commencement of any demolition/renovation activities.



P.O. Box 13216  
Lansing, MI 48901  
Phone: 888.449.4566  
Fax: 888.448.8739  
www.redcedarconsulting.net

August 21, 2015

Ms. Roxanne Case  
Office Manager  
Ingham County Land Bank  
3024 Turner St.  
Lansing, MI 48906

**RE: *Asbestos Containing Material and Hazardous Materials Inspection***  
***1019 Walsh St., Lansing, MI 48912***  
***Parcel ID: 33-01-01-22-134-071***

Dear Ms. Case:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 1019 Walsh St., Lansing, Michigan (Subject Property). This inspection was completed at the request of the Ingham County Land Bank to comply with the United States Environmental Protection Agency (USEPA) requirements for demolition and renovation set forth under the National Emissions Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Part 61). This inspection was also completed to comply with the Occupational Safety and Health Administration (OSHA) Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

### **SUBJECT PROPERTY**

The Subject Property is comprised of a .10 acre residential parcel which contains an approximate 520 square foot residential building (the Building) constructed in 1923. The Building was constructed on a concrete block basement with two aboveground floors. The exterior walls of the Building were finished with Transite siding over vapor barrier while the roof was sealed with asphalt shingles. The Building can be further divided into a living room, dining room, kitchen, bathroom and a bedroom on the first floor while the second floor contains one open room.

### **VISUAL INSPECTION AND SAMPLING**

#### **Asbestos Containing Materials Inspection**

Mr. Aaron Paquet of Red Cedar Consulting (Red Cedar), an accredited State Of Michigan/EPA Asbestos Building Inspector (Accreditation Number A30955) whom completed training per the Michigan Asbestos Workers Accreditation Act 440 completed an inspection of the Subject Property on August 17, 2015 for suspected asbestos containing building materials.

This inspection, and subsequent sample collection was completed in accordance with the USEPA Asbestos Hazard Emergency Response Act (AHERA) (40 CFR Part 763) assessment and sampling protocol.

During the completion of the inspection, each area of the Subject Property was visually inspected for asbestos containing building materials (ACBM). Following the completion of the visual inspection, Red Cedar staff identified each suspect area of friable and non-friable ACBM and sorted them into one of three homogenous categories for sampling purposes. AHERA defines friable as a material that when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. A homogenous area is defined by OSHA as an area of surfacing, thermal system insulation (TSI) or miscellaneous material that is uniform in color and texture. Surfacing materials are most commonly found in sprayed-on, troweled-on or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members. TSI refers to materials applied to pipes, fittings, boilers, ductwork, or other components to prevent heat loss or gain, or condensation. Any material that does not fall under the surfacing or TSI category, such as floor tile, drywall, and acoustical ceiling tile are placed into the miscellaneous materials category.

Following the completion of the visual inspection, Red Cedar staff identified the following materials as suspect ACBM:

- Asphalt Shingle
- Black Roofing
- Vapor Barrier
- 9"x9" Vinyl Tile
- 12"x12" Vinyl Tile
- Linoleum
- 1'x1' Ceiling Tile
- Glazing
- Drywall
- Plaster

Red Cedar staff collected twenty one samples of suspect ACBM separated into ten distinct homogenous groups for laboratory analysis. Samples were collected and submitted to APEX Research Inc. Laboratories (APEX) (Accreditation Number 102118-0) for laboratory analysis. Analysis was completed utilizing polarized light microscopy (PLM) which is the Environmental Protection Agency (EPA) approved method for analysis of bulk materials for asbestos. PLM analysis completed pursuant to method (EPA 600/M4-82-020) identifies asbestos fiber bundles by the visual properties displayed when the sample is treated with various dispersion staining liquids. The laboratory report completed following the sample analysis indicates if asbestos is present, and at what percentage along with a description and percentage of other fibrous and non-fibrous materials and sample color. Chain-of-custody documentation was followed from sample collection through shipping and receiving of the samples at the designated laboratory. The documentation assures that samples will meet the quality assurance/quality control measures defined by AHERA. The laboratory analytical report prepared by APEX for the twenty one samples is included as Attachment A.

## **Hazardous Materials Inspection**

On August 17, 2015 the Subject Property was also inspected for the presence of hazardous materials which include but are not limited to polychlorinated biphenyls (PCBs) and potential mercury containing equipment and any items or containers that may contain or be classified as a hazardous or regulated material. Each material, if identified, was documented along with the approximate location. Any materials identified as hazardous are included in Table 1.

## **INSPECTION RESULTS AND RECOMMENDATIONS**

During the completion of the asbestos inspection, twenty one samples of suspect ACM were collected and are documented in Table 2 along with the Red Cedar sample number, description, friability, material type, ACM classification, sample location, material quantity and laboratory analytical results.

ACM, as defined by the USEPA NESHAP is “any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763 Section 1, Polarized Light Microscopy”.

Friable ACM is defined by NESHAP as any material containing more than 1 percent asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is a concern due the ease of unintentionally disturbing the ACM which may result in “visible emissions” which is known as a Fiber Release Episode.

Non-friable asbestos-containing material is defined as “material containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable ACM’s are separated into Category I and Category II ACM. Category I ACM is any asbestos containing packing’s, gaskets, resilient floor coverings (vinyl floor tile and linoleum are examples of these) and asphalt roofing products. Category II ACM is stated by NESHAP as any material excluding Category I non-friable ACM such as drywall, plaster or fiberboard insulation.

### **Presumed Asbestos Containing Material**

Presumed Asbestos Containing Materials (PACM) are suspect surfacing, TSI and miscellaneous materials found in buildings constructed prior to 1980 which are classified as and due to the age of the structure, are assumed to be ACM and do not require sample collection and analysis. OSHA dictates that PACM may be “rebutted” following a complete inspection pursuant to AHERA protocol.

The Cementitious “Transite” Siding on the Building was classified as PACM due to the age of the structure and samples were not collected.

Table 3 lists the location, material description, friability, condition, material type (surfacing, thermal or miscellaneous) and approximate quantity of all PACM documented at the Subject Property.

Table 4 provides a summary all ACM documented at the Subject Property which includes the material location, description, and approximate quantity.



### **Friable ACM's**

No friable ACM's were identified during the completion of this inspection.

### **Category I ACM**

One type of resilient floor covering (Red 9"x9" Vinyl Tile) located within the shed was found to contain up to 10% Chrysotile asbestos. The assessment to quantify the extent of this material on August 17, 2015 identified approximately 96 sq. ft. of Red 9"x9" Vinyl Tile within the shed.

### **Category II ACM**

The cementitious "Transite" siding located on the exterior of the Building was classified as PACM and no samples were collected. The visual assessment to quantify the extent of this material completed on August 17, 2015 identified 1,024 sq. ft. of cementitious (Transite) siding on the building.

## **RECOMMENDATIONS**

### **Asbestos Containing Materials**

Transite siding was identified on the exterior of the Building and must be abated prior to completion of any demolition activities at the Subject Property. In demolition, all cementitious ACM must be removed prior to demolition due to the likelihood of becoming regulated due to the demolition process.

The Category I resilient floor coverings (Red 9"x9" Vinyl Tile) is in good condition and may be left in place as long as it will not be subjected to sanding, grinding, cutting, or abrading during the renovation/demolition activities.

### **Hazardous Materials**

Hazardous Materials identified at the Subject Property and documented in Table 1 which require proper removal and disposal consist of the following items:

- Smoke Detector (2)
- Thermostat (1)
- 5 Gallon Container Misc. Paint (2)
- Gallon Container Misc. Paint (4)

## **REGULATORY REQUIREMENTS**

Regulated asbestos containing materials per NESHAP (40 CFR Part 61) which falls into any of the following categories are ACM's that must be removed prior to any renovation/demolition activities at the Subject Property.

- Friable asbestos material.
- Category I non-friable ACM that has become friable.

- Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading.
- Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of renovation or demolition operations.

A Notification of intent to Renovate/Demolish form must be filed with the Michigan Department of Environmental Quality- Air Quality Division at least 10 working days prior to any renovation or demolition activities at a site.

The Notification of Intent to Renovate/Demolish form must also be completed and submitted to the MIOSHA-Asbestos Program whenever demolition, encapsulation and/or renovation activities at a site involving greater than ten lineal feet and/or fifteen square feet of ACM will be completed.

Asbestos abatement should only be performed by a certified asbestos abatement contractor licensed to complete abatement work. The contractor must also follow the standards and requirements set forth per the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61).

### **DISCLAIMER**

Red Cedar Consulting performed destructive testing methods in an attempt to access and inspect all areas of the Building. Unfortunately, due to the age of construction along with multiple additions/renovations that may have been completed on the Building, additional inspections may be required if suspect ACM material not documented within this report is encountered during renovation/demolition activities.

This report was prepared at the request and for exclusive use by the Ingham County Land Bank and may not be reproduced or sold without written permission from Red Cedar Consulting.

We appreciate the opportunity to provide the requested services. Please contact us at (888) 449-4566 with any questions or concerns.

Sincerely,  
**Red Cedar Consulting**



Aaron Paquet  
Michigan/EPA Certified Asbestos Building Inspector  
(A30955)

Red Cedar Consulting

***Attachment 1***  
***APEX Research Laboratory Analytical Results***



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1019 Walsh St.

**Report To:**  
Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60563  
Date Collected: 08/17/15  
Date Received: 08/18/15  
Date Analyzed: 08/21/15  
Date Reported: 08/21/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60563 - 01 Cust. #: WS-HM-01A Material: White Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 60563 - 01a Cust. #: WS-HM-01A Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 60563 - 01b Cust. #: WS-HM-01A Material: Brown Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Other - 60%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1019 Walsh St.

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Date Analyzed: 08/21/15  
Date Reported: 08/21/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60563 - 02 Cust. #: WS-HM-01B Material: White Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 60563 - 02a Cust. #: WS-HM-01B Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 60563 - 03 Cust. #: WS-HM-02A Material: Black Roofing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Fiberglass - 30% Other - 70%

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Robert T. Letarte Jr., Laboratory Director

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Date Collected: 08/17/15  
Date Received: 08/18/15  
Date Analyzed: 08/21/15  
Date Reported: 08/21/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60563 - 04 Cust. #: WS-HM-02B Material: Black Roofing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 60563 - 05 Cust. #: WS-HM-03A Material: Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 70% Other - 30%
Lab ID #: 60563 - 06 Cust. #: WS-HM-03B Material: Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 70% Other - 30%

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Robert T. Letarte Jr., Laboratory Director

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ARI Report # 15-60563  
Date Collected: 08/17/15  
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Date Analyzed: 08/21/15  
Date Reported: 08/21/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60563 - 07 Cust. #: WS-HM-04A Material: Red 9x9 Vinyl Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>YES</b> Chrysotile - 10%	Other - 90%
Lab ID #: 60563 - 07a Cust. #: WS-HM-04A Material: Mastic Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 10% Other - 90%
Lab ID #: 60563 - 08 Cust. #: WS-HM-04B Material: Red 9x9 Vinyl Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>YES</b> Chrysotile - 10%	Other - 90%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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Date Analyzed: 08/21/15  
Date Reported: 08/21/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60563 - 08a Cust. #: WS-HM-04B Material: Mastic Location: Appearance: black,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60563 - 09 Cust. #: WS-HM-05A Material: Green 12x12 Vinyl Tile Location: Appearance: green,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60563 - 09a Cust. #: WS-HM-05A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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Date Received: 08/18/15  
Date Analyzed: 08/21/15  
Date Reported: 08/21/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60563 - 10 Cust. #: WS-HM-05B Material: Green 12x12 Vinyl Tile Location: Appearance: green,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60563 - 10a Cust. #: WS-HM-05B Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60563 - 11 Cust. #: WS-HM-06A Material: Yellow Linoleum Location: Appearance: yellow,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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ARI Report # 15-60563  
Date Collected: 08/17/15  
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Date Analyzed: 08/21/15  
Date Reported: 08/21/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60563 - 12 Cust. #: WS-HM-06B Material: Yellow Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 60563 - 13 Cust. #: WS-HM-07A Material: White 1x1 Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 60563 - 14 Cust. #: WS-HM-07B Material: White 1x1 Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 80% Other - 20%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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 Date Analyzed: 08/21/15  
 Date Reported: 08/21/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60563 - 15 Cust. #: WS-HM-08A Material: Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 60563 - 16 Cust. #: WS-HM-08B Material: Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 60563 - 17 Cust. #: WS-HM-09A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%

For Layered Samples, each component will be analyzed and reported separately.

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Date Reported: 08/21/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60563 - 17a Cust. #: WS-HM-09A Material: Joint Compound Location: Appearance: white, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 60563 - 18 Cust. #: WS-HM-09B Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 60563 - 19 Cust. #: WS-HS-01A Material: Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> Chrysotile - 0.25%  <b>POINT COUNT RESULT</b>	Other - 99.75%

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Date Reported: 08/21/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60563 - 20 Cust. #: WS-HS-01B Material: Finish Coat Location: Appearance: white, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 60563 - 21 Cust. #: WS-HS-01C Material: Texture Location: Appearance: white, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 60563 - 21a Cust. #: WS-HS-01C Material: Base Coat Location: Appearance: green, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> Chrysotile - Trace  <b>POINT COUNT RESULT</b>	Other - 100%

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***Tables***

**Table 1 - Summary of Hazardous Materials, 1019 Walsh St., Lansing, Michigan**

<b>Hazardous Materials Description and Location</b>		
<b>Location</b>	<b>Material Description</b>	<b>Quantity</b>
Kitchen	Smoke Detector	1
Dining	Thermostat	1
Basement	Smoke Detector	1
Basement	5 Gallon Container Misc. Paint	2
Basement	Gallon Container Misc. Paint	4

**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1019 Walsh St., Lansing, Michigan**

Sample Number	Sample Description				% Asbestos Laboratory Result	Sample Location	Approx. Quantity
		Friable	Material Type	ACM Classification			
WS-HM-01A	Gray Shingle	No	M	Category I	ND/ND/ND	Exterior	NA
WS-HM-01B	Gray Shingle	No	M	Category I	ND/ND	Exterior	NA
WS-HM-02A	Black Roofing	No	M	Category I	ND	Shed Exterior	NA
WS-HM-02B	Black Roofing	No	M	Category I	ND	Shed Exterior	NA
WS-HM-03A	Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
WS-HM-03B	Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
WS-HM-04A	Red 9"x9" Vinyl Tile	No	M	Category I	10%CH/ND	Shed	96 sq. ft.
WS-HM-04B	Red 9"x9" Vinyl Tile	No	M	Category I	10%CH/ND	Shed	See Sample WS-HM-04A
WS-HM-05A	Green 12"x12" Vinyl Tile	No	M	Category I	ND/ND	Kitchen	NA
WS-HM-05B	Green 12"x12" Vinyl Tile	No	M	Category I	ND/ND	Kitchen	NA
WS-HM-06A	Yellow Linoleum	No	M	Category I	ND	Bathroom	NA
WS-HM-06B	Yellow Linoleum	No	M	Category I	ND	Bathroom	NA
WS-HM-07A	White 1'x1' Ceiling Tile	Yes	M	Category II	ND	Living	NA
WS-HM-07B	White 1'x1' Ceiling Tile	Yes	M	Category II	ND	Living	NA
WS-HM-08A	Glazing	Yes	M	Category II	ND	Dining	NA
WS-HM-08B	Glazing	Yes	M	Category II	ND	Living	NA
WS-HM-09A	Drywall	No	M	Category II	ND/ND	2 <sup>nd</sup> Floor	NA
WS-HM-09B	Drywall	No	M	Category II	ND/ND	2 <sup>nd</sup> Floor	NA
WS-HS-01A	Plaster	No	S	Category II	0.25%CH	Living Wall	NA
WS-HS-01B	Plaster	No	S	Category II	ND	Dining Wall	NA
WS-HS-01C	Plaster	No	S	Category II	ND/Trace CH	Kitchen Ceiling	NA

**Notes:**

Material Types

M = Miscellaneous building material  
 TSI = Thermal System Insulation  
 S = Surfacing Material

Abbreviations

NQ = Not quantified  
 NA = Not applicable  
 ND = Not detected. Laboratory result is less than 1 % asbestos  
 lin. ft. = linear feet



**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1019 Walsh St., Lansing, Michigan**

sq. ft. = square feet  
CH = Chrysotile Asbestos  
PC = Point Count Analysis

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy. All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 3 - Summary of Presumed Asbestos Containing Materials, 1019 Walsh St., Lansing, Michigan**

Asbestos Containing Material Description and Location					Approx. Quantity
Location	Material Description	Friable	Condition	Material Type	
Building Exterior	Transite Siding	No	Fair	M	1,024 sq. ft.

**Notes:**

Material Types

- M = Miscellaneous building material
- TSI = Thermal System Insulation
- S = Surfacing Material

Abbreviations

- lin. ft. = linear feet
- sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 4 - Summary of All Asbestos Containing Materials, 1019 Walsh St., Lansing, Michigan**

<b>Shed Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Shed Interior	Red 9"x9" Vinyl Tile	No	96 sq. ft.
<b>Total</b>			<b>96 sq. ft.</b>
<b>Exterior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Building Exterior	Transite Siding	No	1,024 sq. ft.
<b>Total</b>			<b>1,024 sq. ft.</b>

**Notes:**

Abbreviations

lin. ft. = linear feet  
 sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Shaded/Bolded** =Material must be properly abated prior to commencement of any demolition/renovation activities.



P.O. Box 13216  
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Phone: 888.449.4566  
Fax: 888.448.8739  
www.redcedarconsulting.net

August 27, 2015

Ms. Roxanne Case  
Office Manager  
Ingham County Land Bank  
3024 Turner St.  
Lansing, MI 48906

**RE: *Asbestos Containing Material and Hazardous Materials Inspection  
713 Beulah St., Lansing, MI 48910  
Parcel ID: 33-01-01-22-301-031***

Dear Ms. Case:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 713 Beulah St., Lansing, Michigan (Subject Property). This inspection was completed at the request of the Ingham County Land Bank to comply with the United States Environmental Protection Agency (USEPA) requirements for demolition and renovation set forth under the National Emissions Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Part 61). This inspection was also completed to comply with the Occupational Safety and Health Administration (OSHA) Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

### **SUBJECT PROPERTY**

The Subject Property is comprised of a .09 acre residential parcel which contains an approximate 1,040 square foot residential building (the Building) constructed in 1916. The Building was constructed on a concrete block basement with two aboveground floors. The exterior walls of the Building were finished with wood lap over a vapor barrier while the roof was sealed with asphalt shingles. The Building can be further divided into a living room, dining room, kitchen and rear entry on the first floor while the second floor contains three bedrooms and a bathroom.

### **VISUAL INSPECTION AND SAMPLING**

#### **Asbestos Containing Materials Inspection**

Mr. Aaron Paquet of Red Cedar Consulting (Red Cedar), an accredited State Of Michigan/EPA Asbestos Building Inspector (Accreditation Number A30955) whom completed training per the Michigan Asbestos Workers Accreditation Act 440 completed an inspection of the Subject Property on August 20, 2015 for suspected asbestos containing building materials.

This inspection, and subsequent sample collection was completed in accordance with the USEPA Asbestos Hazard Emergency Response Act (AHERA) (40 CFR Part 763) assessment and sampling protocol.

During the completion of the inspection, each area of the Subject Property was visually inspected for asbestos containing building materials (ACBM). Following the completion of the visual inspection, Red Cedar staff identified each suspect area of friable and non-friable ACBM and sorted them into one of three homogenous categories for sampling purposes. AHERA defines friable as a material that when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. A homogenous area is defined by OSHA as an area of surfacing, thermal system insulation (TSI) or miscellaneous material that is uniform in color and texture. Surfacing materials are most commonly found in sprayed-on, troweled-on or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members. TSI refers to materials applied to pipes, fittings, boilers, ductwork, or other components to prevent heat loss or gain, or condensation. Any material that does not fall under the surfacing or TSI category, such as floor tile, drywall, and acoustical ceiling tile are placed into the miscellaneous materials category.

Following the completion of the visual inspection, Red Cedar staff identified the following materials as suspect ACBM:

- Asphalt Shingle
- Linoleum
- 2'x2' Ceiling Tile
- Drywall
- Glazing
- Vapor Barrier
- Plaster

Red Cedar staff collected seventeen samples of suspect ACBM separated into seven distinct homogenous groups for laboratory analysis. Samples were collected and submitted to APEX Research Inc. Laboratories (APEX) (Accreditation Number 102118-0) for laboratory analysis. Analysis was completed utilizing polarized light microscopy (PLM) which is the Environmental Protection Agency (EPA) approved method for analysis of bulk materials for asbestos. PLM analysis completed pursuant to method (EPA 600/M4-82-020) identifies asbestos fiber bundles by the visual properties displayed when the sample is treated with various dispersion staining liquids. The laboratory report completed following the sample analysis indicates if asbestos is present, and at what percentage along with a description and percentage of other fibrous and non-fibrous materials and sample color. Chain-of-custody documentation was followed from sample collection through shipping and receiving of the samples at the designated laboratory. The documentation assures that samples will meet the quality assurance/quality control measures defined by AHERA. The laboratory analytical report prepared by APEX for the seventeen samples is included as Attachment A.

### **Hazardous Materials Inspection**

On August 20, 2015 the Subject Property was also inspected for the presence of hazardous materials which include but are not limited to polychlorinated biphenyls (PCBs) and potential mercury containing equipment and any items or containers that may contain or be classified as a hazardous or regulated

material. Each material, if identified, was documented along with the approximate location. Any materials identified as hazardous are included in Table 1.

## **INSPECTION RESULTS AND RECOMMENDATIONS**

During the completion of the asbestos inspection, seventeen samples of suspect ACM were collected and are documented in Table 2 along with the Red Cedar sample number, description, friability, material type, ACM classification, sample location, material quantity and laboratory analytical results.

ACM, as defined by the USEPA NESHAP is “any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763 Section 1, Polarized Light Microscopy”.

Friable ACM is defined by NESHAP as any material containing more than 1 percent asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is a concern due the ease of unintentionally disturbing the ACM which may result in “visible emissions” which is known as a Fiber Release Episode.

Non-friable asbestos-containing material is defined as “material containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable ACM’s are separated into Category I and Category II ACM. Category I ACM is any asbestos containing packing’s, gaskets, resilient floor coverings (vinyl floor tile and linoleum are examples of these) and asphalt roofing products. Category II ACM is stated by NESHAP as any material excluding Category I non-friable ACM such as drywall, plaster or fiberboard insulation.

### **Presumed Asbestos Containing Material**

Presumed Asbestos Containing Materials (PACM) are suspect surfacing, TSI and miscellaneous materials found in buildings constructed prior to 1980 which are classified as and due to the age of the structure, are assumed to be ACM and do not require sample collection and analysis. OSHA dictates that PACM may be “rebutted” following a complete inspection pursuant to AHERA protocol.

The HVAC Duct Wrap located in the Building was classified as PACM due to the age of the structure and samples were not collected.

Table 3 lists the location, material description, friability, condition, material type (surfacing, thermal or miscellaneous) and approximate quantity of all PACM documented at the Subject Property.

Table 4 provides a summary all ACM documented at the Subject Property which includes the material location, description, and approximate quantity.

### **Friable ACM’s**

A window glazing sample collected from a window in the 2<sup>nd</sup> Fl. NW Bedroom was found to contain up to 1.5% asbestos following analysis. The assessment to quantify the extent of this material on August 20, 2015 identified eighteen windows within the Building that would fall into the same homogenous group. The locations of the eighteen windows are listed below:

- Living (1 window 40" wide x 28" tall)
- Living (2 windows 40" wide x 58" tall)
- Dining (1 window 34" wide x 58" tall)
- Dining (1 window 40" wide x 28" tall)
- Kitchen (1 window 34" wide x 54" tall)
- Rear Entry (2 windows 24" wide x 28" tall)
- 2nd Floor Landing (1 window 28" wide x 58" tall)
- 2nd Floor SE Bedroom (1 window 28" wide x 58" tall)
- 2nd Floor SW Bedroom (2 windows 28" wide x 58" tall)
- 2nd Floor NW Bedroom (2 windows 28" wide x 58" tall)
- 2nd Floor Bathroom (1 window 20" wide x 46" tall)
- Basement (1 window 28" wide x 20" tall)
- Basement (2 windows 30" wide x 12" tall)

Please note: other different sized windows are located throughout the Building but these windows were assessed and found to be constructed either without window glazing or were sampled and found to not contain asbestos and therefore are not required to be removed.

Duct Wrap identified in the building in conjunction with the forced air heating system is classified as friable ACM. The visual assessment to quantify the extent of this material completed on August 20, 2015 identified HVAC Duct Wrap at the following locations within the basement, first and second floors:

- Living (1 register, 15 sq. ft.)
- Kitchen/Dining (1 register, 15 sq. ft.)
- 2<sup>nd</sup> Floor SW/NW Bedroom (1 shared register, 20 sq. ft. and vertical chase to basement, 25 sq. ft.)
- 2<sup>nd</sup> Floor SE Bedroom/Bathroom (1 shared register, 20 sq. ft. and vertical chase to basement, 25 sq. ft.)
- Basement (misc. HVAC wrap on Ductwork, 10 sq. ft.)

### **Category I ACM**

No Category I ACM was identified during the completion of this inspection.

### **Category II ACM**

No Category II non-friable ACM was identified during the completion of this inspection.

## **RECOMMENDATIONS**

### **Asbestos Containing Materials**

HVAC material identified in the building system and listed below is classified as friable ACM and should be removed prior to any renovation/demolition activities.

- Living (1 register, 15 sq. ft.)
- Kitchen/Dining (1 register, 15 sq. ft.)

- 2<sup>nd</sup> Floor SW/NW Bedroom (1 shared register, 20 sq. ft. and vertical chase to basement, 25 sq. ft.)
- 2<sup>nd</sup> Floor SE Bedroom/Bathroom (1 shared register, 20 sq. ft. and vertical chase to basement, 25 sq. ft.)
- Basement (misc. HVAC wrap on Ductwork, 10 sq. ft.)

Friable asbestos containing window glazing was identified on eighteen windows throughout the Building. The locations of these windows that should be abated prior to demolition activities are listed below:

- Living (1 window 40" wide x 28" tall)
- Living (2 windows 40" wide x 58" tall)
- Dining (1 window 34" wide x 58" tall)
- Dining (1 window 40" wide x 28" tall)
- Kitchen (1 window 34" wide x 54" tall)
- Rear Entry (2 windows 24" wide x 28" tall)
- 2nd Floor Landing (1 window 28" wide x 58" tall)
- 2nd Floor SE Bedroom (1 window 28" wide x 58" tall)
- 2nd Floor SW Bedroom (2 windows 28" wide x 58" tall)
- 2nd Floor NW Bedroom (2 windows 28" wide x 58" tall)
- 2nd Floor Bathroom (1 window 20" wide x 46" tall)
- Basement (1 window 28" wide x 20" tall)
- Basement (2 windows 30" wide x 12" tall)

### **Hazardous Materials**

Hazardous Materials identified at the Subject Property and documented in Table 1 which require proper removal and disposal consist of the following items:

- Smoke Detector (3)
- Thermostat (1)
- 5 Gallon Container Misc. Drywall Compound (1)

### **REGULATORY REQUIREMENTS**

Regulated asbestos containing materials per NESHAP (40 CFR Part 61) which falls into any of the following categories are ACM's that must be removed prior to any renovation/demolition activities at the Subject Property.

- Friable asbestos material.
- Category I non-friable ACM that has become friable.
- Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading.
- Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of renovation or demolition operations.



Project No.: 13-1043  
Ingham County Land Bank  
Parcel ID: 33-01-01-22-301-031

A Notification of intent to Renovate/Demolish form must be filed with the Michigan Department of Environmental Quality- Air Quality Division at least 10 working days prior to any renovation or demolition activities at a site.

The Notification of Intent to Renovate/Demolish form must also be completed and submitted to the MIOSHA-Asbestos Program whenever demolition, encapsulation and/or renovation activities at a site involving greater than ten lineal feet and/or fifteen square feet of ACM will be completed.

Asbestos abatement should only be performed by a certified asbestos abatement contractor licensed to complete abatement work. The contractor must also follow the standards and requirements set forth per the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61).

### **DISCLAIMER**

Red Cedar Consulting performed destructive testing methods in an attempt to access and inspect all areas of the Building. Unfortunately, due to the age of construction along with multiple additions/renovations that may have been completed on the Building, additional inspections may be required if suspect ACM material not documented within this report is encountered during renovation/demolition activities.

This report was prepared at the request and for exclusive use by the Ingham County Land Bank and may not be reproduced or sold without written permission from Red Cedar Consulting.

We appreciate the opportunity to provide the requested services. Please contact us at (888) 449-4566 with any questions or concerns.

Sincerely,  
**Red Cedar Consulting**



Aaron Paquet  
Michigan/EPA Certified Asbestos Building Inspector  
(A30955)

Red Cedar Consulting

***Attachment 1***  
***APEX Research Laboratory Analytical Results***



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 713 Beulah St.

**Report To:**  
Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60614  
Date Collected: 08/20/15  
Date Received: 08/21/15  
Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60614 - 01 Cust. #: BS-HM-01A Material: Multilayer Shingle Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 60614 - 02 Cust. #: BS-HM-01B Material: Multilayer Shingle Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 60614 - 03 Cust. #: BS-HM-02A Material: Beige Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 1 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

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ARI Report # 15-60614  
Date Collected: 08/20/15  
Date Received: 08/21/15  
Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60614 - 03a Cust. #: BS-HM-02A Material: Floor Tile Location: Appearance: grey,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60614 - 03b Cust. #: BS-HM-02A Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 3 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60614 - 04 Cust. #: BS-HM-02B Material: Beige Linoleum Location: Appearance: beige,fibrous,homogenous Layer: 1 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60614 - 04a Cust. #: BS-HM-02B Material: Floor Tile Location: Appearance: grey,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60614 - 04b Cust. #: BS-HM-02B Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 3 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60614 - 05 Cust. #: BS-HM-03A Material: 2x2 White Ceiling Tile Location: Appearance: beige,fibrous,homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Mineral Wool - 2% Fiberglass - 28% Other - 30%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60614 - 06 Cust. #: BS-HM-03B Material: 2x2 White Ceiling Tile Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Mineral Wool - 2% Fiberglass - 28% Other - 30%
Lab ID #: 60614 - 07 Cust. #: BS-HM-04A Material: Drywall Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 60614 - 08 Cust. #: BS-HM-04B Material: Drywall Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60614 - 09 Cust. #: BS-HM-05A Material: Glazing Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60614 - 10 Cust. #: BS-HM-05B Material: Glazing Location: Appearance: white, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>YES</b> Chrysotile - 1.5%  <b>POINT COUNT RESULT</b>	Other - 98.5%
Lab ID #: 60614 - 11 Cust. #: BS-HM-06A Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 95% Other - 5%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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Date Collected: 08/20/15  
Date Received: 08/21/15  
Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60614 - 12 Cust. #: BS-HM-06B Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 60614 - 13 Cust. #: BS-HS-01A Material: Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60614 - 13a Cust. #: BS-HS-01A Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



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Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60614 - 14 Cust. #: BS-HS-01B Material: Thick Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 70% Other - 30%
Lab ID #: 60614 - 14a Cust. #: BS-HS-01B Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 60614 - 15 Cust. #: BS-HS-01C Material: Texture Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



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Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60614 - 15a Cust. #: BS-HS-01C Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 60614 - 16 Cust. #: BS-HS-01D Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 60614 - 17 Cust. #: BS-HS-01E Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0

***Tables***

**Table 1 - Summary of Hazardous Materials, 713 Beulah St., Lansing, Michigan**

<b>Hazardous Materials Description and Location</b>		
<b>Location</b>	<b>Material Description</b>	<b>Quantity</b>
Dining	Thermostat	1
Living	Smoke Detector	1
Living	5 Gallon Container Misc. Drywall Compound	1
2 <sup>nd</sup> Fl SE Bedroom	Smoke Detector	1
2 <sup>nd</sup> Fl SW Bedroom	Smoke Detector	1

**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 713 Beulah St., Lansing, Michigan**

Sample Number	Sample Description				% Asbestos Laboratory Result	Sample Location	Approx. Quantity
		Friable	Material Type	ACM Classification			
BS-HM-01A	Multilayer Shingle	No	M	Category I	ND	Exterior	NA
BS-HM-01B	Multilayer Shingle	No	M	Category I	ND	Exterior	NA
BS-HM-02A	Beige Linoleum – 2 Layer	No	M	Category I	ND/ND/ND	Kitchen	NA
BS-HM-02B	Beige Linoleum – 2 Layer	No	M	Category I	ND/ND/ND	Kitchen	NA
BS-HM-03A	White 2’x2’ Ceiling Tile	Yes	M	Category II	ND	Kitchen	NA
BS-HM-03B	White 2’x2’ Ceiling Tile	Yes	M	Category II	ND	Kitchen	NA
BS-HM-04A	Drywall	No	M	Category II	ND	Rear Entry	NA
BS-HM-04B	Drywall	No	M	Category II	ND	Rear Entry	NA
BS-HM-05A	Glazing	Yes	M	Category II	ND	Living	NA
BS-HM-05B	Glazing	Yes	M	Category II	1.5%CH	2 <sup>nd</sup> Fl NW Bedroom	18 Windows
BS-HM-06A	Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
BS-HM-06B	Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
BS-HS-01A	Plaster	No	S	Category II	ND/ND	Living Wall	NA
BS-HS-01B	Plaster	No	S	Category II	ND/ND	Kitchen Wall	NA
BS-HS-01C	Plaster	No	S	Category II	ND/ND	Dining Ceiling	NA
BS-HS-01D	Plaster	No	S	Category II	ND	2 <sup>nd</sup> Fl SE Bedroom Wall	NA
BS-HS-01E	Plaster	No	S	Category II	ND	2 <sup>nd</sup> Fl NW Bedroom Ceiling	NA

**Notes:**

Material Types

M = Miscellaneous building material  
 TSI = Thermal System Insulation  
 S = Surfacing Material

Abbreviations

NQ = Not quantified  
 NA = Not applicable  
 ND = Not detected. Laboratory result is less than 1 % asbestos  
 lin. ft. = linear feet  
 sq. ft. = square feet  
 CH = Chrysotile Asbestos  
 PC = Point Count Analysis

**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 713 Beulah St., Lansing, Michigan**

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy. All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 3 - Summary of Presumed Asbestos Containing Materials, 713 Beulah St., Lansing, Michigan**

Asbestos Containing Material Description and Location					Approx. Quantity
Location	Material Description	Friable	Condition	Material Type	
Living (1 register, 15 sq. ft.) Kitchen/Dining (1 register, 15 sq. ft.) 2 <sup>nd</sup> Floor SW/NW Bedroom (1 shared register, 20 sq. ft. and vertical chase to basement, 25 sq. ft.) 2 <sup>nd</sup> Floor SE Bedroom/Bathroom (1 shared register, 20 sq. ft. and vertical chase to basement, 25 sq. ft.) Basement (misc. HVAC wrap on Ductwork, 10 sq. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	130 sq. ft.

**Notes:**

Material Types

- M = Miscellaneous building material
- TSI = Thermal System Insulation
- S = Surfacing Material

Abbreviations

- lin. ft. = linear feet
- sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 4 - Summary of All Asbestos Containing Materials, 713 Beulah St., Lansing, Michigan**

<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Living (1 register, 15 sq. ft.) Kitchen/Dining (1 register, 15 sq. ft.) 2 <sup>nd</sup> Floor SW/NW Bedroom (1 shared register, 20 sq. ft. and vertical chase to basement, 25 sq. ft.) 2 <sup>nd</sup> Floor SE Bedroom/Bathroom (1 shared register, 20 sq. ft. and vertical chase to basement, 25 sq. ft.) Basement (misc. HVAC wrap on Ductwork, 10 sq. ft.)	HVAC Duct Wrap	Yes	130 sq. ft.
<b>Total</b>			<b>130 sq. ft.</b>
<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Living (1 window 40" wide x 28" tall)	Glazing	Yes	1 Window
Living (2 windows 40" wide x 58" tall)			2 Windows
Dining (1 window 34" wide x 58" tall)			1 Window
Dining (1 window 40" wide x 28" tall)			1 Window
Kitchen (1 window 34" wide x 54" tall)			1 Window
Rear Entry (2 windows 24" wide x 28" tall)			2 Windows
2 <sup>nd</sup> Floor Landing (1 window 28" wide x 58" tall)			1 Window
2 <sup>nd</sup> Floor SE Bedroom (1 window 28" wide x 58" tall)			1 Window
2 <sup>nd</sup> Floor SW Bedroom (2 windows 28" wide x 58" tall)			2 Windows
2 <sup>nd</sup> Floor NW Bedroom (2 windows 28" wide x 58" tall)			2 Windows
2 <sup>nd</sup> Floor Bathroom (1 window 20" wide x 46" tall)			1 Window
Basement (1 window 28" wide x 20" tall)			1 Window
Basement (2 windows 30" wide x 12" tall)			2 Windows
<b>Total</b>			<b>18 Windows</b>

**Notes:**

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet



**Table 4 - Summary of All Asbestos Containing Materials, 713 Beulah St., Lansing, Michigan**

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Shaded/Bolded** =Material must be properly abated prior to commencement of any demolition/renovation activities.



P.O. Box 13216  
Lansing, MI 48901  
Phone: 888.449.4566  
Fax: 888.448.8739  
www.redcedarconsulting.net

September 8, 2015

Ms. Roxanne Case  
Office Manager  
Ingham County Land Bank  
3024 Turner St.  
Lansing, MI 48906

**RE: *Asbestos Containing Material and Hazardous Materials Inspection***  
***727 Beulah St., Lansing, MI 48910***  
***Parcel ID: 33-01-01-22-301-081***

Dear Ms. Case:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 727 Beulah St., Lansing, Michigan (Subject Property). This inspection was completed at the request of the Ingham County Land Bank to comply with the United States Environmental Protection Agency (USEPA) requirements for demolition and renovation set forth under the National Emissions Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Part 61). This inspection was also completed to comply with the Occupational Safety and Health Administration (OSHA) Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

### **SUBJECT PROPERTY**

The Subject Property is comprised of a .09 acre residential parcel which contains an approximate 786 square foot residential building (the Building) constructed in 1915. The Building was constructed on a concrete block basement with one aboveground floor. The exterior walls of the Building were finished with Transite siding over a vapor barrier while the roof was sealed with asphalt shingles. The Building can be further divided into a living room, dining room, kitchen, bathroom, two bedrooms and a rear entry.

### **VISUAL INSPECTION AND SAMPLING**

#### **Asbestos Containing Materials Inspection**

Mr. Aaron Paquet of Red Cedar Consulting (Red Cedar), an accredited State Of Michigan/EPA Asbestos Building Inspector (Accreditation Number A30955) whom completed training per the Michigan Asbestos Workers Accreditation Act 440 completed an inspection of the Subject Property on August 20, 2015 for suspected asbestos containing building materials. A re-inspection of the Subject Property was completed on August 31, 2015 to collect additional samples and for verification of results obtained during the initial inspection.

This inspection, and subsequent sample collection was completed in accordance with the USEPA Asbestos Hazard Emergency Response Act (AHERA) (40 CFR Part 763) assessment and sampling protocol.

During the completion of the inspection, each area of the Subject Property was visually inspected for asbestos containing building materials (ACBM). Following the completion of the visual inspection, Red Cedar staff identified each suspect area of friable and non-friable ACBM and sorted them into one of three homogenous categories for sampling purposes. AHERA defines friable as a material that when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. A homogenous area is defined by OSHA as an area of surfacing, thermal system insulation (TSI) or miscellaneous material that is uniform in color and texture. Surfacing materials are most commonly found in sprayed-on, troweled-on or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members. TSI refers to materials applied to pipes, fittings, boilers, ductwork, or other components to prevent heat loss or gain, or condensation. Any material that does not fall under the surfacing or TSI category, such as floor tile, drywall, and acoustical ceiling tile are placed into the miscellaneous materials category.

Following the completion of the visual inspection, Red Cedar staff identified the following materials as suspect ACBM:

- Asphalt Shingle
- Vapor Barrier
- 9"x9" Vinyl Tile
- Linoleum
- Drywall
- Glazing
- Plaster

Red Cedar staff collected twenty samples of suspect ACBM separated into eight distinct homogenous groups for laboratory analysis. Samples were collected and submitted to APEX Research Inc. Laboratories (APEX) (Accreditation Number 102118-0) for laboratory analysis. Analysis was completed utilizing polarized light microscopy (PLM) which is the Environmental Protection Agency (EPA) approved method for analysis of bulk materials for asbestos. PLM analysis completed pursuant to method (EPA 600/M4-82-020) identifies asbestos fiber bundles by the visual properties displayed when the sample is treated with various dispersion staining liquids. The laboratory report completed following the sample analysis indicates if asbestos is present, and at what percentage along with a description and percentage of other fibrous and non-fibrous materials and sample color. Chain-of-custody documentation was followed from sample collection through shipping and receiving of the samples at the designated laboratory. The documentation assures that samples will meet the quality assurance/quality control measures defined by AHERA. The laboratory analytical report prepared by APEX for the twenty samples is included as Attachment A.

### **Hazardous Materials Inspection**

On August 20, 2015 the Subject Property was also inspected for the presence of hazardous materials which include but are not limited to polychlorinated biphenyls (PCBs) and potential mercury containing equipment and any items or containers that may contain or be classified as a hazardous or regulated

material. Each material, if identified, was documented along with the approximate location. Any materials identified as hazardous are included in Table 1.

## **INSPECTION RESULTS AND RECOMMENDATIONS**

During the completion of the asbestos inspection, twenty samples of suspect ACM were collected and are documented in Table 2 along with the Red Cedar sample number, description, friability, material type, ACM classification, sample location, material quantity and laboratory analytical results.

ACM, as defined by the USEPA NESHAP is “any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763 Section 1, Polarized Light Microscopy”.

Friable ACM is defined by NESHAP as any material containing more than 1 percent asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is a concern due the ease of unintentionally disturbing the ACM which may result in “visible emissions” which is known as a Fiber Release Episode.

Non-friable asbestos-containing material is defined as “material containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable ACM’s are separated into Category I and Category II ACM. Category I ACM is any asbestos containing packing’s, gaskets, resilient floor coverings (vinyl floor tile and linoleum are examples of these) and asphalt roofing products. Category II ACM is stated by NESHAP as any material excluding Category I non-friable ACM such as drywall, plaster or fiberboard insulation.

### **Presumed Asbestos Containing Material**

Presumed Asbestos Containing Materials (PACM) are suspect surfacing, TSI and miscellaneous materials found in buildings constructed prior to 1980 which are classified as and due to the age of the structure, are assumed to be ACM and do not require sample collection and analysis. OSHA dictates that PACM may be “rebutted” following a complete inspection pursuant to AHERA protocol.

The HVAC Duct Wrap located in the Building and the Cementitious “Transite” Siding on the Building were classified as PACM due to the age of the structure and samples were not collected.

Table 3 lists the location, material description, friability, condition, material type (surfacing, thermal or miscellaneous) and approximate quantity of all PACM documented at the Subject Property.

Table 4 provides a summary all ACM documented at the Subject Property which includes the material location, description, and approximate quantity.

### **Friable ACM’s**

Duct Wrap identified in the building in conjunction with the forced air heating system is classified as friable ACM. The visual assessment to quantify the extent of this material completed on August 20, 2015 identified HVAC Duct Wrap at the following locations within the basement, first and second floors:

- Dining (1 register, 10 sq. ft.)

- Kitchen/Bathroom (1 register, 10 sq. ft.)
- NE Bedroom (1 register, 10 sq. ft.)

### **Category I ACM**

One type of resilient floor covering (White 9"x9" 2 Layer) located within the bathroom was found to contain up to 10% Chrysotile asbestos. The assessment to quantify the extent of this material on August 20, 2015 identified approximately 80 sq. ft. of White 9"x9" 2 Layer within the Building.

### **Category II ACM**

The cementitious "Transite" siding located on the exterior of the Building was classified as PACM and no samples were collected. The visual assessment to quantify the extent of this material completed on August 20, 2015 identified 1,640 sq. ft. of cementitious (Transite) siding on the Building.

Ceiling Texture samples, collected from the Dining Room and Living Room Ceilings were each found to contain up to 2.75% asbestos following analysis. The assessment to quantify the extent of this material completed on August 20, 2015 identified approximately 236 sq. ft. of Ceiling texture within the Building.

## **RECOMMENDATIONS**

### **Asbestos Containing Materials**

HVAC material identified in the building system and listed below is classified as friable ACM and should be removed prior to any renovation/demolition activities.

- Dining (1 register, 10 sq. ft.)
- Kitchen/Bathroom (1 register, 10 sq. ft.)
- NE Bedroom (1 register, 10 sq. ft.)

Transite siding was identified on the exterior of the Building and must be abated prior to completion of any demolition activities at the Subject Property. In demolition, all cementitious ACM must be removed prior to demolition due to the likelihood of becoming regulated due to the demolition process.

Ceiling Texture identified on the interior of the Building must be abated prior to completion of any renovation/demolition activities at the Subject Property. Any Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of renovation or demolition operations must be properly abated.

The Category I resilient floor covering (White 9"x9" 2 Layer) is in good condition and may be left in place as long as it will not be subjected to sanding, grinding, cutting, or abrading during the renovation/demolition activities.

## **Hazardous Materials**

Hazardous Materials identified at the Subject Property and documented in Table 1 which require proper removal and disposal consist of the following items:

- Automobile Tires (2)
- 5 Gallon Container Misc. Paint (3)
- Gallon Container Misc. Paint (9)

## **REGULATORY REQUIREMENTS**

Regulated asbestos containing materials per NESHAP (40 CFR Part 61) which falls into any of the following categories are ACM's that must be removed prior to any renovation/demolition activities at the Subject Property.

- Friable asbestos material.
- Category I non-friable ACM that has become friable.
- Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading.
- Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of renovation or demolition operations.

A Notification of intent to Renovate/Demolish form must be filed with the Michigan Department of Environmental Quality- Air Quality Division at least 10 working days prior to any renovation or demolition activities at a site.

The Notification of Intent to Renovate/Demolish form must also be completed and submitted to the MIOSHA-Asbestos Program whenever demolition, encapsulation and/or renovation activities at a site involving greater than ten lineal feet and/or fifteen square feet of ACM will be completed.

Asbestos abatement should only be performed by a certified asbestos abatement contractor licensed to complete abatement work. The contractor must also follow the standards and requirements set forth per the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61).

Project No.: 13-1043  
Ingham County Land Bank  
Parcel ID: 33-01-01-22-301-081

**DISCLAIMER**

Red Cedar Consulting performed destructive testing methods in an attempt to access and inspect all areas of the Building. Unfortunately, due to the age of construction along with multiple additions/renovations that may have been completed on the Building, additional inspections may be required if suspect ACM material not documented within this report is encountered during renovation/demolition activities.

This report was prepared at the request and for exclusive use by the Ingham County Land Bank and may not be reproduced or sold without written permission from Red Cedar Consulting.

We appreciate the opportunity to provide the requested services. Please contact us at (888) 449-4566 with any questions or concerns.

Sincerely,  
**Red Cedar Consulting**



Aaron Paquet  
Michigan/EPA Certified Asbestos Building Inspector  
(A30955)

Red Cedar Consulting

***Attachment 1***  
***APEX Research Laboratory Analytical Results***





# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 727 Beulah St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60613  
Date Collected: 08/20/15  
Date Received: 08/21/15  
Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60613 - 01 Cust. #: BT-HM-01A Material: Grey Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 25% Other - 75%
Lab ID #: 60613 - 01a Cust. #: BT-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 25% Other - 75%
Lab ID #: 60613 - 02 Cust. #: BT-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 25% Other - 75%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 727 Beulah St.

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ARI Report # 15-60613  
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Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60613 - 02a Cust. #: BT-HM-01B Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 60613 - 03 Cust. #: BT-HM-02A Material: Vapor Barrier Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> Chrysotile - Trace  <b>POINT COUNT RESULT</b>	Cellulose - 60% Other - 40%
Lab ID #: 60613 - 04 Cust. #: BT-HM-02B Material: Vapor Barrier Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 50% Other - 50%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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ARI Report # 15-60613  
Date Collected: 08/20/15  
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Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60613 - 05 Cust. #: BT-HM-03A Material: 9x9 White Floor Tile Location: Appearance: beige, fibrous, homogenous Layer: 1 of 4	Asbestos Present: <b>YES</b> Chrysotile - 5%	Other - 95%
Lab ID #: 60613 - 05a Cust. #: BT-HM-03A Material: Mastic Location: Appearance: black, nonfibrous, homogenous Layer: 2 of 4	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60613 - 05b Cust. #: BT-HM-03A Material: Floor Tile Location: Appearance: blue, fibrous, homogenous Layer: 3 of 4	Asbestos Present: <b>YES</b> Chrysotile - 10%	Other - 90%

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Robert T. Letarte Jr., Laboratory Director

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ARI Report # 15-60613  
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Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60613 - 05c Cust. #: BT-HM-03A Material: Mastic Location: Appearance: black,nonfibrous,homogenous Layer: 4 of 4	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60613 - 06 Cust. #: BT-HM-03B Material: 9x9 White Floor Tile Location: Appearance: beige,fibrous,homogenous Layer: 1 of 4	Asbestos Present: <b>YES</b> Chrysotile - 6%	Other - 94%
Lab ID #: 60613 - 06a Cust. #: BT-HM-03B Material: Mastic Location: Appearance: black,fibrous,nonhomogenous Layer: 2 of 4	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 50% Other - 50%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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ARI Report # 15-60613  
Date Collected: 08/20/15  
Date Received: 08/21/15  
Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60613 - 06b Cust. #: BT-HM-03B Material: Floor Tile Location: Appearance: blue, fibrous, homogenous Layer: 3 of 4	Asbestos Present: <b>YES</b> Chrysotile - 10%	Other - 90%
Lab ID #: 60613 - 06c Cust. #: BT-HM-03B Material: Mastic Location: Appearance: black, nonfibrous, homogenous Layer: 4 of 4	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60613 - 07 Cust. #: BT-HM-04A Material: White Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 50% Other - 50%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60613 - 08 Cust. #: BT-HM-04B Material: White Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 60613 - 09 Cust. #: BT-HM-05A Material: Drywall Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 60613 - 10 Cust. #: BT-HM-05B Material: Drywall Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60613 - 11 Cust. #: BT-HM-06A Material: Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60613 - 12 Cust. #: BT-HM-06B Material: Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60613 - 13 Cust. #: BT-HS-01A Material: Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



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ARI Report # 15-60613  
Date Collected: 08/20/15  
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Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60613 - 13a Cust. #: BT-HS-01A Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 60613 - 14 Cust. #: BT-HS-01B Material: Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60613 - 14a Cust. #: BT-HS-01B Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



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## Test Method, Polarized Light Microscopy (PLM)

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Date Collected: 08/20/15  
Date Received: 08/21/15  
Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60613 - 15 Cust. #: BT-HS-01C Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 5% Other - 95%
Lab ID #: 60613 - 16 Cust. #: BT-HS-01D Material: Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60613 - 16a Cust. #: BT-HS-01D Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 727 Beulah St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60613  
Date Collected: 08/20/15  
Date Received: 08/21/15  
Date Analyzed: 08/26/15  
Date Reported: 08/26/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60613 - 17 Cust. #: BT-HS-01E Material: Texture Location: Appearance: white, fibrous, homogenous Layer: 1 of 3	Asbestos Present: <b>YES</b> Chrysotile - 2.25%  POINT COUNT RESULT	Other - 97.75%
Lab ID #: 60613 - 17a Cust. #: BT-HS-01E Material: Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60613 - 17b Cust. #: BT-HS-01E Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 3 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 727 Beulah St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60766  
Date Collected: 08/31/15  
Date Received: 09/01/15  
Date Analyzed: 09/03/15  
Date Reported: 09/03/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60766 - 01 Cust. #: BT-HS-02A Material: Texture Location: Appearance: beige, fibrous, homogenous Layer: 1 of 3	Asbestos Present: <b>YES</b> Chrysotile - 2.75%  <b>POINT COUNT RESULT</b>	Vermiculite - 5% Other - 92.25%
Lab ID #: 60766 - 01a Cust. #: BT-HS-02A Material: Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60766 - 01b Cust. #: BT-HS-02A Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 3 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 727 Beulah St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60766  
Date Collected: 08/31/15  
Date Received: 09/01/15  
Date Analyzed: 09/03/15  
Date Reported: 09/03/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60766 - 02 Cust. #: BT-HS-02B Material: Texture Location: Appearance: beige, fibrous, homogenous Layer: 1 of 3	Asbestos Present: <b>YES</b> Chrysotile - 1.5%  <b>POINT COUNT RESULT</b>	Vermiculite - 5% Other - 93.5%
Lab ID #: 60766 - 02a Cust. #: BT-HS-02B Material: Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60766 - 02b Cust. #: BT-HS-02B Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 3 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 727 Beulah St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60766  
Date Collected: 08/31/15  
Date Received: 09/01/15  
Date Analyzed: 09/03/15  
Date Reported: 09/03/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60766 - 03 Cust. #: BT-HS-02C Material: Texture Location: Appearance: beige, fibrous, homogenous Layer: 1 of 3	Asbestos Present: <b>YES</b> Chrysotile - 2.0%  <b>POINT COUNT RESULT</b>	Vermiculite - 5% Other - 93.0%
Lab ID #: 60766 - 03a Cust. #: BT-HS-02C Material: Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60766 - 03b Cust. #: BT-HS-02C Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 3 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0

***Tables***

**Table 1 - Summary of Hazardous Materials, 727 Beulah St., Lansing, Michigan**

<b>Hazardous Materials Description and Location</b>		
<b>Location</b>	<b>Material Description</b>	<b>Quantity</b>
Exterior	Automobile Tires	2
Kitchen	5 Gallon Container Misc. Paint	2
Rear Entry	Gallon Container Misc. Paint	4
Basement	5 Gallon Container Misc. Paint	1
Basement	Gallon Container Misc. Paint	5

**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 727 Beulah St., Lansing, Michigan**

Sample Number	Sample Description				% Asbestos Laboratory Result	Sample Location	Approx. Quantity
		Friable	Material Type	ACM Classification			
BT-HM-01A	Gray Shingle	No	M	Category I	ND/ND	Exterior	NA
BT-HM-01B	Gray Shingle	No	M	Category I	ND/ND	Exterior	NA
BT-HM-02A	Vapor Barrier	Yes	M	Category II	Trace CH	Exterior	NA
BT-HM-02B	Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
BT-HM-03A	White 9"x9" 2 Layer	No	M	Category I	5%CH/ND 10%CH/ND	Bathroom	80 sq. ft.
BT-HM-03B	White 9"x9" 2 Layer	No	M	Category I	6%CH/ND 10%CH/ND	Bathroom	See Sample BT-HM-03A
BT-HM-04A	White Linoleum	No	M	Category I	ND	Rear Entry	NA
BT-HM-04B	White Linoleum	No	M	Category I	ND	Rear Entry	NA
BT-HM-05A	Drywall	No	M	Category II	ND	Living	NA
BT-HM-05B	Drywall	No	M	Category II	ND	Living	NA
BT-HM-06A	Glazing	Yes	M	Category II	ND	Living	NA
BT-HM-06B	Glazing	Yes	M	Category II	ND	SE Bedroom	NA
BT-HS-01A	Plaster	No	S	Category II	ND/ND	SE Bedroom Wall	NA
BT-HS-01B	Plaster	No	S	Category II	ND/ND	NE Bedroom Wall	NA
BT-HS-01C	Plaster	No	S	Category II	ND	Basement Stairwell Wall	NA
BT-HS-01D	Plaster	No	S	Category II	ND/ND	SE Bedroom Ceiling	NA
BT-HS-01E	Plaster	No	S	Category II	2.25%CH Texture ND/ND	Dining Ceiling	236 sq. ft.
BT-HS-02A	Plaster	No	S	Category II	2.75%CH/ND/ND	N End of Dining Ceiling	See sample BT-HS-01E
BT-HS-02B	Plaster	No	S	Category II	1.5%CH/ND/ND	S End of Dining Ceiling	See sample BT-HS-01E
BT-HS-02C	Plaster	No	S	Category II	2.0%CH/ND/ND	Living Ceiling	See sample BT-HS-01E

**Notes:**

Material Types

M = Miscellaneous building material

Abbreviations

NQ = Not quantified



**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 727 Beulah St., Lansing, Michigan**

TSI = Thermal System Insulation  
S = Surfacing Material

NA = Not applicable  
ND = Not detected. Laboratory result is less than 1 % asbestos  
lin. ft. = linear feet  
sq. ft. = square feet  
CH = Chrysotile Asbestos  
PC = Point Count Analysis

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy. All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 3 - Summary of Presumed Asbestos Containing Materials, 727 Beulah St., Lansing, Michigan**

Asbestos Containing Material Description and Location					Approx. Quantity
Location	Material Description	Friable	Condition	Material Type	
Building Exterior	Transite Siding	No	Fair	M	1,640 sq. ft.
Dining (1 register, 10 sq. ft.) Kitchen/Bathroom (1 register, 10 sq. ft.) NE Bedroom (1 register, 10 sq. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	30 sq. ft.

**Notes:**

Material Types

M = Miscellaneous building material  
 TSI = Thermal System Insulation  
 S = Surfacing Material

Abbreviations

lin. ft. = linear feet  
 sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 4 - Summary of All Asbestos Containing Materials, 727 Beulah St., Lansing, Michigan**

<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Bathroom	White 9"x9" 2 Layer	No	80 sq. ft.
<b>Total</b>			<b>80 sq. ft.</b>
<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Dining	Ceiling Texture Only	Yes	102 sq. ft.
Living	Ceiling Texture Only	Yes	134 sq. ft.
<b>Total</b>			<b>236 sq. ft.</b>
<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Dining (1 register, 10 sq. ft.) Kitchen/Bathroom (1 register, 10 sq. ft.) NE Bedroom (1 register, 10 sq. ft.)	HVAC Duct Wrap	Yes	30 sq. ft.
<b>Total</b>			<b>30 sq. ft.</b>
<b>Exterior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Building Exterior	Transite Siding	No	1,640 sq. ft.
<b>Total</b>			<b>1,640 sq. ft.</b>

**Notes:**

Abbreviations

lin. ft. = linear feet  
sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Shaded/Bolded** =Material must be properly abated prior to commencement of any demolition/renovation activities.



P.O. Box 13216  
Lansing, MI 48901  
Phone: 888.449.4566  
Fax: 888.448.8739  
www.redcedarconsulting.net

September 8, 2015

Ms. Roxanne Case  
Office Manager  
Ingham County Land Bank  
3024 Turner St.  
Lansing, MI 48906

**RE: *Asbestos Containing Material and Hazardous Materials Inspection***  
***1424 Ada St., Lansing, MI 48910***  
***Parcel ID: 33-01-01-22-306-161***

Dear Ms. Case:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 1424 Ada St., Lansing, Michigan (Subject Property). This inspection was completed at the request of the Ingham County Land Bank to comply with the United States Environmental Protection Agency (USEPA) requirements for demolition and renovation set forth under the National Emissions Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Part 61). This inspection was also completed to comply with the Occupational Safety and Health Administration (OSHA) Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

### **SUBJECT PROPERTY**

The Subject Property is comprised of a .07 acre residential parcel which contains an approximate 960 square foot residential building (the Building) constructed in 1915. The Building was constructed on a concrete block basement with two aboveground floors. The exterior walls of the Building were finished with wood lap over a vapor barrier while the roof was sealed with asphalt shingles. The Building can be further divided into a front entry, living room, dining room, kitchen and rear entry on the first floor while the second floor contains three bedrooms and a bathroom.

### **VISUAL INSPECTION AND SAMPLING**

#### **Asbestos Containing Materials Inspection**

Mr. Aaron Paquet of Red Cedar Consulting (Red Cedar), an accredited State Of Michigan/EPA Asbestos Building Inspector (Accreditation Number A30955) whom completed training per the Michigan Asbestos Workers Accreditation Act 440 completed an inspection of the Subject Property on August 31, 2015 for suspected asbestos containing building materials.

This inspection, and subsequent sample collection was completed in accordance with the USEPA Asbestos Hazard Emergency Response Act (AHERA) (40 CFR Part 763) assessment and sampling protocol.

During the completion of the inspection, each area of the Subject Property was visually inspected for asbestos containing building materials (ACBM). Following the completion of the visual inspection, Red Cedar staff identified each suspect area of friable and non-friable ACBM and sorted them into one of three homogenous categories for sampling purposes. AHERA defines friable as a material that when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. A homogenous area is defined by OSHA as an area of surfacing, thermal system insulation (TSI) or miscellaneous material that is uniform in color and texture. Surfacing materials are most commonly found in sprayed-on, troweled-on or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members. TSI refers to materials applied to pipes, fittings, boilers, ductwork, or other components to prevent heat loss or gain, or condensation. Any material that does not fall under the surfacing or TSI category, such as floor tile, drywall, and acoustical ceiling tile are placed into the miscellaneous materials category.

Following the completion of the visual inspection, Red Cedar staff identified the following materials as suspect ACBM:

- Asphalt Shingle
- Vapor Barrier
- 12"x12" Vinyl Tile
- Linoleum
- 9"x9" Vinyl Tile
- 1'x1' Ceiling Tile
- Drywall
- Glazing
- Plaster

Red Cedar staff collected twenty nine samples of suspect ACBM separated into thirteen distinct homogenous groups for laboratory analysis. Samples were collected and submitted to APEX Research Inc. Laboratories (APEX) (Accreditation Number 102118-0) for laboratory analysis. Analysis was completed utilizing polarized light microscopy (PLM) which is the Environmental Protection Agency (EPA) approved method for analysis of bulk materials for asbestos. PLM analysis completed pursuant to method (EPA 600/M4-82-020) identifies asbestos fiber bundles by the visual properties displayed when the sample is treated with various dispersion staining liquids. The laboratory report completed following the sample analysis indicates if asbestos is present, and at what percentage along with a description and percentage of other fibrous and non-fibrous materials and sample color. Chain-of-custody documentation was followed from sample collection through shipping and receiving of the samples at the designated laboratory. The documentation assures that samples will meet the quality assurance/quality control measures defined by AHERA. The laboratory analytical report prepared by APEX for the twenty nine samples is included as Attachment A.

### **Hazardous Materials Inspection**

On August 31, 2015 the Subject Property was also inspected for the presence of hazardous materials which include but are not limited to polychlorinated biphenyls (PCBs) and potential mercury containing

equipment and any items or containers that may contain or be classified as a hazardous or regulated material. Each material, if identified, was documented along with the approximate location. Any materials identified as hazardous are included in Table 1.

## **INSPECTION RESULTS AND RECOMMENDATIONS**

During the completion of the asbestos inspection, twenty nine samples of suspect ACM were collected and are documented in Table 2 along with the Red Cedar sample number, description, friability, material type, ACM classification, sample location, material quantity and laboratory analytical results.

ACM, as defined by the USEPA NESHAP is “any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763 Section 1, Polarized Light Microscopy”.

Friable ACM is defined by NESHAP as any material containing more than 1 percent asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is a concern due the ease of unintentionally disturbing the ACM which may result in “visible emissions” which is known as a Fiber Release Episode.

Non-friable asbestos-containing material is defined as “material containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable ACM’s are separated into Category I and Category II ACM. Category I ACM is any asbestos containing packing’s, gaskets, resilient floor coverings (vinyl floor tile and linoleum are examples of these) and asphalt roofing products. Category II ACM is stated by NESHAP as any material excluding Category I non-friable ACM such as drywall, plaster or fiberboard insulation.

### **Presumed Asbestos Containing Material**

Presumed Asbestos Containing Materials (PACM) are suspect surfacing, TSI and miscellaneous materials found in buildings constructed prior to 1980 which are classified as and due to the age of the structure, are assumed to be ACM and do not require sample collection and analysis. OSHA dictates that PACM may be “rebutted” following a complete inspection pursuant to AHERA protocol.

The HVAC Duct Wrap located in the Building was classified as PACM due to the age of the structure and samples were not collected.

Table 3 lists the location, material description, friability, condition, material type (surfacing, thermal or miscellaneous) and approximate quantity of all PACM documented at the Subject Property.

Table 4 provides a summary all ACM documented at the Subject Property which includes the material location, description, and approximate quantity.

### **Friable ACM’s**

Duct Wrap identified in the building in conjunction with the forced air heating system is classified as friable ACM. The visual assessment to quantify the extent of this material completed on August 31, 2015 identified HVAC Duct Wrap at the following locations within the basement, first and second floors:

- Kitchen (1 register, 10 sq. ft.)
- Dining (1 register, 10 sq. ft.)
- Living (1 register, 10 sq. ft.)
- Front Entry (1 register, 10 sq. ft.)

### **Category I ACM**

Three types of resilient floor covering (Red 12"x12" Vinyl Tile, Red 9"x9" Vinyl Tile and Beige 9"x9" Vinyl Tile) located within the front entry, rear entry and 2<sup>nd</sup> floor SW bedroom were found to contain up to 10% Chrysotile asbestos. The assessment to quantify the extent of this material on August 31, 2015 identified approximately 235 sq. ft. of Red 12"x12" Vinyl Tile, Red 9"x9" Vinyl Tile and Beige 9"x9" Vinyl Tile within the Building.

### **Category II ACM**

Plaster samples, collected from the 1<sup>st</sup> and 2<sup>nd</sup> floors were each found to contain up to 4.25% asbestos following analysis. The assessment to quantify the extent of this material completed on August 31, 2015 identified approximately 4,621 sq. ft. of plaster within the building.

## **RECOMMENDATIONS**

### **Asbestos Containing Materials**

HVAC material identified in the building system and listed below is classified as friable ACM and should be removed prior to any renovation/demolition activities.

- Kitchen (1 register, 10 sq. ft.)
- Dining (1 register, 10 sq. ft.)
- Living (1 register, 10 sq. ft.)
- Front Entry (1 register, 10 sq. ft.)

Plaster identified on the interior of the Building must be abated prior to completion of any renovation/demolition activities at the Subject Property. Any Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of renovation or demolition operations must be properly abated.

The Category I resilient floor coverings (Red 12"x12" Vinyl Tile, Red 9"x9" Vinyl Tile and Beige 9"x9" Vinyl Tile) are in good condition and may be left in place as long as they will not be subjected to sanding, grinding, cutting, or abrading during the renovation/demolition activities.

### **Hazardous Materials**

Hazardous Materials identified at the Subject Property and documented in Table 1 which require proper removal and disposal consist of the following items:

- Smoke Detector (2)

## **REGULATORY REQUIREMENTS**

Regulated asbestos containing materials per NESHAP (40 CFR Part 61) which falls into any of the following categories are ACM's that must be removed prior to any renovation/demolition activities at the Subject Property.

- Friable asbestos material.
- Category I non-friable ACM that has become friable.
- Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading.
- Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of renovation or demolition operations.

A Notification of intent to Renovate/Demolish form must be filed with the Michigan Department of Environmental Quality- Air Quality Division at least 10 working days prior to any renovation or demolition activities at a site.

The Notification of Intent to Renovate/Demolish form must also be completed and submitted to the MIOSHA-Asbestos Program whenever demolition, encapsulation and/or renovation activities at a site involving greater than ten lineal feet and/or fifteen square feet of ACM will be completed.

Asbestos abatement should only be performed by a certified asbestos abatement contractor licensed to complete abatement work. The contractor must also follow the standards and requirements set forth per the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61).



Project No.: 13-1043  
Ingham County Land Bank  
Parcel ID: 33-01-01-22-306-161

**DISCLAIMER**

Red Cedar Consulting performed destructive testing methods in an attempt to access and inspect all areas of the Building. Unfortunately, due to the age of construction along with multiple additions/renovations that may have been completed on the Building, additional inspections may be required if suspect ACM material not documented within this report is encountered during renovation/demolition activities.

This report was prepared at the request and for exclusive use by the Ingham County Land Bank and may not be reproduced or sold without written permission from Red Cedar Consulting.

We appreciate the opportunity to provide the requested services. Please contact us at (888) 449-4566 with any questions or concerns.

Sincerely,  
**Red Cedar Consulting**



Aaron Paquet  
Michigan/EPA Certified Asbestos Building Inspector  
(A30955)

Red Cedar Consulting

***Attachment 1***  
***APEX Research Laboratory Analytical Results***



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1424 Ada St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60769  
Date Collected: 08/31/15  
Date Received: 09/01/15  
Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60769 - 01 Cust. #: AS-HM-01A Material: Brown Shingle Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 25% Fiberglass - 5% Other - 70%
Lab ID #: 60769 - 02 Cust. #: AS-HM-01B Material: Brown Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 25% Other - 75%
Lab ID #: 60769 - 02a Cust. #: AS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 15% Fiberglass - 5% Other - 80%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1424 Ada St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60769  
Date Collected: 08/31/15  
Date Received: 09/01/15  
Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60769 - 02b Cust. #: AS-HM-01B Material: Wood Location: Appearance: brown, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 60769 - 03 Cust. #: AS-HM-02A Material: Vapor Barrier Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> Chrysotile - Trace  <b>POINT COUNT RESULT</b>	Cellulose - 95% Other - 5%
Lab ID #: 60769 - 04 Cust. #: AS-HM-02B Material: Vapor Barrier Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> Chrysotile - Trace  <b>POINT COUNT RESULT</b>	Cellulose - 95% Other - 5%

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Robert T. Letarte Jr., Laboratory Director

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NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1424 Ada St.

**Report To:**

Mr. Aaron Paquet  
 Red Cedar Consulting  
 P.O. Box 13216  
 Lansing, MI 48901

ARI Report # 15-60769  
 Date Collected: 08/31/15  
 Date Received: 09/01/15  
 Date Analyzed: 09/04/15  
 Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60769 - 05 Cust. #: AS-HM-03A Material: Red 12x12 Vinyl Tile Location: Appearance: red, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>YES</b> Chrysotile - 8%	Other - 92%
Lab ID #: 60769 - 05a Cust. #: AS-HM-03A Material: Mastic Location: Appearance: yellow, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60769 - 06 Cust. #: AS-HM-03B Material: Red 12x12 Vinyl Tile Location: Appearance: red, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>YES</b> Chrysotile - 10%	Other - 90%

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Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60769 - 06a Cust. #: AS-HM-03B Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60769 - 07 Cust. #: AS-HM-04A Material: Beige Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 25% Fiberglass - 5% Other - 70%
Lab ID #: 60769 - 08 Cust. #: AS-HM-04B Material: Beige Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 25% Fiberglass - 5% Other - 70%

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ARI Report # 15-60769  
Date Collected: 08/31/15  
Date Received: 09/01/15  
Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60769 - 09 Cust. #: AS-HM-05A Material: Red 9x9 Vinyl Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>YES</b> Chrysotile - 10%	Other - 90%
Lab ID #: 60769 - 09a Cust. #: AS-HM-05A Material: Mastic & Backing Location: Appearance: black, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 60769 - 10 Cust. #: AS-HM-05B Material: Red 9x9 Vinyl Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>YES</b> Chrysotile - 10%	Other - 90%

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Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60769 - 10a Cust. #: AS-HM-05B Material: Mastic & Backing Location: Appearance: black, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 60769 - 11 Cust. #: AS-HM-06A Material: White 1x1 Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 60769 - 12 Cust. #: AS-HM-06B Material: White 1x1 Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 95% Other - 5%

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Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60769 - 13 Cust. #: AS-HM-07A Material: Drywall Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 60769 - 14 Cust. #: AS-HM-07B Material: Drywall Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 60769 - 15 Cust. #: AS-HM-08A Material: Glazing Location: Appearance: white, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Wollastonite - 1% Other - 99%

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ARI Report # 15-60769  
Date Collected: 08/31/15  
Date Received: 09/01/15  
Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60769 - 16 Cust. #: AS-HM-08B Material: Glazing Location: Appearance: white, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Wollastonite - 1% Other - 99%
Lab ID #: 60769 - 17 Cust. #: AS-HM-09A Material: Beige Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 60769 - 18 Cust. #: AS-HM-09B Material: Beige Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Fiberglass - 10% Other - 90%

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Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60769 - 19 Cust. #: AS-HM-10A Material: Beige 9x9 Vinyl Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>YES</b> Chrysotile - 6%	Other - 94%
Lab ID #: 60769 - 19a Cust. #: AS-HM-10A Material: Mastic Location: Appearance: black, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60769 - 20 Cust. #: AS-HM-10B Material: Beige 9x9 Vinyl Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>YES</b> Chrysotile - 7%	Other - 93%

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Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60769 - 20a Cust. #: AS-HM-10B Material: Mastic Location: Appearance: black,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60769 - 21 Cust. #: AS-HM-11A Material: Old Linoleum Location: Appearance: brown,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 60769 - 22 Cust. #: AS-HM-11B Material: Old Linoleum Location: Appearance: brown,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 50% Other - 50%

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ARI Report # 15-60769  
Date Collected: 08/31/15  
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Date Analyzed: 09/04/15  
Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60769 - 23 Cust. #: AS-HM-12A Material: Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60769 - 24 Cust. #: AS-HM-12B Material: Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60769 - 25 Cust. #: AS-HS-01A Material: Plaster Location: Appearance: beige,fibrous,homogenous Layer: 1 of 1	Asbestos Present: <b>YES</b> Chrysotile - 1.25%  POINT COUNT RESULT	Hair - 2% Other - 96.75%

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Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60769 - 26 Cust. #: AS-HS-01B Material: Plaster Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>YES</b> Chrysotile - 3.75%  POINT COUNT RESULT	Hair - 2% Other - 94.25%
Lab ID #: 60769 - 27 Cust. #: AS-HS-01C Material: Plaster Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>YES</b> Chrysotile - 1.75%  POINT COUNT RESULT	Hair - 2% Other - 96.25%
Lab ID #: 60769 - 28 Cust. #: AS-HS-01D Material: Plaster Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>YES</b> Chrysotile - 2.5%  POINT COUNT RESULT	Hair - 2% Other - 95.5%

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Date Reported: 09/04/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60769 - 29 Cust. #: AS-HS-01E Material: Plaster Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>YES</b> Chrysotile - 4.25%  POINT COUNT RESULT	Hair - 2% Other - 93.75%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	

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***Tables***



**Table 1 - Summary of Hazardous Materials, 1424 Ada St., Lansing, Michigan**

<b>Hazardous Materials Description and Location</b>		
<b>Location</b>	<b>Material Description</b>	<b>Quantity</b>
Dining	Smoke Detector	1
Basement	Smoke Detector	1

**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1424 Ada St., Lansing, Michigan**

Sample Number	Sample Description				% Asbestos Laboratory Result	Sample Location	Approx. Quantity
		Friable	Material Type	ACM Classification			
AS-HM-01A	Brown Shingle Multilayer	No	M	Category I	ND	Exterior	NA
AS-HM-01B	Brown Shingle Multilayer	No	M	Category I	ND/ND/ND	Exterior	NA
AS-HM-02A	Vapor Barrier	Yes	M	Category II	Trace CH	Exterior	NA
AS-HM-02B	Vapor Barrier	Yes	M	Category II	Trace CH	Exterior	NA
AS-HM-03A	Red 12"x12" Vinyl Tile	No	M	Category I	8%CH/ND	Front Entry	80 sq. ft.
AS-HM-03B	Red 12"x12" Vinyl Tile	No	M	Category I	10%CH/ND	Front Entry	See Sample AS-HM-03A
AS-HM-04A	Beige Linoleum Square	No	M	Category I	ND	Kitchen	NA
AS-HM-04B	Beige Linoleum Square	No	M	Category I	ND	Kitchen	NA
AS-HM-05A	Red 9"x9" Vinyl Tile	No	M	Category I	10%CH	Rear Entry	35 sq. ft.
AS-HM-05B	Red 9"x9" Vinyl Tile	No	M	Category I	10%CH	Rear Entry	See Sample AS-HM-05A
AS-HM-06A	White 1'x1' Ceiling Tile	Yes	M	Category II	ND	Front Entry	NA
AS-HM-06B	White 1'x1' Ceiling Tile	Yes	M	Category II	ND	Front Entry	NA
AS-HM-07A	Drywall	No	M	Category II	ND	Living Wall	NA
AS-HM-07B	Drywall	No	M	Category II	ND	Dining Ceiling	NA
AS-HM-08A	Glazing	Yes	M	Category II	ND	Living	NA
AS-HM-08B	Glazing	Yes	M	Category II	ND	Kitchen	NA
AS-HM-09A	Beige Linoleum	No	M	Category I	ND	2 <sup>nd</sup> Fl Bathroom	NA
AS-HM-09B	Beige Linoleum	No	M	Category I	ND	2 <sup>nd</sup> Fl Bathroom	NA
AS-HM-10A	Beige 9"x9" Vinyl Tile	No	M	Category I	6%CH/ND	2 <sup>nd</sup> Fl SW Bedroom	120 sq. ft.
AS-HM-10B	Beige 9"x9" Vinyl Tile	No	M	Category I	ND	2 <sup>nd</sup> Fl SW Bedroom	See Sample AS-HM-10A
AS-HM-11A	Old Linoleum	No	M	Category I	ND	2 <sup>nd</sup> Fl NW Bedroom	NA
AS-HM-11B	Old Linoleum	No	M	Category I	ND	2 <sup>nd</sup> Fl NW Bedroom	NA
AS-HM-12A	Glazing	Yes	M	Category II	ND	2 <sup>nd</sup> Fl SE Bedroom	NA
AS-HM-12B	Glazing	Yes	M	Category II	ND	2 <sup>nd</sup> Fl NW Bedroom	NA

**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1424 Ada St., Lansing, Michigan**

Sample Number	Sample Description				% Asbestos Laboratory Result	Sample Location	Approx. Quantity
		Friable	Material Type	ACM Classification			
AS-HS-01A	Plaster	No	S	Category II	1.25%CH	Front Entry Wall	4,621 sq. ft.
AS-HS-01B	Plaster	No	S	Category II	3.75%CH	Closet Wall	See Sample AS-HS-01A
AS-HS-01C	Plaster	No	S	Category II	1.75%CH	Kitchen Ceiling	See Sample AS-HS-01A
AS-HS-01D	Plaster	No	S	Category II	2.5%CH	2 <sup>nd</sup> Fl NW Bedroom Wall	See Sample AS-HS-01A
AS-HS-01E	Plaster	No	S	Category II	4.25%CH	2 <sup>nd</sup> Fl SE Bedroom Ceiling	See Sample AS-HS-01A

**Notes:**

Material Types

M = Miscellaneous building material  
 TSI = Thermal System Insulation  
 S = Surfacing Material

Abbreviations

NQ = Not quantified  
 NA = Not applicable  
 ND = Not detected. Laboratory result is less than 1 % asbestos  
 lin. ft. = linear feet  
 sq. ft. = square feet  
 CH = Chrysotile Asbestos  
 PC = Point Count Analysis

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy. All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 3 - Summary of Presumed Asbestos Containing Materials, 1424 Ada St., Lansing, Michigan**

Asbestos Containing Material Description and Location					Approx. Quantity
Location	Material Description	Friable	Condition	Material Type	
Kitchen (1 register, 10 sq. ft.) Dining (1 register, 10 sq. ft.) Living (1 register, 10 sq. ft.) Front Entry (1 register, 10 sq. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	40 sq. ft.

**Notes:**

Material Types

- M = Miscellaneous building material
- TSI = Thermal System Insulation
- S = Surfacing Material

Abbreviations

- lin. ft. = linear feet
- sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 4 - Summary of All Asbestos Containing Materials, 1424 Ada St., Lansing, Michigan**

<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Front Entry	Red 12"x12" Vinyl Tile	No	80 sq. ft.
Rear Entry	Red 9"x9" Vinyl Tile	No	35 sq. ft.
2 <sup>nd</sup> Floor SW Bedroom	Beige 9"x9" Vinyl Tile	No	120 sq. ft.
<b>Total</b>			<b>235 sq. ft.</b>
<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
1 <sup>st</sup> Floor	Wall Plaster	No	1,782 sq. ft.
1 <sup>st</sup> Floor	Ceiling Plaster	No	494 sq. ft.
2 <sup>nd</sup> Floor	Wall Plaster	No	1,856 sq. ft.
2 <sup>nd</sup> Floor	Ceiling Plaster	No	489 sq. ft.
<b>Total</b>			<b>4,621 sq. ft.</b>
<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Kitchen (1 register, 10 sq. ft.)	HVAC Duct Wrap	Yes	40 sq. ft.
Dining (1 register, 10 sq. ft.)			
Living (1 register, 10 sq. ft.)			
Front Entry (1 register, 10 sq. ft.)			
<b>Total</b>			<b>40 sq. ft.</b>

**Notes:**

Abbreviations

lin. ft. = linear feet  
 sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Shaded/Bolded** =Material must be properly abated prior to commencement of any demolition/renovation activities.



P.O. Box 13216  
Lansing, MI 48901  
Phone: 888.449.4566  
Fax: 888.448.8739  
www.redcedarconsulting.net

September 15, 2015

Ms. Roxanne Case  
Office Manager  
Ingham County Land Bank  
3024 Turner St.  
Lansing, MI 48906

**RE: *Asbestos Containing Material and Hazardous Materials Inspection***  
***1413 Ada St., Lansing, MI 48910***  
***Parcel ID: 33-01-01-22-307-021***

Dear Ms. Case:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 1413 Ada St., Lansing, Michigan (Subject Property). This inspection was completed at the request of the Ingham County Land Bank to comply with the United States Environmental Protection Agency (USEPA) requirements for demolition and renovation set forth under the National Emissions Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Part 61). This inspection was also completed to comply with the Occupational Safety and Health Administration (OSHA) Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

### **SUBJECT PROPERTY**

The Subject Property is comprised of a .13 acre residential parcel which contains an approximate 1,120 square foot residential building (the Building) constructed in 1916. The Building was constructed on a concrete block basement with two aboveground floors. The exterior walls of the Building were finished with Transite over vapor barrier while the roof was sealed with asphalt shingles. The Building can be further divided into a front entry, living room, dining room and kitchen on the first floor while the second floor contains two bedrooms and a bathroom.

### **VISUAL INSPECTION AND SAMPLING**

#### **Asbestos Containing Materials Inspection**

Mr. Aaron Paquet of Red Cedar Consulting (Red Cedar), an accredited State Of Michigan/EPA Asbestos Building Inspector (Accreditation Number A30955) whom completed training per the Michigan Asbestos Workers Accreditation Act 440 completed an inspection of the Subject Property on September 8, 2015 for suspected asbestos containing building materials.

This inspection, and subsequent sample collection was completed in accordance with the USEPA Asbestos Hazard Emergency Response Act (AHERA) (40 CFR Part 763) assessment and sampling protocol.

During the completion of the inspection, each area of the Subject Property was visually inspected for asbestos containing building materials (ACBM). Following the completion of the visual inspection, Red Cedar staff identified each suspect area of friable and non-friable ACBM and sorted them into one of three homogenous categories for sampling purposes. AHERA defines friable as a material that when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. A homogenous area is defined by OSHA as an area of surfacing, thermal system insulation (TSI) or miscellaneous material that is uniform in color and texture. Surfacing materials are most commonly found in sprayed-on, troweled-on or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members. TSI refers to materials applied to pipes, fittings, boilers, ductwork, or other components to prevent heat loss or gain, or condensation. Any material that does not fall under the surfacing or TSI category, such as floor tile, drywall, and acoustical ceiling tile are placed into the miscellaneous materials category.

Following the completion of the visual inspection, Red Cedar staff identified the following materials as suspect ACBM:

- Asphalt Shingle
- Vapor Barrier
- 12"x12" Vinyl Tile
- Linoleum
- Glazing
- 1'x1' Ceiling Tile
- Plaster

Red Cedar staff collected nineteen samples of suspect ACBM separated into eight distinct homogenous groups for laboratory analysis. Samples were collected and submitted to APEX Research Inc. Laboratories (APEX) (Accreditation Number 102118-0) for laboratory analysis. Analysis was completed utilizing polarized light microscopy (PLM) which is the Environmental Protection Agency (EPA) approved method for analysis of bulk materials for asbestos. PLM analysis completed pursuant to method (EPA 600/M4-82-020) identifies asbestos fiber bundles by the visual properties displayed when the sample is treated with various dispersion staining liquids. The laboratory report completed following the sample analysis indicates if asbestos is present, and at what percentage along with a description and percentage of other fibrous and non-fibrous materials and sample color. Chain-of-custody documentation was followed from sample collection through shipping and receiving of the samples at the designated laboratory. The documentation assures that samples will meet the quality assurance/quality control measures defined by AHERA. The laboratory analytical report prepared by APEX for the nineteen samples is included as Attachment A.

### **Hazardous Materials Inspection**

On September 8, 2015 the Subject Property was also inspected for the presence of hazardous materials which include but are not limited to polychlorinated biphenyls (PCBs) and potential mercury containing equipment and any items or containers that may contain or be classified as a hazardous or regulated

material. Each material, if identified, was documented along with the approximate location. Any materials identified as hazardous are included in Table 1.

## **INSPECTION RESULTS AND RECOMMENDATIONS**

During the completion of the asbestos inspection, nineteen samples of suspect ACM were collected and are documented in Table 2 along with the Red Cedar sample number, description, friability, material type, ACM classification, sample location, material quantity and laboratory analytical results.

ACM, as defined by the USEPA NESHAP is “any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763 Section 1, Polarized Light Microscopy”.

Friable ACM is defined by NESHAP as any material containing more than 1 percent asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is a concern due the ease of unintentionally disturbing the ACM which may result in “visible emissions” which is known as a Fiber Release Episode.

Non-friable asbestos-containing material is defined as “material containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable ACM’s are separated into Category I and Category II ACM. Category I ACM is any asbestos containing packing’s, gaskets, resilient floor coverings (vinyl floor tile and linoleum are examples of these) and asphalt roofing products. Category II ACM is stated by NESHAP as any material excluding Category I non-friable ACM such as drywall, plaster or fiberboard insulation.

### **Presumed Asbestos Containing Material**

Presumed Asbestos Containing Materials (PACM) are suspect surfacing, TSI and miscellaneous materials found in buildings constructed prior to 1980 which are classified as and due to the age of the structure, are assumed to be ACM and do not require sample collection and analysis. OSHA dictates that PACM may be “rebutted” following a complete inspection pursuant to AHERA protocol.

The HVAC Duct Wrap located in the Building and the Cementitious “Transite” Siding on the Building were classified as PACM due to the age of the structure and samples were not collected.

Table 3 lists the location, material description, friability, condition, material type (surfacing, thermal or miscellaneous) and approximate quantity of all PACM documented at the Subject Property.

Table 4 provides a summary all ACM documented at the Subject Property which includes the material location, description, and approximate quantity.

### **Friable ACM’s**

Duct Wrap identified in the building in conjunction with the forced air heating system is classified as friable ACM. The visual assessment to quantify the extent of this material completed on September 8, 2015 identified HVAC Duct Wrap at the following locations within the basement, first and second floors:

- Living (1 register, 10 sq. ft.)



- Kitchen (1 register, 10 sq. ft.)
- 2<sup>nd</sup> Floor NE Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- 2<sup>nd</sup> Floor Bathroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- Basement (HVAC Tape on Cold Air Return Duct Work, 20 sq. ft.)

### **Category I ACM**

No Category I ACM was identified during the completion of this inspection.

### **Category II ACM**

The cementitious “Transite” siding located on the exterior of the Building, Interior of the front porch and in the rear room was classified as PACM and no samples were collected. The visual assessment to quantify the extent of this material completed on September 8, 2015 identified 2,458 sq. ft. of cementitious (Transite) siding on the building.

## **RECOMMENDATIONS**

### **Asbestos Containing Materials**

HVAC material identified in the building system and listed below is classified as friable ACM and should be removed prior to any renovation/demolition activities.

- Living (1 register, 10 sq. ft.)
- Kitchen (1 register, 10 sq. ft.)
- 2<sup>nd</sup> Floor NE Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- 2<sup>nd</sup> Floor Bathroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- Basement (HVAC Tape on Cold Air Return Duct Work, 20 sq. ft.)

Transite siding was identified on the exterior of the Building, Interior of the front porch and in the rear and must be abated prior to completion of any demolition activities at the Subject Property. In demolition, all cementitious ACM must be removed prior to demolition due to the likelihood of becoming regulated due to the demolition process.

### **Hazardous Materials**

Hazardous Materials identified at the Subject Property and documented in Table 1 which require proper removal and disposal consist of the following items:

- Television (3)
- 5 Gallon Container Misc. Paint (5)
- Gallon Container Misc. Paint (7)
- Automobile Tires (2)

## **REGULATORY REQUIREMENTS**

Regulated asbestos containing materials per NESHAP (40 CFR Part 61) which falls into any of the following categories are ACM's that must be removed prior to any renovation/demolition activities at the Subject Property.

- Friable asbestos material.
- Category I non-friable ACM that has become friable.
- Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading.
- Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of renovation or demolition operations.

A Notification of intent to Renovate/Demolish form must be filed with the Michigan Department of Environmental Quality- Air Quality Division at least 10 working days prior to any renovation or demolition activities at a site.

The Notification of Intent to Renovate/Demolish form must also be completed and submitted to the MIOSHA-Asbestos Program whenever demolition, encapsulation and/or renovation activities at a site involving greater than ten lineal feet and/or fifteen square feet of ACM will be completed.

Asbestos abatement should only be performed by a certified asbestos abatement contractor licensed to complete abatement work. The contractor must also follow the standards and requirements set forth per the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61).

Project No.: 13-1043  
Ingham County Land Bank  
Parcel ID: 33-01-01-22-307-021

**DISCLAIMER**

Red Cedar Consulting performed destructive testing methods in an attempt to access and inspect all areas of the Building. Unfortunately, due to the age of construction along with multiple additions/renovations that may have been completed on the Building, additional inspections may be required if suspect ACM material not documented within this report is encountered during renovation/demolition activities.

This report was prepared at the request and for exclusive use by the Ingham County Land Bank and may not be reproduced or sold without written permission from Red Cedar Consulting.

We appreciate the opportunity to provide the requested services. Please contact us at (888) 449-4566 with any questions or concerns.

Sincerely,  
**Red Cedar Consulting**



Aaron Paquet  
Michigan/EPA Certified Asbestos Building Inspector  
(A30955)

Red Cedar Consulting

***Attachment 1***  
***APEX Research Laboratory Analytical Results***



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1413 Ada St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60860  
Date Collected: 09/08/15  
Date Received: 09/09/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60860 - 01 Cust. #: AS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 60860 - 01a Cust. #: AS-HM-01A Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 60860 - 02 Cust. #: AS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Other - 60%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1413 Ada St.

**Report To:**

Mr. Aaron Paquet  
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Lansing, MI 48901

ARI Report # 15-60860  
Date Collected: 09/08/15  
Date Received: 09/09/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60860 - 02a Cust. #: AS-HM-01B Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 60860 - 03 Cust. #: AS-HM-02A Material: Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 60860 - 04 Cust. #: AS-HM-02B Material: Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 50% Other - 50%

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Robert T. Letarte Jr., Laboratory Director

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# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1413 Ada St.

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Mr. Aaron Paquet  
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Lansing, MI 48901

ARI Report # 15-60860  
Date Collected: 09/08/15  
Date Received: 09/09/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60860 - 05 Cust. #: AS-HM-03A Material: 12x12 Black Floor Tile Location: Appearance: black,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60860 - 05a Cust. #: AS-HM-03A Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60860 - 06 Cust. #: AS-HM-03B Material: 12x12 Black Floor Tile Location: Appearance: black,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1413 Ada St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60860  
Date Collected: 09/08/15  
Date Received: 09/09/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60860 - 06a Cust. #: AS-HM-03B Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60860 - 07 Cust. #: AS-HM-04A Material: White Linoleum Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60860 - 08 Cust. #: AS-HM-04B Material: White Linoleum Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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Project: 1413 Ada St.

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Lansing, MI 48901

ARI Report # 15-60860  
Date Collected: 09/08/15  
Date Received: 09/09/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60860 - 09 Cust. #: AS-HM-05A Material: Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 60860 - 10 Cust. #: AS-HM-05B Material: Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 60860 - 11 Cust. #: AS-HM-06A Material: Gray Linoleum Location: Appearance: grey, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 50% Other - 50%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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ARI Report # 15-60860  
Date Collected: 09/08/15  
Date Received: 09/09/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60860 - 12 Cust. #: AS-HM-06B Material: Gray Linoleum Location: Appearance: grey, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 60860 - 13 Cust. #: AS-HM-07A Material: 1x1 White Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 60860 - 14 Cust. #: AS-HM-07B Material: 1x1 White Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 80% Other - 20%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



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# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1413 Ada St.

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Lansing, MI 48901

ARI Report # 15-60860  
Date Collected: 09/08/15  
Date Received: 09/09/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60860 - 15 Cust. #: AS-HS-01A Material: Plaster Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 5% Other - 95%
Lab ID #: 60860 - 16 Cust. #: AS-HS-01B Material: Plaster Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 5% Other - 95%
Lab ID #: 60860 - 17 Cust. #: AS-HS-01C Material: Plaster Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 5% Other - 95%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1413 Ada St.

**Report To:**  
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P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60860  
Date Collected: 09/08/15  
Date Received: 09/09/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60860 - 18 Cust. #: AS-HS-01D Material: Plaster Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 5% Other - 95%
Lab ID #: 60860 - 19 Cust. #: AS-HS-01E Material: Plaster Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 5% Other - 95%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0

***Tables***

**Table 1 - Summary of Hazardous Materials, 1413 Ada St., Lansing, Michigan**

<b>Hazardous Materials Description and Location</b>		
<b>Location</b>	<b>Material Description</b>	<b>Quantity</b>
Living Room	Television	1
Dining Room	Television	1
Basement	5 Gallon Container Misc. Paint	5
Basement	Gallon Container Misc. Paint	7
Basement	Television	1
Basement	Automobile Tires	2

**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1413 Ada St., Lansing, Michigan**

Sample Number	Sample Description				% Asbestos Laboratory Result	Sample Location	Approx. Quantity
		Friable	Material Type	ACM Classification			
AS-HM-01A	Multilayer Shingle	No	M	Category I	ND/ND	Exterior	NA
AS-HM-01B	Multilayer Shingle	No	M	Category I	ND/ND	Exterior	NA
AS-HM-02A	Vapor barrier	Yes	M	Category II	ND	Exterior	NA
AS-HM-02B	Vapor barrier	Yes	M	Category II	ND	Exterior	NA
AS-HM-03A	Black 12"x12" Vinyl Tile	No	M	Category I	ND/ND	Front Entry	NA
AS-HM-03B	Black 12"x12" Vinyl Tile	No	M	Category I	ND/ND	Front Entry	NA
AS-HM-04A	White Linoleum	No	M	Category I	ND	Kitchen	NA
AS-HM-04B	White Linoleum	No	M	Category I	ND	Kitchen	NA
AS-HM-05A	Glazing	Yes	M	Category II	ND	Living	NA
AS-HM-05B	Glazing	Yes	M	Category II	ND	Living	NA
AS-HM-06A	Gray Linoleum	No	M	Category I	ND	2 <sup>nd</sup> Fl Closet Bedroom	NA
AS-HM-06B	Gray Linoleum	No	M	Category I	ND	2 <sup>nd</sup> Fl Bedroom Closet	NA
AS-HM-07A	White 1'x1' Ceiling Tile	Yes	M	Category II	ND	Dining	NA
AS-HM-07B	White 1'x1' Ceiling Tile	Yes	M	Category II	ND	Dining	NA
AS-HS-01A	Plaster	No	S	Category II	ND	Living Wall	NA
AS-HS-01B	Plaster	No	S	Category II	ND	Dining Wall	NA
AS-HS-01C	Plaster	No	S	Category II	ND	Living Ceiling	NA
AS-HS-01D	Plaster	No	S	Category II	ND	2 <sup>nd</sup> Fl Hallway Wall	NA
AS-HS-01E	Plaster	No	S	Category II	ND	2 <sup>nd</sup> Fl Bathroom Ceiling	NA

**Notes:**

Material Types

M = Miscellaneous building material  
 TSI = Thermal System Insulation  
 S = Surfacing Material

Abbreviations

NQ = Not quantified  
 NA = Not applicable  
 ND = Not detected. Laboratory result is less than 1 % asbestos  
 lin. ft. = linear feet  
 sq. ft. = square feet

**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1413 Ada St., Lansing, Michigan**

CH = Chrysotile Asbestos  
PC = Point Count Analysis

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy. All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.



**Table 3 - Summary of Presumed Asbestos Containing Materials, 1413 Ada St., Lansing, Michigan**

Asbestos Containing Material Description and Location					Approx. Quantity
Location	Material Description	Friable	Condition	Material Type	
Building Exterior, Interior Front Porch and Rear Room	Transite Siding	No	Fair	M	2,458 sq. ft.
Living (1 register, 10 sq. ft.) Kitchen (1 register, 10 sq. ft.) 2 <sup>nd</sup> Floor NE Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.) 2 <sup>nd</sup> Floor Bathroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	90 sq. ft.
Basement (HVAC Tape on Cold Air Return Duct Work, 20 sq. ft.)	HVAC Tape	Yes	Fair	TSI	20 sq. ft.

**Notes:**

Material Types

- M = Miscellaneous building material
- TSI = Thermal System Insulation
- S = Surfacing Material

Abbreviations

- lin. ft. = linear feet
- sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 4 - Summary of All Asbestos Containing Materials, 1413 Ada St., Lansing, Michigan**

<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Living (1 register, 10 sq. ft.) Kitchen (1 register, 10 sq. ft.) 2 <sup>nd</sup> Floor NE Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.) 2 <sup>nd</sup> Floor Bathroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)	HVAC Duct Wrap	Yes	90 sq. ft.
<b>Total</b>			<b>90 sq. ft.</b>
<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Basement (HVAC Tape on Cold Air Return Duct Work, 20 sq. ft.)	HVAC Duct Wrap	Yes	20 sq. ft.
<b>Total</b>			<b>20 sq. ft.</b>
<b>Exterior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Building Exterior, Interior Front Porch and Rear Room	Transite Siding	No	2,458 sq. ft.
<b>Total</b>			<b>2,458 sq. ft.</b>

**Notes:**

Abbreviations

lin. ft. = linear feet  
sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Shaded/Bolded** =Material must be properly abated prior to commencement of any demolition/renovation activities.



P.O. Box 13216  
Lansing, MI 48901  
Phone: 888.449.4566  
Fax: 888.448.8739  
www.redcedarconsulting.net

September 15, 2015

Ms. Roxanne Case  
Office Manager  
Ingham County Land Bank  
3024 Turner St.  
Lansing, MI 48906

**RE: *Asbestos Containing Material and Hazardous Materials Inspection***  
***1436 Pontiac St., Lansing, MI 48910***  
***Parcel ID: 33-01-01-22-307-201***

Dear Ms. Case:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 1436 Pontiac St., Lansing, Michigan (Subject Property). This inspection was completed at the request of the Ingham County Land Bank to comply with the United States Environmental Protection Agency (USEPA) requirements for demolition and renovation set forth under the National Emissions Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Part 61). This inspection was also completed to comply with the Occupational Safety and Health Administration (OSHA) Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

### **SUBJECT PROPERTY**

The Subject Property is comprised of a .11 acre residential parcel which contains an approximate 1,320 square foot residential building (the Building) constructed in 1918. The Building was constructed on a concrete block basement with two aboveground floors. The exterior walls of the Building were finished with wood lap while the roof was sealed with asphalt shingles. The Building can be further divided into a living room, dining room, kitchen, bathroom and a bedroom on the first floor while the second floor contains a dining room, kitchen, two bedrooms and a bathroom.

### **VISUAL INSPECTION AND SAMPLING**

#### **Asbestos Containing Materials Inspection**

Mr. Aaron Paquet of Red Cedar Consulting (Red Cedar), an accredited State Of Michigan/EPA Asbestos Building Inspector (Accreditation Number A30955) whom completed training per the Michigan Asbestos Workers Accreditation Act 440 completed an inspection of the Subject Property on September 9, 2015 for suspected asbestos containing building materials.

This inspection, and subsequent sample collection was completed in accordance with the USEPA Asbestos Hazard Emergency Response Act (AHERA) (40 CFR Part 763) assessment and sampling protocol.

During the completion of the inspection, each area of the Subject Property was visually inspected for asbestos containing building materials (ACBM). Following the completion of the visual inspection, Red Cedar staff identified each suspect area of friable and non-friable ACBM and sorted them into one of three homogenous categories for sampling purposes. AHERA defines friable as a material that when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. A homogenous area is defined by OSHA as an area of surfacing, thermal system insulation (TSI) or miscellaneous material that is uniform in color and texture. Surfacing materials are most commonly found in sprayed-on, troweled-on or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members. TSI refers to materials applied to pipes, fittings, boilers, ductwork, or other components to prevent heat loss or gain, or condensation. Any material that does not fall under the surfacing or TSI category, such as floor tile, drywall, and acoustical ceiling tile are placed into the miscellaneous materials category.

Following the completion of the visual inspection, Red Cedar staff identified the following materials as suspect ACBM:

- Asphalt Shingle
- 12"x12" Vinyl Tile
- Felt Paper
- Linoleum
- Drywall
- Glazing
- Plaster

Red Cedar staff collected seventeen samples of suspect ACBM separated into seven distinct homogenous groups for laboratory analysis. Samples were collected and submitted to APEX Research Inc. Laboratories (APEX) (Accreditation Number 102118-0) for laboratory analysis. Analysis was completed utilizing polarized light microscopy (PLM) which is the Environmental Protection Agency (EPA) approved method for analysis of bulk materials for asbestos. PLM analysis completed pursuant to method (EPA 600/M4-82-020) identifies asbestos fiber bundles by the visual properties displayed when the sample is treated with various dispersion staining liquids. The laboratory report completed following the sample analysis indicates if asbestos is present, and at what percentage along with a description and percentage of other fibrous and non-fibrous materials and sample color. Chain-of-custody documentation was followed from sample collection through shipping and receiving of the samples at the designated laboratory. The documentation assures that samples will meet the quality assurance/quality control measures defined by AHERA. The laboratory analytical report prepared by APEX for the seventeen samples is included as Attachment A.

### **Hazardous Materials Inspection**

On September 9, 2015 the Subject Property was also inspected for the presence of hazardous materials which include but are not limited to polychlorinated biphenyls (PCBs) and potential mercury containing equipment and any items or containers that may contain or be classified as a hazardous or regulated

material. Each material, if identified, was documented along with the approximate location. Any materials identified as hazardous are included in Table 1.

## **INSPECTION RESULTS AND RECOMMENDATIONS**

During the completion of the asbestos inspection, seventeen samples of suspect ACM were collected and are documented in Table 2 along with the Red Cedar sample number, description, friability, material type, ACM classification, sample location, material quantity and laboratory analytical results.

ACM, as defined by the USEPA NESHAP is “any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763 Section 1, Polarized Light Microscopy”.

Friable ACM is defined by NESHAP as any material containing more than 1 percent asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is a concern due the ease of unintentionally disturbing the ACM which may result in “visible emissions” which is known as a Fiber Release Episode.

Non-friable asbestos-containing material is defined as “material containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable ACM’s are separated into Category I and Category II ACM. Category I ACM is any asbestos containing packing’s, gaskets, resilient floor coverings (vinyl floor tile and linoleum are examples of these) and asphalt roofing products. Category II ACM is stated by NESHAP as any material excluding Category I non-friable ACM such as drywall, plaster or fiberboard insulation.

### **Presumed Asbestos Containing Material**

Presumed Asbestos Containing Materials (PACM) are suspect surfacing, TSI and miscellaneous materials found in buildings constructed prior to 1980 which are classified as and due to the age of the structure, are assumed to be ACM and do not require sample collection and analysis. OSHA dictates that PACM may be “rebutted” following a complete inspection pursuant to AHERA protocol.

The HVAC Duct Wrap located in the Building was classified as PACM due to the age of the structure and samples were not collected.

Table 3 lists the location, material description, friability, condition, material type (surfacing, thermal or miscellaneous) and approximate quantity of all PACM documented at the Subject Property.

Table 4 provides a summary all ACM documented at the Subject Property which includes the material location, description, and approximate quantity.

### **Friable ACM’s**

Duct Wrap identified in the building in conjunction with the forced air heating system is classified as friable ACM. The visual assessment to quantify the extent of this material completed on September 9, 2015 identified HVAC Duct Wrap at the following locations within the basement, first and second floors:

- Dining (1 register, 15 sq. ft.)

- 2<sup>nd</sup> Floor SE Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)

### **Category I ACM**

No Category I ACM was identified during the completion of this inspection.

### **Category II ACM**

Plaster samples, collected from the Building interior were found to contain up to 3% asbestos following analysis. The assessment to quantify the extent of this material completed on September 9, 2015 identified approximately 5,610 sq. ft. of plaster within the Building.

## **RECOMMENDATIONS**

### **Asbestos Containing Materials**

HVAC material identified in the building system and listed below is classified as friable ACM and should be removed prior to any renovation/demolition activities.

- Dining (1 register, 15 sq. ft.)
- 2<sup>nd</sup> Floor SE Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)

Plaster identified on the interior of the Building must be abated prior to completion of any renovation/demolition activities at the Subject Property. Any Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of renovation or demolition operations must be properly abated.

### **Hazardous Materials**

Hazardous Materials identified at the Subject Property and documented in Table 1 which require proper removal and disposal consist of the following items:

- Smoke Detector (3)
- Thermostat (1)
- 5 Gallon Container Drywall Compound (1)
- Quart Container Misc. Paint (4)

## **REGULATORY REQUIREMENTS**

Regulated asbestos containing materials per NESHAP (40 CFR Part 61) which falls into any of the following categories are ACM's that must be removed prior to any renovation/demolition activities at the Subject Property.

- Friable asbestos material.
- Category I non-friable ACM that has become friable.

- Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading.
- Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of renovation or demolition operations.

A Notification of intent to Renovate/Demolish form must be filed with the Michigan Department of Environmental Quality- Air Quality Division at least 10 working days prior to any renovation or demolition activities at a site.

The Notification of Intent to Renovate/Demolish form must also be completed and submitted to the MIOSHA-Asbestos Program whenever demolition, encapsulation and/or renovation activities at a site involving greater than ten lineal feet and/or fifteen square feet of ACM will be completed.

Asbestos abatement should only be performed by a certified asbestos abatement contractor licensed to complete abatement work. The contractor must also follow the standards and requirements set forth per the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61).

### **DISCLAIMER**

Red Cedar Consulting performed destructive testing methods in an attempt to access and inspect all areas of the Building. Unfortunately, due to the age of construction along with multiple additions/renovations that may have been completed on the Building, additional inspections may be required if suspect ACM material not documented within this report is encountered during renovation/demolition activities.

This report was prepared at the request and for exclusive use by the Ingham County Land Bank and may not be reproduced or sold without written permission from Red Cedar Consulting.

We appreciate the opportunity to provide the requested services. Please contact us at (888) 449-4566 with any questions or concerns.

Sincerely,  
**Red Cedar Consulting**



Aaron Paquet  
Michigan/EPA Certified Asbestos Building Inspector  
(A30955)

Red Cedar Consulting

***Attachment 1***  
***APEX Research Laboratory Analytical Results***





# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1436 Pontiac St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60878  
Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60878 - 01 Cust. #: ST-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 25% Other - 75%
Lab ID #: 60878 - 01a Cust. #: ST-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 25% Other - 75%
Lab ID #: 60878 - 01b Cust. #: ST-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 30% Other - 70%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1436 Pontiac St.

**Report To:**

Mr. Aaron Paquet  
 Red Cedar Consulting  
 P.O. Box 13216  
 Lansing, MI 48901

ARI Report # 15-60878  
 Date Collected: 09/09/15  
 Date Received: 09/10/15  
 Date Analyzed: 09/14/15  
 Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60878 - 02 Cust. #: ST-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 5	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 60878 - 02a Cust. #: ST-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 5	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 60878 - 02b Cust. #: ST-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 5	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 30% Other - 70%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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ARI Report # 15-60878  
Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60878 - 02c Cust. #: ST-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 4 of 5	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 60878 - 02d Cust. #: ST-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 5 of 5	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 60878 - 03 Cust. #: ST-HM-02A Material: Red 12x12 Vinyl Tile Location: Appearance: red, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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ARI Report # 15-60878  
Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60878 - 03a Cust. #: ST-HM-02A Material: Mastic Location: Appearance: brown,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60878 - 04 Cust. #: ST-HM-02B Material: Red 12x12 Vinyl Tile Location: Appearance: red,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60878 - 04a Cust. #: ST-HM-02B Material: Mastic Location: Appearance: brown,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



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Project: 1436 Pontiac St.

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Lansing, MI 48901

ARI Report # 15-60878  
Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60878 - 05 Cust. #: ST-HM-03A Material: Felt Paper Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 70% Other - 30%
Lab ID #: 60878 - 06 Cust. #: ST-HM-03B Material: Felt Paper Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 60878 - 07 Cust. #: ST-HM-04A Material: White Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 25% Fiberglass - 5% Synthetic - 5% Other - 65%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



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## Test Method, Polarized Light Microscopy (PLM)

Project: 1436 Pontiac St.

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Lansing, MI 48901

ARI Report # 15-60878  
Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60878 - 08 Cust. #: ST-HM-04B Material: White Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 25% Fiberglass - 5% Synthetic - 5% Other - 65%
Lab ID #: 60878 - 09 Cust. #: ST-HM-05A Material: Drywall Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 60878 - 09a Cust. #: ST-HM-05A Material: Joint Compound Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

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Project: 1436 Pontiac St.

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P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60878  
Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60878 - 10 Cust. #: ST-HM-05B Material: Drywall Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 60878 - 11 Cust. #: ST-HM-06A Material: Glazing Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60878 - 12 Cust. #: ST-HM-06B Material: Glazing Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1436 Pontiac St.

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ARI Report # 15-60878  
Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60878 - 13 Cust. #: ST-HS-01A Material: Plaster - Texture Location: Appearance: white, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>YES</b> Chrysotile - 2.5%  POINT COUNT RESULT	Other - 97.5%
Lab ID #: 60878 - 13a Cust. #: ST-HS-01A Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 60878 - 14 Cust. #: ST-HS-01B Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>YES</b> Chrysotile - 1.75%  POINT COUNT RESULT	Other - 98.25%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0





# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1436 Pontiac St.

**Report To:**

Mr. Aaron Paquet  
 Red Cedar Consulting  
 P.O. Box 13216  
 Lansing, MI 48901

ARI Report # 15-60878  
 Date Collected: 09/09/15  
 Date Received: 09/10/15  
 Date Analyzed: 09/14/15  
 Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60878 - 15 Cust. #: ST-HS-01C Material: Plaster - Texture Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60878 - 15a Cust. #: ST-HS-01C Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>YES</b> Chrysotile - 3.0%  <b>POINT COUNT RESULT</b>	Other - 97.0%
Lab ID #: 60878 - 16 Cust. #: ST-HS-01D Material: Plaster - Texture Location: Appearance: beige, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>YES</b> Chrysotile - 6%	Other - 94%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1436 Pontiac St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60878  
Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60878 - 16a Cust. #: ST-HS-01D Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 60878 - 17 Cust. #: ST-HS-01E Material: Base Coat Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0

***Tables***

**Table 1 - Summary of Hazardous Materials, 1436 Pontiac St., Lansing, Michigan**

<b>Hazardous Materials Description and Location</b>		
<b>Location</b>	<b>Material Description</b>	<b>Quantity</b>
Dining	Smoke Detector	1
Dining	Thermostat	1
Kitchen	5 Gallon Container Drywall Compound	1
Kitchen	Quart Container Misc. Paint	4
2 <sup>nd</sup> Fl Hallway	Smoke Detector	1
Basement	Smoke Detector	1

**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1436 Pontiac St., Lansing, Michigan**

Sample Number	Sample Description				% Asbestos Laboratory Result	Sample Location	Approx. Quantity
		Friable	Material Type	ACM Classification			
ST-HM-01A	Multilayer Shingle	No	M	Category I	ND/ND/ND	Exterior	NA
ST-HM-01B	Multilayer Shingle	No	M	Category I	ND/ND/ND ND/ND	Exterior	NA
ST-HM-02A	Red 12"x12" Vinyl Tile	No	M	Category I	ND/ND	Kitchen	NA
ST-HM-02B	Red 12"x12" Vinyl Tile	No	M	Category I	ND/ND	Kitchen	NA
ST-HM-03A	Felt Paper	Yes	M	Category II	ND	Kitchen	NA
ST-HM-03B	Felt Paper	Yes	M	Category II	ND	Kitchen	NA
ST-HM-04A	White Linoleum	No	M	Category I	ND	Bathroom	NA
ST-HM-04B	White Linoleum	No	M	Category I	ND	Bathroom	NA
ST-HM-05A	Drywall	No	M	Category II	ND/ND	Bathroom Wall	NA
ST-HM-05B	Drywall	No	M	Category II	ND	Dining Wall	NA
ST-HM-06A	Glazing	Yes	M	Category II	ND	Dining	NA
ST-HM-06B	Glazing	Yes	M	Category II	ND	Dining	NA
ST-HS-01A	Plaster	No	S	Category II	2.25%CH Texture/ND	Living Wall	5,610 sq. ft.
ST-HS-01B	Plaster	No	S	Category II	1.75%CH Base Coat	Kitchen Wall	See Sample ST-HS-01A
ST-HS-01C	Plaster	No	S	Category II	ND/3.0%CH Base Coat	SW Bedroom Ceiling	See Sample ST-HS-01A
ST-HS-01D	Plaster	No	S	Category II	6%CH Texture/ ND	2 <sup>nd</sup> Fl SW Bedroom Wall	See Sample ST-HS-01A
ST-HS-01E	Plaster	No	S	Category II	ND	2 <sup>nd</sup> Fl SE Bedroom Ceiling	See Sample ST-HS-01A

**Notes:**

Material Types

M = Miscellaneous building material  
 TSI = Thermal System Insulation  
 S = Surfacing Material

Abbreviations

NQ = Not quantified  
 NA = Not applicable  
 ND = Not detected. Laboratory result is less than 1 % asbestos  
 lin. ft. = linear feet  
 sq. ft. = square feet  
 CH = Chrysotile Asbestos  
 PC = Point Count Analysis

**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1436 Pontiac St., Lansing, Michigan**

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy. All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 3 - Summary of Presumed Asbestos Containing Materials, 1436 Pontiac St., Lansing, Michigan**

Asbestos Containing Material Description and Location					Approx. Quantity
Location	Material Description	Friable	Condition	Material Type	
Dining (1 register, 15 sq. ft.) 2 <sup>nd</sup> Floor SE Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	50 sq. ft.

**Notes:**

Material Types

M = Miscellaneous building material  
 TSI = Thermal System Insulation  
 S = Surfacing Material

Abbreviations

lin. ft. = linear feet  
 sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 4 - Summary of All Asbestos Containing Materials, 1436 Pontiac St., Lansing, Michigan**

<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Building Interior	Wall and Ceiling Plaster	No	5,610 sq. ft.
	<b>Total</b>		<b>5,610 sq. ft.</b>
<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Dining (1 register, 15 sq. ft.) 2 <sup>nd</sup> Floor SE Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)	HVAC Duct Wrap	Yes	50 sq. ft.
	<b>Total</b>		<b>50 sq. ft.</b>

**Notes:**

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Shaded/Bolded** =Material must be properly abated prior to commencement of any demolition/renovation activities.





P.O. Box 13216  
Lansing, MI 48901  
Phone: 888.449.4566  
Fax: 888.448.8739  
www.redcedarconsulting.net

September 15, 2015

Ms. Roxanne Case  
Office Manager  
Ingham County Land Bank  
3024 Turner St.  
Lansing, MI 48906

**RE: *Asbestos Containing Material and Hazardous Materials Inspection***  
***1434 Pontiac St., Lansing, MI 48910***  
***Parcel ID: 33-01-01-22-307-211***

Dear Ms. Case:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 1434 Pontiac St., Lansing, Michigan (Subject Property). This inspection was completed at the request of the Ingham County Land Bank to comply with the United States Environmental Protection Agency (USEPA) requirements for demolition and renovation set forth under the National Emissions Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Part 61). This inspection was also completed to comply with the Occupational Safety and Health Administration (OSHA) Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

### **SUBJECT PROPERTY**

The Subject Property is comprised of a .13 acre residential parcel which contains an approximate 788 square foot residential building (the Building) constructed in 1914. The Building was constructed on a concrete block basement with one aboveground floor. The exterior walls of the Building were finished with vinyl siding over wood lap while the roof was sealed with asphalt shingles. The Building can be further divided into a living room, dining room, kitchen, bathroom and two bedrooms.

### **VISUAL INSPECTION AND SAMPLING**

#### **Asbestos Containing Materials Inspection**

Mr. Aaron Paquet of Red Cedar Consulting (Red Cedar), an accredited State Of Michigan/EPA Asbestos Building Inspector (Accreditation Number A30955) whom completed training per the Michigan Asbestos Workers Accreditation Act 440 completed an inspection of the Subject Property on September 9, 2015 for suspected asbestos containing building materials.

This inspection, and subsequent sample collection was completed in accordance with the USEPA Asbestos Hazard Emergency Response Act (AHERA) (40 CFR Part 763) assessment and sampling protocol.

During the completion of the inspection, each area of the Subject Property was visually inspected for asbestos containing building materials (ACBM). Following the completion of the visual inspection, Red Cedar staff identified each suspect area of friable and non-friable ACBM and sorted them into one of three homogenous categories for sampling purposes. AHERA defines friable as a material that when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. A homogenous area is defined by OSHA as an area of surfacing, thermal system insulation (TSI) or miscellaneous material that is uniform in color and texture. Surfacing materials are most commonly found in sprayed-on, troweled-on or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members. TSI refers to materials applied to pipes, fittings, boilers, ductwork, or other components to prevent heat loss or gain, or condensation. Any material that does not fall under the surfacing or TSI category, such as floor tile, drywall, and acoustical ceiling tile are placed into the miscellaneous materials category.

Following the completion of the visual inspection, Red Cedar staff identified the following materials as suspect ACBM:

- Asphalt Shingle
- Linoleum
- Drywall
- Glazing
- Plaster

Red Cedar staff collected thirteen samples of suspect ACBM separated into six distinct homogenous groups for laboratory analysis. Samples were collected and submitted to APEX Research Inc. Laboratories (APEX) (Accreditation Number 102118-0) for laboratory analysis. Analysis was completed utilizing polarized light microscopy (PLM) which is the Environmental Protection Agency (EPA) approved method for analysis of bulk materials for asbestos. PLM analysis completed pursuant to method (EPA 600/M4-82-020) identifies asbestos fiber bundles by the visual properties displayed when the sample is treated with various dispersion staining liquids. The laboratory report completed following the sample analysis indicates if asbestos is present, and at what percentage along with a description and percentage of other fibrous and non-fibrous materials and sample color. Chain-of-custody documentation was followed from sample collection through shipping and receiving of the samples at the designated laboratory. The documentation assures that samples will meet the quality assurance/quality control measures defined by AHERA. The laboratory analytical report prepared by APEX for the thirteen samples is included as Attachment A.

### **Hazardous Materials Inspection**

On September 9, 2015 the Subject Property was also inspected for the presence of hazardous materials which include but are not limited to polychlorinated biphenyls (PCBs) and potential mercury containing equipment and any items or containers that may contain or be classified as a hazardous or regulated material. Each material, if identified, was documented along with the approximate location. Any materials identified as hazardous are included in Table 1.

## **INSPECTION RESULTS AND RECOMMENDATIONS**

During the completion of the asbestos inspection, thirteen samples of suspect ACM were collected and are documented in Table 2 along with the Red Cedar sample number, description, friability, material type, ACM classification, sample location, material quantity and laboratory analytical results.

ACM, as defined by the USEPA NESHAP is “any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763 Section 1, Polarized Light Microscopy”.

Friable ACM is defined by NESHAP as any material containing more than 1 percent asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is a concern due the ease of unintentionally disturbing the ACM which may result in “visible emissions” which is known as a Fiber Release Episode.

Non-friable asbestos-containing material is defined as “material containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable ACM’s are separated into Category I and Category II ACM. Category I ACM is any asbestos containing packing’s, gaskets, resilient floor coverings (vinyl floor tile and linoleum are examples of these) and asphalt roofing products. Category II ACM is stated by NESHAP as any material excluding Category I non-friable ACM such as drywall, plaster or fiberboard insulation.

### **Presumed Asbestos Containing Material**

Presumed Asbestos Containing Materials (PACM) are suspect surfacing, TSI and miscellaneous materials found in buildings constructed prior to 1980 which are classified as and due to the age of the structure, are assumed to be ACM and do not require sample collection and analysis. OSHA dictates that PACM may be “rebutted” following a complete inspection pursuant to AHERA protocol.

No PACM was identified during the completion of this inspection. All suspect materials identified were sampled and analyzed for ACM.

Table 3 lists the location, material description, friability, condition, material type (surfacing, thermal or miscellaneous) and approximate quantity of all PACM documented at the Subject Property.

Table 4 provides a summary all ACM documented at the Subject Property which includes the material location, description, and approximate quantity.

### **Friable ACM’s**

No friable ACM’s were identified during the completion of this inspection.

### **Category I ACM**

No Category I ACM was identified during the completion of this inspection.

## **Category II ACM**

Plaster samples, collected from the living room, dining room and NE bedroom were each found to contain up to 2% asbestos following analysis. The assessment to quantify the extent of this material completed on September 9, 2015 identified approximately 898 sq. ft. of wall plaster within the Building. No ceiling plaster was identified during the completion of Red Cedars inspection.

## **RECOMMENDATIONS**

### **Asbestos Containing Materials**

Plaster identified on the interior of the Building must be abated prior to completion of any renovation/demolition activities at the Subject Property. Any Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of renovation or demolition operations must be properly abated.

### **Hazardous Materials**

Hazardous Materials identified at the Subject Property and documented in Table 1 which require proper removal and disposal consist of the following items:

- Smoke Detector (1)
- Thermostat (1)
- 4' Fluorescent Light (Fixture and Ballast Only) (1)
- 4' Fluorescent Bulb (2)

## **REGULATORY REQUIREMENTS**

Regulated asbestos containing materials per NESHAP (40 CFR Part 61) which falls into any of the following categories are ACM's that must be removed prior to any renovation/demolition activities at the Subject Property.

- Friable asbestos material.
- Category I non-friable ACM that has become friable.
- Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading.
- Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of renovation or demolition operations.

A Notification of intent to Renovate/Demolish form must be filed with the Michigan Department of Environmental Quality- Air Quality Division at least 10 working days prior to any renovation or demolition activities at a site.

Project No.: 13-1043  
Ingham County Land Bank  
Parcel ID: 33-01-01-22-307-211

The Notification of Intent to Renovate/Demolish form must also be completed and submitted to the MIOSHA-Asbestos Program whenever demolition, encapsulation and/or renovation activities at a site involving greater than ten lineal feet and/or fifteen square feet of ACM will be completed.

Asbestos abatement should only be performed by a certified asbestos abatement contractor licensed to complete abatement work. The contractor must also follow the standards and requirements set forth per the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61).

### **DISCLAIMER**

Red Cedar Consulting performed destructive testing methods in an attempt to access and inspect all areas of the Building. Unfortunately, due to the age of construction along with multiple additions/renovations that may have been completed on the Building, additional inspections may be required if suspect ACM material not documented within this report is encountered during renovation/demolition activities.

This report was prepared at the request and for exclusive use by the Ingham County Land Bank and may not be reproduced or sold without written permission from Red Cedar Consulting.

We appreciate the opportunity to provide the requested services. Please contact us at (888) 449-4566 with any questions or concerns.

Sincerely,  
**Red Cedar Consulting**



Aaron Paquet  
Michigan/EPA Certified Asbestos Building Inspector  
(A30955)

Red Cedar Consulting

***Attachment 1***  
***APEX Research Laboratory Analytical Results***



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1434 Pontiac St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60877  
Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60877 - 01 Cust. #: PS-HM-01A Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 5	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 2% Fiberglass - 20% Other - 78%
Lab ID #: 60877 - 01a Cust. #: PS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 5	Asbestos Present: <b>NO</b> No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 60877 - 01b Cust. #: PS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 5	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



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ARI Report # 15-60877  
Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60877 - 01c Cust. #: PS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 4 of 5	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 60877 - 01d Cust. #: PS-HM-01A Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 5 of 5	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 60877 - 02 Cust. #: PS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 4	Asbestos Present: <b>NO</b> No Asbestos Observed	Fiberglass - 20% Other - 80%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60877 - 02a Cust. #: PS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 4	Asbestos Present: <b>NO</b> No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 60877 - 02b Cust. #: PS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 60877 - 02c Cust. #: PS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 4 of 4	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 30% Other - 70%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



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Project: 1434 Pontiac St.

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P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60877  
Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60877 - 03 Cust. #: PS-HM-02A Material: White Linoleum, Backing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Fiberglass - 5% Other - 75%
Lab ID #: 60877 - 04 Cust. #: PS-HM-02B Material: White Linoleum, Backing Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Fiberglass - 5% Other - 75%
Lab ID #: 60877 - 05 Cust. #: PS-HM-03A Material: Grey Linoleum, Backing Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 10% Fiberglass - 2% Other - 88%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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Project: 1434 Pontiac St.

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Lansing, MI 48901

ARI Report # 15-60877  
Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60877 - 06 Cust. #: PS-HM-03B Material: Grey Linoleum, Backing Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 60877 - 07 Cust. #: PS-HM-04A Material: Drywall Location: Appearance: grey, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 60877 - 07a Cust. #: PS-HM-04A Material: Joint Compound Location: Appearance: white, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 1% Wollastonite - 2% Other - 97%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1434 Pontiac St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60877  
Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60877 - 08 Cust. #: PS-HM-04B Material: Drywall Location: Appearance: grey, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 60877 - 08a Cust. #: PS-HM-04B Material: Joint Compound Location: Appearance: white, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 60877 - 09 Cust. #: PS-HM-05A Material: Glazing Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 2% Other - 98%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1434 Pontiac St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60877  
Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60877 - 10 Cust. #: PS-HM-05B Material: Brown Glazing Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 60877 - 10a Cust. #: PS-HM-05B Material: White Glazing Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60877 - 11 Cust. #: PS-HS-01A Material: Texture Location: Appearance: white, fibrous, homogenous Layer: 1 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 2% Other - 98%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1434 Pontiac St.

**Report To:**  
Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60877  
Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60877 - 11a Cust. #: PS-HS-01A Material: Texture Location: Appearance: beige, fibrous, homogenous Layer: 2 of 3	Asbestos Present: <b>YES</b> Chrysotile - 2%	Other - 98%
Lab ID #: 60877 - 11b Cust. #: PS-HS-01A Material: Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 3 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 60877 - 12 Cust. #: PS-HS-01B Material: Texture Location: Appearance: beige, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>YES</b> Chrysotile - 2%	Other - 98%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1434 Pontiac St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60877  
Date Collected: 09/09/15  
Date Received: 09/10/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60877 - 12a Cust. #: PS-HS-01B Material: Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 2% Hair - 2% Other - 96%
Lab ID #: 60877 - 13 Cust. #: PS-HS-01C Material: Texture Location: Appearance: white, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Wollastonite - 2% Other - 98%
Lab ID #: 60877 - 13a Cust. #: PS-HS-01C Material: Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Hair - 3% Other - 97%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0

***Tables***



**Table 1 - Summary of Hazardous Materials, 1434 Pontiac St., Lansing, Michigan**

<b>Hazardous Materials Description and Location</b>		
<b>Location</b>	<b>Material Description</b>	<b>Quantity</b>
Living	Thermostat	1
Basement	Smoke Detector	1
Basement	4' Fluorescent Light (Fixture and Ballast Only)	1
Basement	4' Fluorescent Bulb	2

**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1434 Pontiac St., Lansing, Michigan**

Sample Number	Sample Description				% Asbestos Laboratory Result	Sample Location	Approx. Quantity
		Friable	Material Type	ACM Classification			
PS-HM-01A	Multilayer Shingle	No	M	Category I	ND/ND/ND ND/ND	Exterior	NA
PS-HM-01B	Multilayer Shingle	No	M	Category I	ND/ND/ND/ND	Exterior	NA
PS-HM-02A	White Linoleum	No	M	Category I	ND	Kitchen	NA
PS-HM-02B	White Linoleum	No	M	Category I	ND	Kitchen	NA
PS-HM-03A	Gray Linoleum	No	M	Category I	ND	Bathroom	NA
PS-HM-03B	Gray Linoleum	No	M	Category I	ND	Bathroom	NA
PS-HM-04A	Drywall	No	M	Category II	ND/ND	Kitchen Wall	NA
PS-HM-04B	Drywall	No	M	Category II	ND/ND	Living Ceiling	NA
PS-HM-05A	Glazing	Yes	M	Category II	ND	NE Bedroom	NA
PS-HM-05B	Glazing	Yes	M	Category II	ND/ND	NW Bedroom	NA
PS-HS-01A	Plaster	No	S	Category II	ND/2%CH ND	Living Wall	895 sq. ft.
PS-HS-01B	Plaster	No	S	Category II	2%CH/ND	Dining Wall	See Sample PS-HS-01A
PS-HS-01C	Plaster	No	S	Category II	ND/ND	NE Bedroom Wall	See Sample PS-HS-01A

**Notes:**

Material Types

M = Miscellaneous building material  
 TSI = Thermal System Insulation  
 S = Surfacing Material

Abbreviations

NQ = Not quantified  
 NA = Not applicable  
 ND = Not detected. Laboratory result is less than 1 % asbestos  
 lin. ft. = linear feet  
 sq. ft. = square feet  
 CH = Chrysotile Asbestos  
 PC = Point Count Analysis

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy. All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 3 - Summary of Presumed Asbestos Containing Materials, 1434 Pontiac St., Lansing, Michigan**

Asbestos Containing Material Description and Location					Approx. Quantity
Location	Material Description	Friable	Condition	Material Type	
No Presumed Asbestos Containing Materials Identified					

**Notes:**

Material Types

- M = Miscellaneous building material
- TSI = Thermal System Insulation
- S = Surfacing Material

Abbreviations

- lin. ft. = linear feet
- sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 4 - Summary of All Asbestos Containing Materials, 1434 Pontiac St., Lansing, Michigan**

<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
1 <sup>st</sup> Floor Walls (No Ceiling Plaster Identified)	Wall Plaster	No	895 sq. ft.
		<b>Total</b>	<b>895 sq. ft.</b>

**Notes:**

Abbreviations

lin. ft. = linear feet  
 sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Shaded/Bolded** =Material must be properly abated prior to commencement of any demolition/renovation activities.



P.O. Box 13216  
Lansing, MI 48901  
Phone: 888.449.4566  
Fax: 888.448.8739  
www.redcedarconsulting.net

September 15, 2015

Ms. Roxanne Case  
Office Manager  
Ingham County Land Bank  
3024 Turner St.  
Lansing, MI 48906

**RE: *Asbestos Containing Material and Hazardous Materials Inspection***  
***1430 Pontiac St., Lansing, MI 48910***  
***Parcel ID: 33-01-01-22-307-221***

Dear Ms. Case:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 1430 Pontiac St., Lansing, Michigan (Subject Property). This inspection was completed at the request of the Ingham County Land Bank to comply with the United States Environmental Protection Agency (USEPA) requirements for demolition and renovation set forth under the National Emissions Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Part 61). This inspection was also completed to comply with the Occupational Safety and Health Administration (OSHA) Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

### **SUBJECT PROPERTY**

The Subject Property is comprised of a .13 acre residential parcel which contains an approximate 825 square foot residential building (the Building) constructed in 1915. The Building was constructed on a concrete block basement with two aboveground floors. The exterior walls of the Building were finished with wood lap while the roof was sealed with asphalt shingles. The Building can be further divided into a living room, dining room, kitchen, bathroom, two bedrooms and a rear entry on the first floor while the second floor contains one bedroom and a bathroom.

### **VISUAL INSPECTION AND SAMPLING**

#### **Asbestos Containing Materials Inspection**

Mr. Aaron Paquet of Red Cedar Consulting (Red Cedar), an accredited State Of Michigan/EPA Asbestos Building Inspector (Accreditation Number A30955) whom completed training per the Michigan Asbestos Workers Accreditation Act 440 completed an inspection of the Subject Property on September 8, 2015 for suspected asbestos containing building materials.

This inspection, and subsequent sample collection was completed in accordance with the USEPA Asbestos Hazard Emergency Response Act (AHERA) (40 CFR Part 763) assessment and sampling protocol.

During the completion of the inspection, each area of the Subject Property was visually inspected for asbestos containing building materials (ACBM). Following the completion of the visual inspection, Red Cedar staff identified each suspect area of friable and non-friable ACBM and sorted them into one of three homogenous categories for sampling purposes. AHERA defines friable as a material that when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. A homogenous area is defined by OSHA as an area of surfacing, thermal system insulation (TSI) or miscellaneous material that is uniform in color and texture. Surfacing materials are most commonly found in sprayed-on, troweled-on or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members. TSI refers to materials applied to pipes, fittings, boilers, ductwork, or other components to prevent heat loss or gain, or condensation. Any material that does not fall under the surfacing or TSI category, such as floor tile, drywall, and acoustical ceiling tile are placed into the miscellaneous materials category.

Following the completion of the visual inspection, Red Cedar staff identified the following materials as suspect ACBM:

- Asphalt Shingle
- 12"x12" Vinyl Tile
- Linoleum
- 2'x4' Ceiling Tile
- Glazing
- Drywall
- Plaster

Red Cedar staff collected twenty one samples of suspect ACBM separated into ten distinct homogenous groups for laboratory analysis. Samples were collected and submitted to APEX Research Inc. Laboratories (APEX) (Accreditation Number 102118-0) for laboratory analysis. Analysis was completed utilizing polarized light microscopy (PLM) which is the Environmental Protection Agency (EPA) approved method for analysis of bulk materials for asbestos. PLM analysis completed pursuant to method (EPA 600/M4-82-020) identifies asbestos fiber bundles by the visual properties displayed when the sample is treated with various dispersion staining liquids. The laboratory report completed following the sample analysis indicates if asbestos is present, and at what percentage along with a description and percentage of other fibrous and non-fibrous materials and sample color. Chain-of-custody documentation was followed from sample collection through shipping and receiving of the samples at the designated laboratory. The documentation assures that samples will meet the quality assurance/quality control measures defined by AHERA. The laboratory analytical report prepared by APEX for the twenty one samples is included as Attachment A.

### **Hazardous Materials Inspection**

On September 8, 2015 the Subject Property was also inspected for the presence of hazardous materials which include but are not limited to polychlorinated biphenyls (PCBs) and potential mercury containing equipment and any items or containers that may contain or be classified as a hazardous or regulated

material. Each material, if identified, was documented along with the approximate location. Any materials identified as hazardous are included in Table 1.

## **INSPECTION RESULTS AND RECOMMENDATIONS**

During the completion of the asbestos inspection, twenty one samples of suspect ACM were collected and are documented in Table 2 along with the Red Cedar sample number, description, friability, material type, ACM classification, sample location, material quantity and laboratory analytical results.

ACM, as defined by the USEPA NESHAP is “any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763 Section 1, Polarized Light Microscopy”.

Friable ACM is defined by NESHAP as any material containing more than 1 percent asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is a concern due the ease of unintentionally disturbing the ACM which may result in “visible emissions” which is known as a Fiber Release Episode.

Non-friable asbestos-containing material is defined as “material containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable ACM’s are separated into Category I and Category II ACM. Category I ACM is any asbestos containing packing’s, gaskets, resilient floor coverings (vinyl floor tile and linoleum are examples of these) and asphalt roofing products. Category II ACM is stated by NESHAP as any material excluding Category I non-friable ACM such as drywall, plaster or fiberboard insulation.

### **Presumed Asbestos Containing Material**

Presumed Asbestos Containing Materials (PACM) are suspect surfacing, TSI and miscellaneous materials found in buildings constructed prior to 1980 which are classified as and due to the age of the structure, are assumed to be ACM and do not require sample collection and analysis. OSHA dictates that PACM may be “rebutted” following a complete inspection pursuant to AHERA protocol.

The HVAC Duct Wrap located in the Building was classified as PACM due to the age of the structure and samples were not collected.

Table 3 lists the location, material description, friability, condition, material type (surfacing, thermal or miscellaneous) and approximate quantity of all PACM documented at the Subject Property.

Table 4 provides a summary all ACM documented at the Subject Property which includes the material location, description, and approximate quantity.

### **Friable ACM’s**

A window glazing sample collected from a window in the SE Bedroom was found to contain up to 1.75% asbestos following analysis. The assessment to quantify the extent of this material on September 8, 2015 identified sixteen windows within the Building that would fall into the same homogenous group. The locations of the sixteen windows are listed below:

- Dining (2 windows 40" wide x 50" tall)
- Living (1 window 40" wide x 62" tall)
- Living (1 window 40" wide x 28" tall)
- SE Bedroom (1 window 40" wide x 62" tall)
- SE Bedroom (1 window 28" wide x 62" tall)
- SW Bedroom (1 window 40" wide x 62" tall)
- Bathroom (1 window 24" wide x 38" tall)
- Kitchen (1 window 40" wide x 50" tall)
- 2nd Floor (2 windows 24" wide x 54" tall)
- Basement (5 windows 30" wide x 20" tall)

Please note: other different sized windows are located throughout the Building but these windows were assessed and found to be constructed either without window glazing or were sampled and found to not contain asbestos and therefore are not required to be removed.

Duct Wrap identified in the building in conjunction with the forced air heating system is classified as friable ACM. The visual assessment to quantify the extent of this material completed on September 8, 2015 identified HVAC Duct Wrap at the following locations within the basement, first and second floors:

- Living (1 register, 10 sq. ft.)
- Dining (1 register, 10 sq. ft.)
- SW Bedroom (1 register, 10 sq. ft.)
- 2<sup>nd</sup> Floor Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)

### **Category I ACM**

Two types of resilient floor covering (Yellow Linoleum and Pebbled 12"x12" Vinyl Tile) located within the bathroom (2<sup>nd</sup> Layer Flooring) and rear entry were found to contain up to 30% Chrysotile asbestos. The assessment to quantify the extent of this material on September 8, 2015 identified approximately 94 sq. ft. of Yellow Linoleum and Pebbled 12"x12" Vinyl Tile within the Building.

### **Category II ACM**

Plaster samples, collected from the Living Room, SE Bedroom and SW Bedrooms were each found to contain up to 2.25% asbestos following analysis. The assessment to quantify the extent of this material completed on September 8, 2015 identified approximately 3,485 sq. ft. of plaster within the Building.

## **RECOMMENDATIONS**

### **Asbestos Containing Materials**

HVAC material identified in the building system and listed below is classified as friable ACM and should be removed prior to any renovation/demolition activities.

- Living (1 register, 10 sq. ft.)
- Dining (1 register, 10 sq. ft.)
- SW Bedroom (1 register, 10 sq. ft.)



- 2<sup>nd</sup> Floor Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)

Friable asbestos containing window glazing was identified on sixteen windows throughout the Building. The locations of these windows that should be abated prior to demolition activities are listed below:

- Dining (2 windows 40" wide x 50" tall)
- Living (1 window 40" wide x 62" tall)
- Living (1 window 40" wide x 28" tall)
- SE Bedroom (1 window 40" wide x 62" tall)
- SE Bedroom (1 window 28" wide x 62" tall)
- SW Bedroom (1 window 40" wide x 62" tall)
- Bathroom (1 window 24" wide x 38" tall)
- Kitchen (1 window 40" wide x 50" tall)
- 2nd Floor (2 windows 24" wide x 54" tall)
- Basement (5 windows 30" wide x 20" tall)

Plaster identified on the interior of the Building must be abated prior to completion of any renovation/demolition activities at the Subject Property. Any Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of renovation or demolition operations must be properly abated.

The Category I resilient floor coverings (Yellow Linoleum and Pebbled 12"x12" Vinyl Tile) are in good condition and may be left in place as long as they will not be subjected to sanding, grinding, cutting, or abrading during the renovation/demolition activities.

### **Hazardous Materials**

Hazardous Materials identified at the Subject Property and documented in Table 1 which require proper removal and disposal consist of the following items:

- Smoke Detector (1)
- Thermostat (1)
- 5 Gallon Container Kerosene (1)
- Gallon Container Misc. Tar (2)
- Gallon Container Misc. Paint (14)
- Television (1)

### **REGULATORY REQUIREMENTS**

Regulated asbestos containing materials per NESHAP (40 CFR Part 61) which falls into any of the following categories are ACM's that must be removed prior to any renovation/demolition activities at the Subject Property.

- Friable asbestos material.
- Category I non-friable ACM that has become friable.
- Category I non-friable ACM that will be or has been subjected to sanding,

- grinding, cutting, or abrading.
- Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of renovation or demolition operations.

A Notification of intent to Renovate/Demolish form must be filed with the Michigan Department of Environmental Quality- Air Quality Division at least 10 working days prior to any renovation or demolition activities at a site.

The Notification of Intent to Renovate/Demolish form must also be completed and submitted to the MIOSHA-Asbestos Program whenever demolition, encapsulation and/or renovation activities at a site involving greater than ten lineal feet and/or fifteen square feet of ACM will be completed.

Asbestos abatement should only be performed by a certified asbestos abatement contractor licensed to complete abatement work. The contractor must also follow the standards and requirements set forth per the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61).

## **DISCLAIMER**

Red Cedar Consulting performed destructive testing methods in an attempt to access and inspect all areas of the Building. Unfortunately, due to the age of construction along with multiple additions/renovations that may have been completed on the Building, additional inspections may be required if suspect ACM material not documented within this report is encountered during renovation/demolition activities.

This report was prepared at the request and for exclusive use by the Ingham County Land Bank and may not be reproduced or sold without written permission from Red Cedar Consulting.

We appreciate the opportunity to provide the requested services. Please contact us at (888) 449-4566 with any questions or concerns.

Sincerely,  
**Red Cedar Consulting**



Aaron Paquet  
Michigan/EPA Certified Asbestos Building Inspector  
(A30955)

Red Cedar Consulting

***Attachment 1***  
***APEX Research Laboratory Analytical Results***



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1430 Pontiac St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60861  
Date Collected: 09/08/15  
Date Received: 09/09/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60861 - 01 Cust. #: PS-HM-01A Material: White Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 60861 - 01a Cust. #: PS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 60861 - 01b Cust. #: PS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Other - 60%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Test Method EPA 600/R-93/116 was used to analyze the above samples. Matrix interference and/or resolution limits may yield false/negative results in certain circumstances. Suspect floor tiles containing <1% should be tested with SEM or TEM. This certificate of analysis relates only to the samples tested and to insure the integrity of the results, may only be reproduced in full. This certificate may not be used by the customer to claim product endorsement by NVLAP or any agency of the US Government. APEX Research Inc. is not responsible for the accuracy of the results for layered samples or samples comprising multiple materials. Liability limited to cost of analysis.



NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1430 Pontiac St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60861  
Date Collected: 09/08/15  
Date Received: 09/09/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60861 - 02 Cust. #: PS-HM-01B Material: White Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 5	Asbestos Present: <b>NO</b> No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 60861 - 02a Cust. #: PS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 5	Asbestos Present: <b>NO</b> No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 60861 - 02b Cust. #: PS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 5	Asbestos Present: <b>NO</b> No Asbestos Observed	Fiberglass - 30% Other - 70%

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

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NVLAP Lab Code 102118-0



# Certificate of Laboratory Analysis

## Test Method, Polarized Light Microscopy (PLM)

Project: 1430 Pontiac St.

**Report To:**

Mr. Aaron Paquet  
Red Cedar Consulting  
P.O. Box 13216  
Lansing, MI 48901

ARI Report # 15-60861  
Date Collected: 09/08/15  
Date Received: 09/09/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60861 - 02c Cust. #: PS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 4 of 5	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 60861 - 02d Cust. #: PS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 5 of 5	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 60861 - 03 Cust. #: PS-HM-02A Material: 12x12 Beige Vinyl Tile Location: Appearance: beige, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> Chrysotile - 0.25%  <b>POINT COUNT RESULT</b>	Other - 99.75%

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ARI Report # 15-60861  
Date Collected: 09/08/15  
Date Received: 09/09/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60861 - 03a Cust. #: PS-HM-02A Material: Mastic Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 60861 - 04 Cust. #: PS-HM-02B Material: 12x12 Beige Vinyl Tile Location: Appearance: beige, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> Chrysotile - Trace  <b>POINT COUNT RESULT</b>	Other - 100%
Lab ID #: 60861 - 04a Cust. #: PS-HM-02B Material: Mastic Location: Appearance: black, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%

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ARI Report # 15-60861  
Date Collected: 09/08/15  
Date Received: 09/09/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60861 - 05 Cust. #: PS-HM-03A Material: White Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 60861 - 06 Cust. #: PS-HM-03B Material: White Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 60861 - 07 Cust. #: PS-HM-04A Material: Green Linoleum Location: Appearance: green, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Other - 60%

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Robert T. Letarte Jr., Laboratory Director

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Date Collected: 09/08/15  
Date Received: 09/09/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60861 - 08 Cust. #: PS-HM-04B Material: Green Linoleum Location: Appearance: green, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 60861 - 09 Cust. #: PS-HM-05A Material: Yellow Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>YES</b> Chrysotile - 30%	Other - 70%
Lab ID #: 60861 - 10 Cust. #: PS-HM-05B Material: Yellow Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: <b>YES</b> Chrysotile - 30%	Other - 70%

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Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60861 - 11 Cust. #: PS-HM-06A Material: 12x12 Pebbled 12x12 Vinyl Tile Location: Appearance: beige, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>YES</b> Chrysotile - 5%	Other - 95%
Lab ID #: 60861 - 11a Cust. #: PS-HM-06A Material: Glue Location: Appearance: yellow, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60861 - 12 Cust. #: PS-HM-06B Material: 12x12 Pebbled 12x12 Vinyl Tile Location: Appearance: beige, fibrous, homogenous Layer: 1 of 2	Asbestos Present: <b>YES</b> Chrysotile - 5%	Other - 95%

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 Date Analyzed: 09/14/15  
 Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60861 - 12a Cust. #: PS-HM-06B Material: Glue Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Other - 100%
Lab ID #: 60861 - 13 Cust. #: PS-HM-07A Material: 2x4 White Ceiling Tile Location: Appearance: beige,fibrous,homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Mineral Wool - 30% Other - 30%
Lab ID #: 60861 - 14 Cust. #: PS-HM-07B Material: 2x4 White Ceiling Tile Location: Appearance: beige,fibrous,homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 40% Mineral Wool - 30% Other - 30%

For Layered Samples, each component will be analyzed and reported separately.

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 Date Analyzed: 09/14/15  
 Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60861 - 15 Cust. #: PS-HM-08A Material: Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 60861 - 16 Cust. #: PS-HM-08B Material: Glazing Location: Appearance: white, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>YES</b> Chrysotile - 1.75%  <b>POINT COUNT RESULT</b>	Other - 98.25%
Lab ID #: 60861 - 17 Cust. #: PS-HM-09A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%

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Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60861 - 17a Cust. #: PS-HM-09A Material: Joint Compound Location: Appearance: white, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> Chrysotile - 0.5%  POINT COUNT RESULT	Other - 99.5%
Lab ID #: 60861 - 18 Cust. #: PS-HM-09B Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: <b>NO</b> No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 60861 - 18a Cust. #: PS-HM-09B Material: Joint Compound Location: Appearance: white, fibrous, homogenous Layer: 2 of 2	Asbestos Present: <b>NO</b> Chrysotile - 0.25%  POINT COUNT RESULT	Other - 99.75%

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ARI Report # 15-60861  
Date Collected: 09/08/15  
Date Received: 09/09/15  
Date Analyzed: 09/14/15  
Date Reported: 09/14/15

Sample Information	Asbestos Type/Percent	Non-Asbestos
Lab ID #: 60861 - 19 Cust. #: PS-HS-01A Material: Plaster Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>YES</b> Chrysotile - 2.0%  POINT COUNT RESULT	Other - 98.0%
Lab ID #: 60861 - 20 Cust. #: PS-HS-01B Material: Plaster Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>YES</b> Chrysotile - 1.75%  POINT COUNT RESULT	Other - 98.25%
Lab ID #: 60861 - 21 Cust. #: PS-HS-01C Material: Plaster Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: <b>YES</b> Chrysotile - 2.25%  POINT COUNT RESULT	Other - 97.75%

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NVLAP Lab Code 102118-0

***Tables***

**Table 1 - Summary of Hazardous Materials, 1430 Pontiac St., Lansing, Michigan**

<b>Hazardous Materials Description and Location</b>		
<b>Location</b>	<b>Material Description</b>	<b>Quantity</b>
Living Room	Thermostat	1
Dining	Smoke Detector	1
Rear Entry	5 Gallon Container Kerosene	1
Rear Entry	Gallon Container Misc. Tar	2
Basement	Gallon Container Misc. Paint	14
Basement	Television	1



**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1430 Pontiac St., Lansing, Michigan**

Sample Number	Sample Description				% Asbestos Laboratory Result	Sample Location	Approx. Quantity
		Friable	Material Type	ACM Classification			
PS-HM-01A	Gray Shingle	No	M	Category I	ND/ND/ND	Exterior	NA
PS-HM-01B	Gray Shingle	No	M	Category I	ND/ND/ND ND/ND	Exterior	NA
PS-HM-02A	Beige 12"x12" Vinyl Tile	No	M	Category I	0.25%CH/ND	Living	NA
PS-HM-02B	Beige 12"x12" Vinyl Tile	No	M	Category I	Trace CH/ND	Dining	NA
PS-HM-03A	White Linoleum	No	M	Category I	ND	Kitchen	NA
PS-HM-03B	White Linoleum	No	M	Category I	ND	Kitchen	NA
PS-HM-04A	Green Linoleum	No	M	Category I	ND	Kitchen	NA
PS-HM-04B	Green Linoleum	No	M	Category I	ND	Kitchen	NA
PS-HM-05A	Yellow Linoleum	No	M	Category I	30%CH	Bathroom (2 <sup>nd</sup> Layer Flooring)	70 sq. ft.
PS-HM-05B	Yellow Linoleum	No	M	Category I	30%CH	Bathroom	See Sample PS-HM-05A
PS-HM-06A	Pebbled 12"x12" Vinyl Tile	No	M	Category I	5%CH/ND	Rear Entry	24 sq. ft.
PS-HM-06B	Pebbled 12"x12" Vinyl Tile	No	M	Category I	5%CH/ND	Rear Entry	See Sample PS-HM-06A
PS-HM-07A	White 2'x4' Ceiling Tile	Yes	M	Category II	ND	SW Bedroom	NA
PS-HM-07B	White 2'x4' Ceiling Tile	Yes	M	Category II	ND	SW Bedroom	NA
PS-HM-08A	Glazing	Yes	M	Category II	ND	Living	NA
PS-HM-08B	Glazing	Yes	M	Category II	1.75%CH	SE Bedroom	16 Windows
PS-HM-09A	Drywall	No	M	Category II	ND/0.5%CH	2 <sup>nd</sup> Fl Bedroom Wall	NA
PS-HM-09B	Drywall	No	M	Category II	ND/0.25%CH	2 <sup>nd</sup> Fl Bedroom Wall	NA
PS-HS-01A	Plaster	No	S	Category II	2.0%CH	Living Wall	3,485 sq. ft.
PS-HS-01B	Plaster	No	S	Category II	1.75%CH	SE Bedroom Wall	See Sample PS-HS-01A
PS-HS-01C	Plaster	No	S	Category II	2.25%CH	SW Bedroom Ceiling	See Sample PS-HS-01A

**Notes:**

Material Types

Abbreviations

**Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1430 Pontiac St., Lansing, Michigan**

M = Miscellaneous building material  
TSI = Thermal System Insulation  
S = Surfacing Material

NQ = Not quantified  
NA = Not applicable  
ND = Not detected. Laboratory result is less than 1 % asbestos  
lin. ft. = linear feet  
sq. ft. = square feet  
CH = Chrysotile Asbestos  
PC = Point Count Analysis

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy. All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 3 - Summary of Presumed Asbestos Containing Materials, 1430 Pontiac St., Lansing, Michigan**

Asbestos Containing Material Description and Location					Approx. Quantity
Location	Material Description	Friable	Condition	Material Type	
Living (1 register, 10 sq. ft.) Dining (1 register, 10 sq. ft.) SW Bedroom (1 register, 10 sq. ft.) 2 <sup>nd</sup> Floor Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	65 sq. ft.

**Notes:**

Material Types

M = Miscellaneous building material  
 TSI = Thermal System Insulation  
 S = Surfacing Material

Abbreviations

lin. ft. = linear feet  
 sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Table 4 - Summary of All Asbestos Containing Materials, 1430 Pontiac St., Lansing, Michigan**

<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Bathroom (2 <sup>nd</sup> Layer Flooring)	Yellow Linoleum	No	70 sq. ft.
Rear Entry	Pebbled 12"x12" Vinyl Tile	No	24 sq. ft.
<b>Total</b>			<b>94 sq. ft.</b>
<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Building Interior	Wall and Ceiling Plaster	No	3,485 sq. ft.
<b>Total</b>			<b>3,485 sq. ft.</b>
<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Living (1 register, 10 sq. ft.) Dining (1 register, 10 sq. ft.) SW Bedroom (1 register, 10 sq. ft.) 2 <sup>nd</sup> Floor Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)	HVAC Duct Wrap	Yes	65 sq. ft.
<b>Total</b>			<b>65 sq. ft.</b>
<b>Interior - Asbestos Containing Materials</b>			
<b>Location</b>	<b>Material Description</b>	<b>Friable</b>	<b>Approx. Quantity</b>
Dining (2 windows 40" wide x 50" tall)	Glazing	Yes	2 Windows
Living (1 window 40" wide x 62" tall)	Glazing	Yes	1 Window
Living (1 window 40" wide x 28" tall)	Glazing	Yes	1 Window
SE Bedroom (1 window 40" wide x 62" tall)	Glazing	Yes	1 Window
SE Bedroom (1 window 28" wide x 62" tall)	Glazing	Yes	1 Window
SW Bedroom (1 window 40" wide x 62" tall)	Glazing	Yes	1 Window
Bathroom (1 window 24" wide x 38" tall)	Glazing	Yes	1 Window
Kitchen (1 window 40" wide x 50" tall)	Glazing	Yes	1 Window
2 <sup>nd</sup> Floor (2 windows 24" wide x 54" tall)	Glazing	Yes	2 Windows
Basement (5 windows 30" wide x 20" tall)	Glazing	Yes	5 Windows
<b>Total</b>			<b>16 Windows</b>

## Table 4 - Summary of All Asbestos Containing Materials, 1430 Pontiac St., Lansing, Michigan

### Notes:

#### Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

All Friable ACM and any Category I and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the demolition or renovation activities must be properly abated.

**Shaded/Bolded** =Material must be properly abated prior to commencement of any demolition/renovation activities.